Data Summary of NOAA's Hurricane Inner-core Radial Leg Flight Penetrations 1957-1967, and 1969

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## ABSTRACT

Observational information from approximately 100 aircraft flight missions (533 radial legs) flown into and out of twenty-two hurricanes on forty-one storm days over a twelve year period (1957-1967, 1969) by aircraft of the NOAA's Research Flight Facility is presented for general reference of those who have a need or interest in inner hurricane information. Most flight missions were made between the 900 and 500 mb levels. 41 missions are available in the upper troposphere. A list of previous research papers on this flight information is also given.

The following hurricane and tropical cyclone National Oceanic and Atmospheric Administration (NOAA) aircraft inner core (center to radius of $100-120 \mathrm{~km}$ ) gathered meteorological data listings have been compiled for general reference information of those who have a need or interest in inner hurricane information. Many millions of dollars has been expended by NOAA in the gathering and processing of this special meteorological data. This information ought to be made available to the meteorological community as a whole.

This data set represents most of the processed inner core National Hurricane Research Laboratory (RFF) radial leg flight missions into tropical cyclones during the decade of 1957 to 1966. Some additional data for hurricane Beulah (1967) and Debbie (1969) is also included. The other approximately twothirds of the RFF tropical cyclone flights data during this period have not yet been processed or are unavailable in final processed form. Some of this latter unprocessed information is of less or marginal quality. This data set is the best and most reliable of the flight information.

Data is portrayed along individual radial flight legs in $2 \frac{1}{2}$ nautical mile (n.mi.) intervals from 5 to $50 \mathrm{n} . \mathrm{mi}$. radius. Typically, 4 to 6 radial legs were generally flown at one level into and out of a tropical cyclone during a $4-8$ hour period. These radial legs are separately listed and have been vortex averaged for each flight mission.

History. The National Hurricane Research Project (NHRP) was established in the middle 1950's at the instigation of Congress following the devastating flooding caused by hurricane Carol in the Connecticut Valley in 1954. Dr. Robert Simpson (recent Director of the National Hurricanc Conter) was the driving force behind the initial organization and functioning of the NHRP as it was then called ${ }^{1}$. The first flights were

[^0]accomplished in late 1956. Except for the year 1959 (during the change over from Air Force to civilian aircraft) an almost continuous monitoring of the hurricane by the Weather Bureau's (now NOAA's) Research F1ight Facility (RFF) was accomplished in the decade from 1956 through 1966. From 1966-67 onward the interest of NOAA has steadily shifted to hurricane modification and the typical radial or cloverleaf flight patterns have been modified.

Character of Flight Missions. From 1957 through 1966 the majority of flight missions were flown into the hurricane eye and out again. This was repeated at individual f1ight levels four to six times with a rather even balance between the storm quadrants. Figures la-h show several typical flight patterns. Most of these flights in and out of the hurricane occurred at inner radii of less than 100 nautical miles (n.mi.). Voluminous data is available from the center to the $50-60 \mathrm{n} . \mathrm{mi}$. radius. Beyond this radius the quantity of flight data drops off. A small sample of individual radial legs ${ }^{2}$ from two different layers (900 to 700 mb and 700 to 500 mb ) have been superimposed to illustrate this (See Figs. 2 and 3).

The data has been gathered by prop aircraft (B-50's from 1956 through 1958, and DC-6's from 1960 to the present). This has restricted operations to below the 500 mb level. Also, due to safety restrictions on low level flight missions most of the data was taken above 900 mb . In this tropospheric range from 500 to 900 mb there have been approximately $700-800$ radial legs flown. Of these, the processed reliable data at this time comes to 492 radial legs.

Upper tropospheric sampling was accomplished between the 180 and 260 mb levels by $\mathrm{B}-47$ aircraft in 1957 and 1958 and by a B-57 after 1960. The number of $B-57$ flights has not been large
${ }^{2}$ A radial leg is the portion of the plane's flight pattern during which the plane was flying directly into or out of the storm cneter. For example, the flight pattern shown in Fig. la has six radial legs.


Fig. 1a. Cleo 18 Aug. 1958, 560 mb .


Fig. 1b. Daisy 27 Aug. 1958, 620 mb .

Figs. la-h. Typical flight patterns.
because of range and instrumental difficulties. For this reason there are only 11 evaluated upper level missions ( 41 radial legs). Combining upper and lower levels there are 533 radial legs.

Winds and Pressure. The perfection of the Doppler navigation instrument in the mid-1950's and the simultaneous measurement of pressure and absolute altitude (possible over water where terrain features do not interfere) have allowed accurate wind and D-value ${ }^{3}$ measurements down to the cumulus scales of motion.
${ }^{3}$ The D-value is the difference between the absolute altitude and the pressure altitude.


Fig. 1c. Helene 26 Sept. 1958, 250 mb .


Fig. 1d. Carla 10 Sept. 1961, 600 mb .


Fig. 1e. Ella 19 Oct. 1962, 900 mb .


Fig. 1f. Hi1da 10 Oct. 1964, 500 mb .


Fig. 1g. Betsy 3 Sept. 1965, 500 mb .


Fig. Ih. Inez 27 Oct. 1966, 750 mb .


Fig. 2. Small sample of superimposed individual radial legs for the $900-700 \mathrm{mb}$ layer.

Doppler wind measurements are much more reliable in high wind conditions where the noise to signal ratio is much smaller than in weak wind conditions. The general validity of these Doppler determined winds has been demonstrated on many occassions when navigation arrors after many hours of flight proved to be but a few nautical miles.

Temperature. The vortex temperature measurements have shown a very strong reliability. It is possible to obtain an inde-


Fig. 3. Same as Fig. 2 except for the $700-500 \mathrm{mb}$ layer.
pendent check on the observed inward radial temperature gradients by measurement of the pressure level thickness changes when simultaneous double level missions were flown. When compared the hydrostatically calculated temperature gradients and the directly measured temperature gradients proved to he filite close.

Processing of Data. Only in the last few years has this complete set of processed and checked flight data become
available. The data reducing, cross checking, navigation corrections, hydrostatic consistency checks, etc., that had to be made have required a rather lengthy and painstaking evaluation procedure. This large data sample is now available for close scrutiny

## II. DATA COLLECTION AND ACCURACY

Discussions of the instruments and aircraft used to obtain the meteorological data of this study have been made by Hilleary and Christensen (1957), Hawkins, et al. (1962), Gray (1962, 1965a, 1965b, 1966, 1967), Gentry (1964), Reber and Friedman (1964) and Friedman et al. (1969a, 1969b). For detailed descriptions of the instruments and the character of the data collected the reader is referred to these reports.

After a flight into a storm has been completed, the raw data is composited with respect to the moving storm center by computer. This data is processed and the computer prints out the plane's distance from the storm center, the actual tangential wind (VAT), the actual radial wind (VAR), the relative tangential wind (VRT), the relative radial wind (VRR), and the D-value (D) and the adjusted temperature (TADJ) at that radius. The actual winds include the effects of storm motion whereas the relative winds have had the storm motion subtracted from the data. The adjusted temperature is the observed temperature adjusted to a constant pressure surface using typical hurricane lapse rates.

This data summary does not include humidity measurements. Nevertheless, an estimate of the effect a virtual temperature correction would have on observed temperatures and temperature gradients has been made and discussed in papers by Shea and Gray (1973), and a larger project report by Shea (1972). This data is unique in that simultaneous wind, temperature and pressure measurements are available down to the cumulus scale. Over land, where terrain features obscure $D$-value measurements, this is not
possible. The simultaneous pressure and wind measurements
allow examination of radial wind and pressure balances. Where double level flights were made, an examination of the vertical wind shears and cylindrical thermal wind balances can be made.

Data Errors. In general, the final processed data is quite reliable. Two non-instrument factors can contribute to errors in the wind resports, however. These are (1) positioning of the aircraft relative to the storm center and (2) water motion under the airciaft.

The positioning of the aircraft is quite important. Hawkins and Rubsam (on.cit.) have discussed the sensitivity of the radial winds to the aircraft's position to the storm center. They note that even small changes in position can result iu significant changes in the radial winds. Thus, along individual radial legs the radial winds are bewinds. Thus, along individual radial legs the radial $\frac{\text { winds }}{}$ are benot reliable and should not be used in a qualitative sense. If center positioning and other errors are random, however, a large radial wind data sample should be generally reliable.

The AN/APN-82 Doppler Navigation system was used to deterine the motion of the aircraft relative to the ocean. The wind speed is obtained from the vector difference between the true irspeed and the aircraft motion relative to the ocean. Because the aircraft measurements were made over the ocean which moves under wind stress, the Doppler winds have been suspected of underestimating the true wind speeds by $5-10$ percent [Grocott (1963), Gray (1967)] and upwards to $20 \%$ by Black et al. (1967). The observational evidence of the listed research papers by Gray and Shea support the former estimates of only $6-7 \%$ water motion.

Temperatures are measured with a vortex thermometer which requires no dynamic correction. Comparison of the observed vnrtex temperature gradients with those calculated from flight -value thickness gradients (using the hydrostatic equation) show a strikingly close similarity. For this reason the radial temperature gradients and D-value gradients are felt to be quite accurate (See report by Shea, 1972).

Data Available. All the fully processed and checked reconnaissance data from the hurricane flights of 1957 to 1969 has been gathered. Table 1 lists the twenty-two hurricanes, the forty-one storm days, the number of radial legs (total-533), the pressure levels at which the data was collected, the maximum actual winds at flight levels, the central pressures, etc., for the storms used in this study. Hurricane Hannah's data of 1959 was obtained by Air Force research planes.

Besides the information listed in Table 1 several other types of information are portrayed. These include time interval during which the data was obtained, the ground track of the ajrcraft, the octant in which the aircraft was flying both with respect to (w.r.t.) geographic north and w.r.t. storm motion, and whether the plane was flying towards or away from the storm center. This allowed investigation of the data to see if individual parameters exhibited any systematic differences between data gathered by inward penetration as opposed to outward penetration of the eye wall. Results showed that there are no systematic differences. A sample listing of this information for an individual radial leg is listed before the data information.

Although the wind, pressure, and temperature data were recorded every few hundred meters, it was decided that the very small scale data fluctuations should be smoothed out. This was accomplished by printing out information from five to fifty nautical miles (n.mi.) from the storm center using a 2.5 n.mi.overlapping smoothing interval. This interval was felt to offer enough horizontal resolution for most purposes.

Contained in the data sample are twenty-two days on which simultaneous multilevel flights were made. In order to be very representative, each flight level was required to have at least four approximately equally spaced radial legs and the data at each level had tobe taken within a reasonable time interval of each other i.e., 5-6 hours. This greatly reduces the number of usable double level flights. These double level flights are listed in Table 2. Examination of these flights can be used as
a check of the vertical wind shears and the degree of cylindrical thermal wind balance, and other features requiring knowledge of the vertical wind shear.

Distribution of Data. Higure 4 shows the manner in which the data is distributed in the vertical. The number of radial legs at each level and the pressure level which the data best represents is indicated. Using this information a five level mean asymmetric storm can be constructed. Figure 5 shows the distribution of radial legs by octant. Several of the octants contained only a few radial legs. In order to increase the amount of data in each octant it was decided that the individual octant data at each level should be combined with the data in each adjacent octant. For example, in Fig. 5 the four radial legs in octant 1 of the $1500^{\prime}$ to $5000^{\prime}$ data would be combined with the radial leg data in octants 2 and 8 making a total of 22 octant radial legs. The data in octant 2 would be combined with the data in octants 1 and 3 , etc. This overlapping tech-nique will slightly underestimate the degree of asymmetry in the mean asymmetric storm, but should make the data more representative. This overlapping average of the data represents the smoothed data set.

Check on the Radial Temperature Gradients. The temperature and $D$-value data used in this report are considered to be quite reliable in the statistical average. In order to check this assertion, area weighted radial vortex temperature gradients were compared with temperature gradients calculated from flight D-value thickness gradients through use of the hydrostatic equation, thus

RMW + 30 n. mi.
$\Delta T_{\text {cal }}=\int^{\text {RMW }+30 \text { n. mi. }} \frac{\partial T}{\partial r} d r=\frac{g}{R} \ln \frac{P_{1}}{P_{2}} \Delta D_{\text {obs }}$
and

TABLE 1
Storms, dates, levels, etc., used in this study. The letters following the inner radar eye are: A - approximate, WD - well defined, P - poor.

Intensity change means $D$ (Deepening), $S$ (Steady), and $F(F i l l i n g)$.

| Storm No. | Date | Lat. | Motion <br> Dir/Spd <br> (Kts) | Intensity <br> Change | $\begin{gathered} \text { Central } \\ \text { Press. } \\ \text { (mb) } \end{gathered}$ | Max. Wind (Kts) | (Rad of Max. <br> Winds) <br> r. mi. | Inner <br> Radar Eye <br> Radius <br> n. mi. | Approx. <br> Flight <br> Level <br> (mb) | No. of Radial Legs | Level No. | Page <br> No. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1-Carrie | 15 Sept 57 | 30 | 310/11 | S | 963 | 80 | (22) | -- | 610 | 6 | 1 | 1 |
|  |  |  |  |  |  | 84 | (22) | -- | 525 | 4 | 2 | 3 |
|  |  |  |  |  |  | 54 | (35) | -- | 240 | 2 | 3 | 5 |
|  | Sept 57 | 35 | 65/8 | S | 978 | 84 | (32) | 25A | 680 | 6 | 4 | 7 |
|  |  |  |  |  |  | 42 | (47) | 25A | 240 | 6 | 5 | 9 |
| 2-Cleo | Aug. 58 | 33 | 15/13 | S | 972 | 86 | (22) | 17 | 800 | 6 | 1 | 11 |
|  |  |  |  |  |  | 82 | (22) | 17 | 560 | 6 | 2 | 13 |
|  |  |  |  |  |  | 49 | (50) | 17 | 240 | 5 | 3 | 15 |
| 3-Daisy | 27 Aug. 58 | 29 | 25/5 | D | 942 | 109 | (10) | 6 | 620 | 6 | 1 | 17 |
|  |  |  |  |  | 943 | 69 | (10) | 6 | 250 | 4 | 2 | 19 |
|  |  | 33 | $0 / 17$ | F | 950 | 101 | (20) | -- | 620 | 6 | 3 | 21 |
| 4-Helene | 25 Sept 58 | 29 | 335/6 | D | 982 | 76 | (27) | 15 | 800 | 6 | 1 | 23 |
|  | 26 Sept 58 | 30 | 315/9 | D | 948 | 99 | (25) | 9 | 800 | 8 | 2 | 25 |
|  |  |  |  |  |  | 97 | (20 | 9 | 800 | 1 | 3 | 28 |
|  |  |  |  |  |  | 119 | (15) | 9 | 560 | 5 | 4 | 30 |
|  |  |  |  |  |  | 81 | (12) | 9 | 250 | 4 | 5 | 32 |
| 5-Hannah | 01 Oct. 59 | 31 | 335/11 | S | 959 | 95 | (20) | -- | 700 | 4 | 1 | 34 |
|  | 02 Oct. 59 | 34 | 75/8 | S | 959 | 96 | (22) | -- | 700 | 4 | 2 | 36 |
|  | 04 Oct. 59 | 37 | 85/10 | S | 955 | 108 | (30) | -- | 700 | 6 | 3 | 38 |
| 6-Donna | 04 Sept 60 | 17 | 290/15 | S | 952 | 120 | (12) | -- | 600 | 2 | 1 | 40 |
|  | 07 Sept 60 | 22 | 270/9 | S | 935 | 129 | (22) | 10-13WD | 760 | 4 | 2 | 42 |
|  |  |  |  |  |  | 128 | (15) | 13WD | 620 | 4 | 3 | 44 |
|  | 09 Sept 60 | 23 | 305/10 | S | 930 | 131 | (15) | -- | 800 | 2 | 4 | 46 |
| 7-Anna | 21 July 61 | 13 | 280/16 | S | 983 | 98 | (12) | -- | 700 | y | 1 | 48 |
| 8-Carla | 08 Sept 61 | 23 | 300/6 | D | 964 | 98 | (32) | 31WD | 850 | 4 | 1 | 51 |
|  |  |  |  |  |  | 96 | (35) | 31WD | 700 | 4 | 2 | 53 |
|  | 09 Sept 61 | 24 | 310/8 | D | 948 | 109 | (22) | 21WD | 850 |  | 3 | 55 |
|  |  |  |  |  |  | 111 | (17) | 21WD | 850 | 4 | 4 | 57 |
|  |  |  |  |  |  | 94 | (22) | 22WD | 700 | 4 | 5 | 59 |
|  |  |  |  |  | (con | inued) |  |  |  |  |  |  |


| Storm No. | Date | Lat. | Motion Dir/Spd (Kts) | Intensity Change | Central <br> Press. <br> (mb) | Max. Wind (K.ts) | (Rad of Max. Winds) | Inner <br> Radar Eye <br> Radius | Approx. <br> Flight <br> Level <br> (mb) | No. of Radial Legs | Leve1 No. | Page <br> No. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9-Esther | 10 Sept 61 | 27 | 300/8 | S | 940 | 96 | (20) | 20A | 600 | 6 | 6 | 61 |
|  | 11 Sept 61 | 28 | 340/6 | S | 940 | 102 | (15) | -- | 600 | 4 | 7 | 63 |
|  | 16 Sept 61 | 23 | 295/13 | D | 935 | 128 | (12) | 10A | 800 | 8 | 1 | 65 |
|  |  |  |  |  |  | 109 | (12) | 10A | 470 | 9 | 2 | 68 |
|  |  |  |  |  |  | 106 | (12) | 10A | 470 | 5 | 3 | 71 |
|  | 17 Sept 61 | 24 | 300/10 | S | 940 | 112 | (10) | -- | 800 | 5 | 4 | 73 |
|  |  |  |  |  |  | 108 | (10) | -- | 800 | 2 | 5 | 75 |
|  |  |  |  |  |  | 108 | (10) | -- | 800 | 3 | 6 | 77 |
| 10-E11a | 10 Oct. 62 | 31 | 65/8 | D | 966 | 102 | (30) | 30 | 900 | 8 | 1 | 79 |
|  |  |  |  |  |  | 89 | (40) | 30 | 600 | 8 | 2 | 82 |
| 11-Beulah | 23 Aug. 63 | 21 | 340/8 | D | 962 | 82 | (17) | 13 | 800 | 5 | 1 | 85 |
|  | 24 Aug. 63 | 24 | 350/7 | F | 961 | 100 | (25) | 13A | 800 | 10 | 2 | 87 |
|  |  |  |  |  |  | 108 | (20) | 13A | 520 | 13 | 3 | 90 |
| 12-Flora | 03 Oct. 63 | 17 | 330/9 | D | 936 | 135 | (8) | 8-9 | 700 | 14 | 1 | 94 |
|  |  |  |  |  |  | 122 | (10) | 8 | 650 | 12 | 2 | 98 |
|  | 10 Oct. 63 | 28 | 50/25 | S | 970 | 117 | (42) | 25 | 700 | 12 | 3 | 101 |
|  |  |  |  |  |  | 101 | (50) | 25 | 650 | 15 | 4 | 104 |
| 13-C1eo | 23 Aug. 64 | 17 | 275/12 |  | -- | 133 | (7) | -- | 700 | 13 | 1 | 108 |
|  |  |  |  |  | -- | 126 | (7) | - | 550 | 16 | 2 | 112 |
| 14-Dora | 05 Sept 64 | 24 | 320/10 | D | 966 | 98 | (27) | 8-15 | 700 | 7 | 1 | 116 |
|  |  |  |  |  | 960 | 95 | (25) | 18 | 600 | 6 | 2 | 119 |
|  | 07 Sept 64 | 28 | 285/10 | S | 963 | 75 | (25) | 14 | 700 | 6 | 3 | 121 |
|  |  |  |  |  | 960 | 89 | (50) | 14 | 700 | 8 | 4 | 123 |
|  |  |  |  |  | 960 | 88 | (25) | 14 | 650 | 16 | 5 | 126 |
|  | 08 Sept 64 | 29 | 285/12 | S | 963 | 88 | (35) | 17P | 700 | 4 | 6 | 130 |
|  |  |  |  |  | 962 | 82 | (40) | 14 | 650 | 2 | 7 | 132 |
|  | 09 Sept 64 |  | 280/10 | S | 965 | 82 | (42) | 25A | 860 | 5 | 8 | 134 |
|  |  |  |  |  |  | 80 | (35) | 25A | 700 | 6 | 9 | 136 |
|  |  |  |  |  |  | 69 | (30) | 25A | 600 | 2 | 10 | 138 |
| 15-G1adys | 17 Sept 64 | 24 | 300/9 | S | 954 | 111 | (12) | 13 | 900 | 6 | 1 | 140 |
|  |  |  |  |  | 950 | 102 | (15) | 13 | 700 | 4 | 2 | 142 |
|  |  |  |  |  | 945 | 107 | (15) | 13 | 700 | 2 | 3 | 144 |
|  |  |  | 300/10 |  | 945 | 105 | (15) | 13 | 560 | 4 | 4 | 146 |


| Storm No. | Date | Lat. | Motion Dir/Spd (Kts) | Intensity <br> Change | $\begin{gathered} \text { Central } \\ \text { Press. } \\ \text { (mb) } \end{gathered}$ | Max. Wind (Kts) | (Rad of Max. Winds) | Inner <br> Radar Eye <br> Radius | Approx. <br> Flight <br> level <br> (mb) | No. of Radial Legs | Level No. | Page No . |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 16-Hilda | 01 Oct. 64 | 24 | 310/5 | D | 950 | 110 | (12) | 10 | 900 | 4 | 1 | 148 |
|  |  |  |  |  | 947 | 109 | (12) | 7-9 | 750 | 5 | 2 | 150 |
|  |  |  |  |  | 950 | 90 | (15) | 7 | 650 | 4 | 3 | 152 |
|  |  |  |  |  |  | 90 | (12) | 9 | 500 | 7 | 4 | 154 |
|  |  | 24 | 310/5 |  |  | 47 | (15) | 9 | 180 | 2 | 5 | 157 |
|  | 02 oct. 64 | 26 | 0/5 | F | 956 | 103 | (20) | 9 | 900 | 4 | 6 | 159 |
|  |  |  |  |  |  | 89 | (35) | 9 | 700 | 2 | 7 | 159 |
|  |  |  |  |  |  | 93 | (40) | 9 | 650 | 4 | 8 | 163 |
|  |  |  |  |  |  | 50 | (27) | 9 | 200 | 2 | 9 | 165 |
| 17-Isbell | 14 Oct. 64 | 24 | 35/11 | S | 970 | 108 | (10) | 13 | 850 | 6 | 1 | 167 |
|  |  |  |  |  |  | 102 | (12) | 13 | 700 | 7 | 2 | 169 |
|  |  |  |  |  |  | 87 | (20) | 13 | 570 | 1 | 3 | 177 |
| 18-Betsy | 03 Sept 65 | 25 | 315/10 | S | 952 | 98 | (22) | 13-28 | 750 | 6 | 1 | 174 |
|  |  |  |  |  |  | 100 | (25) | 10-15 | 650 | 6 | 2 | 176 |
|  |  |  |  |  |  | 91 | (17) | 10 | 500 | 6 | 3 | 178 |
|  |  |  |  |  |  | 56 | (37) | 10 | 200 | 4 | 4 | 180 |
|  | 05 Sept 65 | 29 | 180/3 | F | $973$ | 93 | (37) | 28 | 900 | 2 | 5 | 182 |
|  |  |  |  |  | $968$ | 75 | (40) | 10 | 800 | 2 | 6 | 184 |
|  |  | 25 |  |  |  | 72 | (37) | 10 | 650 | 2 | 7 | 186 |
|  |  | 29 |  |  | 970 | 57 | (22) | 10 | 500 | 4 | 8 | 188 |
|  |  |  |  |  |  | 47 | (42) | 10 | 200 | 4 | 9 | 190 |
| 19-Inez | 27 Sept 66 | 16 | 275/10 | D | 962 | 108 | (5) | 5 | 750 | 6 | 1 | 192 |
|  |  |  |  |  |  | 104 | (7) | 5 | 650 | 6 | 2 | 194 |
|  |  |  |  |  | 971 | 74 | (12) | 5 | 500 | 6 | 3 | 196 |
|  |  |  |  |  | 962 | 46 | (25) | 5 | 200 | 4 | 4 | 198 |
| 20-Inez | 28 Sept 66 | 17 | 275/12 | D | 934 | 142 | (5) | 4 | 950 | 6 | 1 | 200 |
|  |  |  |  |  | 928 | 150 | (7) | 7 | 750 | 6 | 2 | 202 |
|  |  |  |  |  | 934 | 126 | (7) | 4 | 650 | 6 | 3 | 204 |
|  |  |  | 275/14 |  | $930$ |  |  | 7 | $500$ | 5 | 4 | 206 |
|  |  |  |  |  | 934 | 67 | (15) | 7 | 200 | 4 | 5 | 208 |
| 21-Beulah | 18 Sept 67 | 22 | 295/11 | D | 967 | 78 | (12) | 7 | 950 | 4 | 1 | 210 |
|  |  |  |  |  |  | 80 | (20) | 7 | 850 | 4 | 2 | 21.2 |
| 22-Debbie | 18 Aug. 69 | 24 | 300/1 | S | 971 | 93 | (22) | -- | 650 | 4 | 1 | 214 |
|  | 20 Aug 69 | 25 | 305/11 | S | 950 | 99 | (22) | -- | 650 | 4 | 2 | 216 |
|  |  |  |  |  | 954 | 99 | (12) | -- | 650 | 4 | 3 | 218 |

TABLE 2
Storms, dates and flight levels for the 20 storm days on which multilevel flight missions were made.



Fig. 4. Disiribution of radial leg data in the vertical.
The number in paremihesis is the number of radial legs between the pressure layers indicated. The center of these layers are indicated.


Fig. 5. Distribution of radial legs by octant. The number without brackets represents the raw number of radial legs in each octant for each level. The number with brackets represents the overlapping average where radial legs in the surrounding two octants has been included.
where $\Delta T_{c a l}$ is the calculated radial temperature gradient
$\Delta D_{\text {obs }}$ is the observed radial thickness gradient between $P_{1}, \mathrm{P}_{2}$ is the upper and lower pressure levels
$\mathrm{g} \quad$ is the acceleration of gravity
$R \quad$ is the gas constant
$\Delta T_{\text {obs }}$ is the mean observed radial temperature gradient
$\Delta T$ upper $i s$ the observed radial temperature gradient in the upper upper pressure level
$\Delta T$ lower $i s$ the observed radial temperature gradient in the lower pressure level.

The calculations were performed on all the double level flights which occurred exclusively in the lower half of the troposphere. The composited results are shown in Fig. 6. It is obvious that, in the mean, the calculated and observed radial temperature gradients are quite close. For more discussion see the paper of Shea (1972).

IN-OUT Stratification. A few researchers (e.g., Colon, 1964) have asked how individual parameters (temperature, D-values radial winds) might vary as data is gathered by inward (IN) plane penetration as opposed to outward (OUT) plane penetration of the inner core area. In order to investigate this, each radial leg was classified as to whether the plane was flying IN or OUT. In this statistical average no systematic differences are noted in any of the parameter profiles. The temperature and D-value gradients for the IN and OUT legs are remarkably similar. The


Fig. 6. Composited observed and calculatcd temperature gradients Temperature increases were measured from $30 \mathrm{n} . \mathrm{mi}$. outside the Radius of Maximum Winds (RMW) to 10 n.mi. inside the $\overline{\mathrm{R} M W}$.
radial wind profiles differ but not in any consistent fashion.
All radial leg data has been plotted out and inspected for consistency. Any unrepresentative appearing data has been
disregarded. In general, only a small portion of the data had to be rejected. Much of this radial leg plotting of data was accomplished by NOAA personnel in Miami. See the report by Shea (1972) for more discussion of this flight data.

Inner-Core Variability. There is a very large variability in the inner-core maximum wind speeds and central pressures. The relationship between high maximum wind speed, small eye wall radius and low central pressure is only statistical. A very wide spread exists in individual cases.

Figure 7 presents information on the variation of the Radius of Maximum Wind (RMW) with latitude for the lower tropospheric datā, i.e. $\overline{500}-900 \mathrm{mb}$ flight legs. Although there is large variability at individual latitudes, there is a pronounced shift in tendency toward larger RMW's at high latitudes. Weakening storms are typically accompanied by a widening of the eye.

In order to determine if a correlation exists between the Radius of Maximum Winds (RMW) and the maximum winds, Figs. 8 and 9 were prepared. Again at both levels we note large variability. Nonetheless, a definite pattern exists with higher wind speeds occurring at radii closer to the storm center.. In intense storms the low level inflow penetrates closer to the center. Angular momentum considerations would require higher wind speeds.

Figure 10 shows the number of occurrences and frequency of the RMW's for all radial legs in the lower half of the troposphere. The mean maximum wind for each radii is shown at the top of each radii band. In most instances, the radius of maximum wind is inside 30 n . mi. As noted above, the highest wind speeds occur at radii close to the storm center.

Figure 11 presents a scatter diagram of maximum wind speed versus central pressure. As expected in the statistical average surface pressure is inversely correlated with wind speed. There is, however, a large variability in maximum winds for various central pressures. Central pressure gives only a rough approximation to storm intensity. Figure 12 illustrates some of the variations of radial tangential wind profiles.


Fig. 7. Variation of the Radius of Maximum Wind (RMW) with latitude for all lower tropospheric data. The best fit curve is indicated by the heavy line.


Fig. 8. Variation of maximum wind with RMW for lower tropospheric data. The best fit curve is indicated by the heavy line.


1ig. 9. Same as Fig. 8 except to uppe. tropospheric data.


Fig. 10. Frequency distribution of the occurcence of the maximum wind at various radii. The mean maximum wind (in kts) at each radii is indicated at the top of parh radif hand.


Fig. 11. Variation of the maximum wind Variation of the maximum wind
with central pressure for all lower tropospheric data. The best fit curve is indicated by the heavy line.


Fig. 12. Sample of observed tangential wind profiles.

Discussion. A number of conclusions are emerging from these research missions:

1) although the general structure and dynamics of the typical hurricane can be well specified by the flight data, large differences (in motion, radius of maximum winds, eye wall convection, asymmetry, etc.) exist between the separate storms. The individual hurricane at separate time intervals typically has a complicated structure and dynamic character which is often substantially different from the mean hurricane circulation.
2) the hurricane flight data, overall, appears to be of high quality. The observational quality cannot, however, be well judged by those who have worked only with some portions of data. Because the strucuture of each storm can be so different from the average, one must work with many of the storms and make many instrumental and dynamical consistency checks, etc. before the data's limitations can be ascertained.
3) there appears to be much more meaningful research which can be accomplished with this hurricane flight data.

The following bibliography lists most of the research papers and reports which have been accomplished with the hurricane aircraft winds, heights, and temperature data. Also, included are the reports which discuss the aircraft instrumentation.

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Figure 14 shows a sample radial leg data printout. The code explanations are:

STORM
DATE
2LVL
PLVL
TIME TNTERVAL
I-0

LAT - LONG
DIR
SPD
TH
QN
QSTM

ARL
ID
RDR EYE RADIUS

CENT PRES
VATX
RMW
VRTX
RADIUS
VAT
VRT
VRT
DRRALUES
D-VAL
TADJ

- name of the storm
- date on which the data was obtained (yr./ mo./ day)
- plane's pressure altitude (feet)
- plane's pressure altitude (mb)
- time interval over which the data was taken in GMT
- denotes whether the plane was flying (I) toward the center or out ( 0 ) from the center of the storm.
- latitude and longitude of the storm center
- storm direction in degrees
- storm speed (knots)
- plane's true heading (approximate) in degrees
- octant of the storm in which the plane was flying w.r.t. geographic north
- octant of the storm in which the plane was flying w.r.t. storm motion. 1-plane is in front octant; 3-plane is in the octant which is at a right angle to storm motion, etc., (See Fig. 13 .
- azimuth angle of the radial leg (approximate) relative to the direction true north
- arbitrary identification number assigned to each radial leg
- inner radar eye radius (n.mi.); the letter following the number indicate whether the radar eye radius is approximate (A), well defined (WD), poorly defined (P)
- storm's approximate central pressure (mb)
- maximum actual tangential wind
- radius at which the maximum winds occur
- maximum relative tangential wind
- distance from storm center (n.mi.)
- actual tangential velocity (knots)
- actual radial velocity (knots)
- relative tangential velocity (knots)
- relative radial velocity (knots)
- D-values (feet)
- adjusted temperature (no virtual temperature correction)

Unsmoothed Weighted Vortex Averages. This consists of all the available individual radial legs of one flight level averaged together. Individual flight legs have been weighted by the distance between surrounding legs. Closely spaced flight legs carry less weight and widely spaced radial legs more weight. The weighting is directly related to the radial spacing.

VAT 2 - area weighted average of the square of the individual tangential winds along each leg.

Smoothed Vortex Average. Overlapping average of the individual radial leg data where each radial leg is averaged together with the radial legs on either side of it, (as discussed and shown in Fig. 5).


Yig.13. Code numbers which indicate the octant which the nlane was flying. The arrow indicates storm motion.

| STORM | date | zLVI. PLVL | $\underset{\text { INYERVAL }}{\text { TIME }}$ | 1-0 | lat | Long | ${ }_{\text {DIR }}^{\text {STOR }}$ |  | TH | an | QSTM | ARL | 10 | $\begin{aligned} & \text { RDR EYE } \\ & \text { RADIUS } \end{aligned}$ | CENT. PRES | vatx | RHW | VRTX |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| inez | 660928 | 8090763 | 2216-2235 | 1 | 17 | 66 | 275 | 12 | 350 | s | 7 | 170 | 214 | 7 | 928 | 144 | 7.5 | 131 |
|  |  |  | radius |  | vat | var |  | vRt | vRR |  | D-val | ues | tad |  |  |  |  |  |
|  |  |  | 5.0 |  | 116 | -6 |  | 104 | -6 |  | -1790 |  | 16.0 |  |  |  |  |  |
|  |  |  | 7.5 10.0 |  | 144 124 | -3 -4 |  | 131 | -6 |  | -1330 -900 |  |  |  |  |  |  |  |
|  |  |  | 12.5 |  | 107 | -8 |  | 94 | -10 |  | -670 |  | 13.4 |  |  |  |  |  |
|  |  |  | 15.0 |  | 105 | 1 |  | 92 | -1 |  | -490 |  | 13.0 |  |  |  |  |  |
|  |  |  | 17.5 20.0 |  | 92 83 | 2 |  | 79 | -1 |  | -370 |  | 12.8 12.7 |  |  |  |  |  |
|  |  |  | 22.5 |  | 84 | 5 |  | 71 | 2 | 2 |  |  | 12.7 |  |  |  |  |  |
|  |  |  | 25.0 |  | 79 | 0 |  | 66 | -3 | 3 | -150 |  | 12.6 |  |  |  |  |  |
|  |  |  | 27.5 |  | 75 | 1 |  | 63 | -2 |  | -110 |  | 12.2 |  |  |  |  |  |
|  |  |  | 30.0 32.5 |  | 68 | -1 |  | 55 53 5 | -4 |  | -70 |  | 11.7 |  |  |  |  |  |
|  |  |  | 32.5 35.0 |  | 67 58 | 5 -1 |  | $\begin{array}{r}53 \\ 45 \\ \hline\end{array}$ | $\stackrel{2}{-3}$ | 2 | -20 |  | 11.8 |  |  |  |  |  |
|  |  |  | 37.5 |  | 62 | 0 |  | 49 | -3 | 3 | 40 |  | 11.7 |  |  |  |  |  |
|  |  |  | 40.0 |  | 62 | 1 |  | 49 | -2 | 2 | 40 |  | 11.7 |  |  |  |  |  |
|  |  |  | 42.5 |  | 65 58 | 4 |  | 52 45 | 1 |  | 90 |  | 11.9 |  |  |  |  |  |
|  |  |  | 45 |  | 58 55 | ${ }^{6}$ |  | 45 42 4 | 3 | ${ }^{3}$ | 100 130 |  | 11.8 11.6 |  |  |  |  |  |
|  |  |  | 50.0 |  | 56 | 14 |  | 43 | 10 |  | 140 |  | 11.5 |  |  |  |  |  |

Fig. 14. Sample data printout for an individual leg.



| 34.11 .5 | ¢ | vas | vit | vrr | d-values | tans | radius | vat | var | VRT | var | n-valuts | [ADJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \%. | 79 | กว | 339 | 39 | 999 | $99 \%$ - | 5.0 | 19 | -11 | 23 | -11. | -4.0 | 7.7 |
| $\because$ | 14 | $-17$ | 18 | 99.7 | 994 | 8.0 | 7.5 | 2 n | -12 | 29 | $-12$ | $-410$ | 9.0 |
| 10.6 | P | -19 | 22 | -in | $-4.40$ | 8. ${ }^{\text {\% }}$ | 10.0 | 33 | -10 | 3 | -10 | -410 | 7.4 |
| $1 \cdot 5$ | 4 | -19 | $3{ }_{4}^{34}$ | -13 -14 | -410 -350 | 7.0 | 17.5 <br> 15.0 <br>  <br> 18.0 | 40 | - ${ }^{-8}$ | 42 | -10 | -370 | 7.5 |
| $\cdots$ | P) | -19 | 60 | -16 | -280 | 5.6 | 17.5 | 55 | -12 | 54 | -12 | $-3130$ | 7.0 |
| 2, | ? | -14, | 68 | -14 | -230 | 3.7 | 20.0 | 72 | -14 | 73 | $-4$ | -330 | $5 \cdot 3$ |
| $\cdots \cdot 9$ | \% | -14 | 68 | $-14$ | -190 | 2.7 | 27.5 | 78 | -7 -10 | 78 | -7 | -210 | 3.4 |
| 25 | T0 | -12 | 6, | -12 | - 30 | 2.4 | 27.0 | 74 | -9 | 75 | -9 | -130 | 2.9 |
| 30 | 14 | $-7$ | 60 | $-7$ | 10 | 2.4 | 30.0 | 71 | -h | 72 | -7 | -r.0 | 2.4 |
| 12., | ? | -6 | 61 | -6 | 79 | 2.5 | 32.5, | $\stackrel{17}{ }$ | $-7$ | 75 | -9 -0 | 30 30 | 2.7 |
| $3 \cdot .3$ | 35 | -4 | ${ }_{6} 3$ | -5 | 120 |  | 35.0 <br> 37.5 | 66 6.4 | -9 | 67 63 | -8 | 880 | 2.5 |
| 37.4 | 719 | $-7$ | 6, 64 | -6 | 180 | 1.1 | \%0.0 | ¢2 | -9 | 60 | -8 | 120 | 3.0 |
| 4.5 | 74 | -4 | b1 | -4 | 220 | 1.9 | 42.5 | 72 | 10 | 72 | 7 | 150 | 3.9 |
| 4.6 | 71 | -5 | 59 | -5 | 250 | 1.2 | 45.0 | 75 | 11 | 75 | 11 | 170 | $3 \cdot 3$ |
| 47.9 | ${ }^{3}$ | $\rightarrow$ | R 2 | -3 | 300 | 1.2 | 47.5 50.0 | 74 | 2 | 71 | 2 | 250 | 1.2 |
| 50.3 | 77 | -7. | 65 | -8 | 300 | 1.2 |  |  |  |  |  |  |  |



afolus vit var vrt vrr o-values tadj radius vat var vrt vrr b-values tade


| ranius | vat | var | VRT | vRr | n-7alijes | [40. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 6 | 0 | 5 | 0 | -410 | 7.4 |
| 7.5 | 15 | -1 | : 4 | -1 | $-390$ | 1.3 |
| 10.0 | 24 | - | 21 | 0 | - 378 | 7.0 |
| 12.5 | 34 | 1 | 32 | 1 | -340 | $\bigcirc$ |
| 15.0 | 40 | * | 38 | ? | -310 | 1.4 |
| 17.5 | 46 | 9 | 4 ? | 9 | -270 | .98 |
| 20.0 | 12 | 4 | 68 | 4 | -200 | 2.9 |
| 27.6 | 74 | 3 | 70 | 3 | -140 | 2.2 |
| 2-0. | 70 | 4 | 65 | * | -90 | $2 \cdot 3$ |
| 27.5 | 6s | 5 | 61 | 4 | -50 | 2.7 |
| 10.0 | 65 | 6 | 59 | 6 | -10 | 2.7 |
| 32.5 | 65 | 7 | ¢0 | 7 | 30 | 1.7 |
| 35.0 | 60 | ${ }^{8}$ | 52 | 7 | 60 | 1.4 |
| $\underline{17.5}$ | 55 | 2 | 50 | ? | 110 | 2.6 |
| 40.0 | 60 | 5 | 55 | 5 | 150 | 2.0 |
| 42.5 | A. | 10 | 56 | 9 | 190 | 1.5 |
| 45.0 | 69 | 13 | 51 | 13 | 210 | 1.2 |
| 4.7 .5 | 72 | 13 | 6.5 | 14 | 250 | . 4 |
| 50.0 | 69 | 0 | 64 | 11 | 230 | -2 |





| smcothed vortex averages |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| pasius | vat | var | vrt | vre | o-values | rads | varz |
| 5.0 | 16 | 6 | 10 | 5 | -206 | 1.3 | 376 |
| 7.9 | 24 | 4 | 17 | , | -189 | 1.1 | 686 |
| 10.0 | 26 | -4 | 23 | -4 | -216 | 1.2 | 773 |
| 12.5 | 32 | -2 | 26 | -2 | -193 | 1.2 | 1073 |
| 15.0 | 40 | -1 | 32 | -1 | -162 | -9 | 1772 |
| 17.5 | 44 | 0 | 44 | -0 | -125 | -4 | 2292 |
| 20.0 | 3" | -i | -1 | -i | -77 | -. 2 | 4670 |
| 22. | 6.11 67 | -2 -2 | $\xrightarrow{69}$ | -2 | $\begin{array}{r}-24 \\ \hline 27\end{array}$ | -.8 -1.2 | 5001 4707 |
| 37.9, | ${ }_{6}{ }^{1}$ | -0 | 67 | -0 | 73 | -1.3 | 4.352 |
| 3 c .0 | 63 | 1 | 65 | 1 | 118 | -1.0 | 4163 |
| 32.5 | 62 | 1 | 64 | 1 |  | -. 7 | 3499 |
| 34.6 | ${ }^{6}$ | 1 | 63 | 1 | 195 | -. 7 | 3813 |
| 37.9 | 34 | 2 | 61 | 2 | 233 | -. 8 | 3600 |
| 40.0 | 58 | 3 | 61 | 3 | 270 | -. 9 | 3.534 |
| 42.5 | 56 | 15 | 63 | 15 | 299 | . 2 | 3285 |
| 45.5 | 54 | 19 | 6 ? | 19 | 324 | --1 | 3103 |
| 47. | 57 | 21 | 64 | ? 2 | 352 374 | -. -.4 | 3303 354 |
| sr.a | 59 | 21 | or | 22 | 374 | -. 4 | 3543 |



 unsmgothed weighted vortex averages

surcthed vortex averages

| asmus | vat | var | vRr | vrr | d-values | taju | vatz |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| s.e | 999 | 999 | 979 | 999 | 999 | 999.0 | 999 |
| 7.5 | 99\% | 979 | วงา | 999 | 999 | 997.0 | 997 |
| 10.0 | 999 | 79 | 9 | 999 | 999 | 999.0 | 979 |
| 12.5 | $90 \%$ | 99า | จงจ | 999 | я99 | 999.0 | 999 |
| 150 | 999 | 999 | 999 | 999 | 999 | 999.0 | 999 |
| 17.6 | 17 | 4 | 13 | 4 | 999 | -33.9 | 326 |
| 23.0 | 21 | 5 | 17 | 6 | 999 | -33.9 | 486 |
| ? $? \cdot 1$ | 25 | 7 | 21 | 7 | 999 | -34.0 | 716 |
| 25.0 | 30 | 8 | 26 | 8 | 999 | -34.5 | 1021 |
| 27.5 | 34 | , | 31 | 9 | 999 | -35.1 | 1336 |
| 35.0 | 37 | 8 | 34 | 8 | 999 | -35.5 | 1584 |
| 32.6 | 40 | 7 | 37 | 7 | 999 | -36.1 | 1795 |
| 35.0 | 41 | 6 | 39 | 6 | 999 | -36.5 | 1892 |
| 37.5 | 42 | 6 | 40 | 6 | 999 | -36.8 | 1945 |
| 40.0 | 42 | 5 | 40 | 5 | 999 | -37.2 | 1934 |
| 42.5 | 42 | 5 | 40 | 5 | 999 | -37.6 | 1901 |
| 45.0 | 42 | 5 | 40 | 5 | 999 | -37.9 | 1880 |
| 48.5 | 42 | 6 | 40 | 7 | 999 | $-38.0$ | 1854 |
| 5 c \% | 42 | 0 | 40 | ${ }^{8}$ | 997 | -39.1 | 1826 |

$i$
b.

SPD/ DIR / HOG NOTH/STM/ANGLE/EYERAD/ PRFS/ACTUAL/RFL IMAX WN/

[^1]

| ranius | vat | var | VRT | vRr | d-values | tadj | ratius | vat | var | vRT | vRr | a-values | tads | yadius | vat | var | vRi | vrr | d-values | tans |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 979 | 997 | 997 | 999 | 999 | \%99.0 | 5.0 | 6 | -10 | 10 | 997 | -40 | 10.9 | 5.0 | 999 | 999 | 499 | 999 | 999 | 499.0 |
| 7.5 | 9n | 797 | 999 | 937 | 999 | 999.0 | 7.5 | 8 | -11 | 9 | -6 | -40 | 10.9 | 7.5 | 979 | 999 | 909 | 999 | 999 | १99.0 |
| 10.0 | 6 | -9 | 13 | $-11$ | -10 | 10.3 | 10.0 | 10 | -11 | - | -6 | -40 | 16.4 | 10.0 | 999 | 999 | 999 | 999 | 999 | 979.0 |
| 12.5 | 5 | -1 | 16 | -2 | 0 | 10.6 | 17.5 | 14 | -12 | 14 | -7 | - 20 | 10.1 | 12.5 | 22 | 0 | 13 | 1 | 0 | 10.4 |
| $1 \% .0$ | 9 | 0 | 20 | 0 | 10 | 10.7 | 15.0 | 33 | -12 | 22 | 999 | -10 | 11.0 | 15.0 | 27 | -2 | 15 | -2 | 10 | 11.2 |
| 17.5 | 15 | 1 | 26 | 1 | 20 | 10.7 | 17.5 | 38 | -10 | 27 | 2 | 0 | 20.4 | 17.5 | 31 | -4 | 22 | -4 | $4{ }^{10}$ | 11.1 |
| 2 O .0 | 20 | 1 | 32 | 1 | 30 | 10.6 | 20.0 | 41 | $-9$ | 30 | 1 | 20 | 9.6 | 20.0 | 37 | 0 | 28 | -1 | 50 | 11.2 |
| 27.5 | 33 |  | 37 | 2 | 70 | 10.6 | 22.5 | $4{ }_{4}^{4}$ | -10 | 32 | 0 | 50 | 8.9 | 22.5 | 39 | 1 | 31 | 1 | 70 | 11.0 |
| 25.0 2.5 | 33 46 | $\xrightarrow{-7}$ | 43 57 | ${ }_{-3}^{2}$ | 90 120 | 4.2 8.8 | 25.0 27.5 | 43 72 | -9 | 42 60 | 1 | 100 | 8.4 8.6 | 25.8 | 43 | ? | 36 | 2 | 100 | 9.9 |
| 30.0 | 19 | -6 | 46 | $-7$ | 150 | 8.6 | 370 | $8{ }^{72}$ | -7 | 70 | 1 | 1100 | 8.6 8.0 | 27.5 30.0 | ${ }_{6}^{56}$ | $?$ | 48 58 | ? | 130 <br> 170 <br> 100 | 8.9 |
| 37.5 | 38 | -3 | 46 | -3 | 220 | 9.6 | 32.5 | 8.4 | -9 | 73 | 0 | 250 | 7.2 | 32.5 | 63 | 0 | 61 | -1 | 230 | 8.2 |
| 35.0 | st | 3 | 77 | 4 | 280 | 7.0 | 35.0 | 84 | -7 | 12 | -2 | 320 | 6.3 | 35.0 | 70 | 4 | 64 |  | 2 Co | 9.0 |
| 37.5 | nt | 5 | 79 | 4 | 320 | 6.2 | 37.5 | 93 | -7 | 72 | 1 | 350 | 6.3 | 37.5 | 73 | 6 | 68 | 7 | 330 | h. 1 |
| 40.0 | 66 | 5 | 77 | 4 | 360 | 6.4 | 40.0 | 93 | -9 | 72 | 1 | 390 | 6.8 | 40.0 | 72 | 0 | 67 | 0 | 370 | 7.0 |
| 42.5 | 6. | 5 | 73 | 3 | 400 | 5.8 | 42.5 | 84 | -10 | 73 | 2 | 48.0 | 5.6 | 47.5 | 69 | -5 | 65 | -5 | 400 | 1.5 |
| 45.0 | 59 | 5 | 70 | 4 | 420 | 5.6 | 45.0 | 30 | $-13$ | 69 | 6 | 420 | 5.7 | 45.0 | 67 | -4 | 62 | -4 | 430 | 7.8 |
| 47.5 | 5 | ${ }_{7}$ | 66 | 5 | 460 | 5.6 | 47.5 | 78 | $-11$ | 66 | 6 5 | 450 | 5.7 | 47.5 | 65 | $-2$ | 61 | $-2$ | 410 | 7.7 |
| 30.0 | 53 | 7 | 64 | 6 | 490 | 6.0 | 50.0 | 76 | $-10$ | 6.5 | 5 | 480 | 6.4 | 50.0 | 64 | -1 | 60 | -1 | 500 | 8.1 |





| CARQIE / $570917 / 11000 / 696 / 1649-1707 / 1$ |
| :--- |
| $/ 8165 / 180 / 5 / 6 / 180 / 254 / 978 /$ |

racius vat var vrt vrr ij-valufs tadj


999.0
10.9
10.9
11.0
11.3
11.6
11.0
16.2
1.4
8.5
8.1
9.0
7.2
16.1
6.4
6.2
6.0
6.0
radius
5.0
7.5
10.0
12.5
15.0
17.5
20.0
22.3
25.0
27.5
30.0
32.5
35.0
37.5
40.0
42.5
45.0
47.5
50.0

| VAR | VRT |
| :---: | :---: |
| -10 | 11 |
| -6 | 15 |
| -6 | 18 |
| -7 | 20 |
| 3 | 23 |
| 7 | 29 |
| 1 | 38 |
| 0 | 42 |
| 1 | 50 |
| 1 | 67 |
| 1 | 90 |
| 0 | 80 |
| -1 | 78 |
| 1 | 78 |
| 1 | 75 |
| 2 | 70 |
| 6 | 68 |
| 5 | 67 |



 , a, $05 / 20 n / N / 2,20 / 25 a / 978 / 30143 / 45.0$

| ravius | var | var | var | VRR | d-values | tadj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.9 | 9.9 | 499 | 999 | 999 | 999 | 999.0 |
| 7.9 | n) | ว7า | 399 | 997 | 999 | 999.0 |
| 10.0 | 39. | 999 | 499 | 999 | 999 | 999.0 |
| 17.3 | ร9\% | วา7 | 999 | 999 | 299 | $99 \%$ - |
| 15.0 | $9 \% 9$ | 999 | 949 | 999 | 999 | 999.0 |
| 12.5 | 14 | -? | $2 ?$ | -2 | 999 | -35.3 |
| 20.0 | 14 | -2 | 2.4 | -2. | 959 | -35.5 |
| 22.5 | 13 | -1 | 25 | -1 | 999 | -35.6 |
| $<{ }^{\text {cis }}$ | 14 | 1 | 27 | 1 | 999 | -35.6 |
| 27.5 | 16 | 3 | 29 | 3 | 949 | -35.8 |
| 30.0 | 19 | 4 | 31 | 3 | $9 ¢ 9$ | -35.8 |
| 37.5 | 21 | 4 | 33 | 4 | 999 | -35.9 |
| 35.6 | 23 | s | 35 | 4 | 999 | -36.0 |
| 31.5 | 25 | 4 | 38 | 4 | 997 | -36.2 |
| 40.0 | 26 | 3 | 39 | 3 | 997 | -36.5 |
| 47.5 | 23 | 1 | 41 | 1 | 999 | -37.5 |
| 44.0 | 30 | -1 | 43 | -1 | 999 | -77.5 |
| 47.5 | 21 | -3 | 4. | -3 | 979 | -33.1 |
| 50.0 | 27 | -5 | 40 | -5 | 979 | -35.3 |

 $10,65,140,5 \mathrm{se} / 5 / 1451251 / 1978 / 331145 / 5000$

| 2atilis | vait | vik | vat | VRr | o-values | tadj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 2 | -1 | $1 ?$ | -2 | 999 | -34.3 |
| 7.5 | 5 | -1 | 18 | 0 | 999 | -34.4 |
| 12.0 | 7 | - | 19 | 0 | $9 ¢ 9$ | -35.5 |
| 12.5 | 10 | 0 | 22 | 0 | 999 | -34.7 |
| 15.0 | 12 | $\bigcirc$ | 24 | 0 | 999 | -34.7 |
| 17.5 | 14 | 1 | 26 | 1 | 959 | -34.7 |
| $\bigcirc 0.0$ | 16 | 1 | 28 | 1 | 989 | -34.8 |
| י7.5 | 18 | 2 | 30 | 2 | 999 | -35.2 |
| $\cdots$ | $?$ | 3 | 33 | 3 | 999 | -35.3 |
| ग.', | 23 | 5 | 34 | 4 | $9 ¢ 9$ | $-35.8$ |
| 30.0 | 23 | 7 | 36 | 6 | 999 | -35.6 |
| 2.5 | 25 | 7 | 37 | 6 | 989 | -35.8 |
| ヶ.0 | 27 | 7 | 39 | 7 | $9 ¢ 9$ | -36.1 |
| 17.5 | 29 | h | 40 | 6 | 997 | -36.3 |
| 40.0 | 30 | 6 | 42 | 6 | 979 | -37.2 |
| 42.5 | 31 | t | 43 | 5 | 999 | -37.6 |
| 45.0 | 32 | 5 | 44 | 5 | 959 | -38.0 |
| 47.5 | $3 ?$ | 4 | 44 | 3 | 999 | -39.2 |
| sc. 0 | 33 | 2 | 45 | 2 | 999 | -38.3 |


1 //carri

- Carrie (57n917/35000/240/1801-1816/n/35/641.23

| radius | vat | var | vrt | vrr | o-values | tanj | ratius | vat | VAR | VRT | vre | b-values | tand |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 999 | 999 | 979 | 999 | 993 | 997.0 | 5.0 | 7 | -3 | -5 | -3 | 989 | -34.3 |
| 7.5 | 999 | 999 | 999 | 999 | 999 | 997.0 | 7.5 | 9 | -2 | -2 | -3 | 999 | -34.4 |
| 10.0 | 12 | -4 | 9 | -3 | $9 \% 9$ | -35.1 | 10.0 | 12 | -2 | 1 | -2 | 999 | -3h.5 |
| 12.5 | 16 | 0 | 17 | -1 | 999 | -33.9 | 12.5 | 16 | -2 | 4 | -2 | 999 | -34.7 |
| 15.0 | 18 | ? | 8 | 2 | 999 | -34.5 | 15.0 | 18 | -1 | 6 | -2 | 999 | -34.7 |
| 17.5 | 20 | 2 | 8 | 2 | 999 | -34.5 | 17.5 | 19 | -1 | 7 | -2 | 999 | -34.7 |
| 20.0 | 22 | 3 | 10 | 3 | 997 | -34.6 | 20.0 | 21 | -1 | 8 | -1 | 979 | -34.8 |
| 27.5 | 24 | 3 | 12 | 3 | 997 | -34.6 | 22.5 | 22 | -1 | 10 | -1 | $9 ¢ 9$ | -35.2 |
| 25.0 | $2{ }^{2}$ | 3 | 17 | 3 | 997 | -34.0 | 25.0 | 23 | -1 | 11 | -1 | 999 | $-35.3$ |
| 27.5 | 23 | 3 | 16 | 3 | 997 | -33.7 | 27.5 | 25 | -1 | 12 | -1 | 9 99 | $-35.3$ |
| 30.0 | 30 | 2 | 17 | 2 | 999 | -34.1 | 30.0 | 26 | -1 | 13 | -1 | 997 | -35.6 |
| 32.5 | 32 | , | 19 | 2 | 993 | -34.1 | 32.5 | 27 | -1 | 14 | -1 | 997 | -35.8 |
| 35.0 | 35 | 2 | 22 | $?$ | 999 | -34.3 | 35.0 | 28 | -1 | 16 | -1 | 999 | -35.1 |
| 37.5 | 37 | 3 | 24 | 3 | 990 | -34.6 | 37.5 | 29 | -2 | 17 | -1 | 999 | -76.3 |
| 40.0 | 38 | 6 | 24 | 5 | 999 | -34.9 | 40.0 | 31 | -1 | 18 | -1 | 999 | -37.2 |
| 42.5 | 40 |  | 26 | A | 999 | -35.2 | 42.5 | 32 | 0 | 20 | -1 | $99 \%$ | -37.6 |
| 45.0 | 41 | 11 | 28 | 11 | 999 | -35.5 | 45.0 | 34 |  | 22 | -1 | 999 | -38.0 |
| 47.5 50.0 | 42 | $1 \begin{aligned} & 14 \\ & 18\end{aligned}$ | 29 29 | 18 | 599 | -35.7 -75.7 | 47.5 | 36 7 | -1 | 23 | -1 | ๆэ9 | -39.2 |




| radius | vat | var | vRT | VRR | o-valufs | tanj | ramius | vat | var | vrt | VRR | d-values | 1901 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 999 | 99\% | 999 | 999 | 999 | 999.0 | 5.0 | 999 | 939 | 999 | 999 | 999 | 999.0 |
| 7.5 | 999 | 997 | 999 | 999 | 959 | 999.0 | 7.5 | 979 | 999 | 979 | 997 | 999 | 973.0 |
| 1 c .0 | 999 | 997 | 999 | 499 | ¢99 | 999.0 | 10.0 | 6 | -8 | 16 | -8 | 999 | -34.4 |
| 12.5 | 949 | 999 | 999 | 997 | 979 | 999.0 | 12.5 | 5 | -8 | 16 | - | 997 | -34.9 |
| 15.0 | 979 | 999 | 999 | 999 | 993 | 993.0 | 15.0 | 4 | -7 | 5 | -7 | 999 | -36.9 |
| 17.5 | 14 | -2 | 13 | -1 | 994 | -34.7 | 17.5 | 4 | -6 | 17 | -7 | 959 | -35.1 |
| 20.0 | 16 | -2 | 11 | -2 | 999 | -34.3 | 20.0 | 5 | -5 | 18 | -6 | 494 | -34.0 |
| 22.5 | 17 | -2 | 11 | -2 | 999 | -34.2 | 22.5 | 6 | -4 | 5 | -5 | 999 | -36.0 |
| 25.0 | 19 | -3 | 12 | -3 | 994 | -34.1 | 25.0 | 7 | -4 | 6 | -4 | 999 | -36.0 |
| 27.5 | 22 | - | 13 | -7 | $9 \mathrm{Mi4}$ | -34.2 | 21.5 | 8 | -2 | 7 | -3 | 999 | -35.3 |
| 30.0 | 22 | -3 | 13 | -4 | 999 | -34.2 | 30.0 | 10 | $\bigcirc$ | 10 | -1 | 999 | -35.1 |
| 32.5 | 75 | -4 | 16 | -4 | 979 | -34.4 | 37.5 | 12 | 2 | 13 | 1 | 999 | -35.5 |
| 35.0 | 28 | -4 | 18 | -4 | 949 | -34.5 | 35.0 | 15 | 3 | 27 | 2 | 999 | -35.2 |
| 37.5 | 30 | -3 | 20 | -4 | 999 | -34.6 | 37.5 | 17 | 4 | 31 | 4 | 999 | -35.6 |
| 40.0 | 32 | -1 | 22 | -1 | 929 | -34.9 | 40.0 | 20 |  | 32 | 4 | 999 | -36.1 |
| 42.5 | 33 | 2 | 23 | 1 | $9 ¢ 9$ | -35.1 | 42.5 | 21 | 3 | 34 | 3 | 979 | -36.5 |
| 45.0 | 35 | 5 | 24 | 4 | 999 | -35.3 | 45.0 | 22 | 3 | 35 | 3 | 999 | -36.5 |
| 47.5 | 35 | ${ }^{8}$ | 24 | 7 | 979 | - 35.4 | 47.5 | 238 | 3 | 24 | 4 | 999 | -37.1 |
| 50.0 | 36 | 10 | 25 | 10 | 999 | -35.5 | 50.0 | 25 | 3 | 38 | 3 | 999 | -34.0 |


10.


STODM TOUF OCTANT AZMTH IM QDR CENT MAX WTNOS RADTIS SPD/ DIR / HDG /NOTH/STM/ANGLF/EYERAN/ PRFS/ACTUAL/RFL /MAX WD/

LEVEL 1




| rapius | vat | var | vRT | VRR | d-values | TADJ | radius | vat | VAR | vrt | vRr | D-values | tand | radius | vat | VAR | vRT | vRr | o-values | tam. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 19 | 7 | 5 | 0 | -770 | 18.0 | 5.0 | 979 | 799 | 979 | 979 | 977 | 999.0 | 5.0 | , | 3 | 15 | -3 | -8co | 18.8 |
| 7.5 | 24 | 8 | 12 | -1 | -770 | $1 \mathrm{H}$. | 7.3 | 25 | $-13$ | 26 | ${ }^{2}$ | -770 | 17.5 | 7.5 | 9 | ? | 21 | -8 -5 | -300 -790 | 17.2 19.6 |
| 10.1 | 29 | 9 | 18 | -1 | -760 | 18.8 | 10.0 | 31 | -3 | 26 | 11 | -790 -790 | 17.6 17.7 | 10.0 12.5 | 14 75 | 1 | 28 40 | -5 -2 | -790 -770 | 19.6 19.0 |
| 12.5 | 13 | 10 | 27 | - | -750 | 19.0 | 12.5 15.0 |  | -1 | 42 | 11 | -790 | 17.4 | 15.9 | 36 |  | 51 | -1 | -720 | 17.8 |
| 15.0 | 5 | a | 59 | -3 | -730 | 18.4 17.4 | 14.0 17.5 | 79 | -6 | 64 | ${ }_{6}$ | -750 | 16.5 | 17.5 | 46 | 1 | 61 | 0 | -640 | 16.8 |
| 17.5 | 1,0 | ${ }_{28}^{14}$ | 50 65 | 14 | -680 | 16.6 | 20.0 | 90 | -7 | 76 | 4 | -670 | 15.6 | 20.0 | 54 | 7 | 70 | 7 | -570 | 16.2 |
| 2n.0) | 76 | $\stackrel{17}{17}$ | 77 | 5 | -550 | 15.6 | 22.5 | 82 | -8 | 72 | 3 | -570 | 15.7 | 22.5 | 50 | 7 | 65 | -1 | -510 | 16.0 |
| 2h.0 | ${ }^{4} 4$ | 17 | 75 | 4 | -470 | 15.6 | 25.0 | ${ }^{17}$ | -6 | 70 | 5 | -530 | 14.4 | 25.0 | 54 | -2 | 69 | - | -450 -410 | 15.9 15.8 10.8 |
| 27.5 | 77 | 1\% | 69 | ? | -430 | 15.4 | 27. | 74 | - | 67 | ${ }^{10}$ | -4.40 | 15.6 | 27.5 30.0 | $4{ }_{4}$ | -11 | ${ }_{6}^{69}$ | -9 | - 370 | 15.6 |
| 33.0 | 74 | 15 | 65 | $?$ | -4c0 | 15.2 | 32.0 32.5 | 71 | -1 | 64 61 | 13 | -400 | 15.4 | 32.5 | 44 | -14 | 59 | -12 | -330 | 15.4 |
| 32.5 | 74 | 14 | 65 65 | 3 | -390 -330 | 15.2 | 35.0 | 68 | - 2 | 58 | 10 | -360 | 15.2 | 35.0 | 47 | -16 | 62 | -14 | $-300$ | 15.4 |
| 37.5 | 10 | 16 | 62 | 4 | -300 | 15.4 | 37.5 | 67 | -? | 58 | ? | -330 | 15.3 | 37.5 | 43 | $-1 / 4$ -14 | 58 | -11 | -210 | 15.6 15.8 |
| 40.0 | 71 | 16 | 62 | 4 | -270 | 15.4 | 40.0 | 67 | -3 | 57 | $10^{4}$ | -300 -270 | 15.7 15.2 | 40.0 42.5 | 41 | -14 | 57 56 | -11 -12 | - 290 | 15.0 10.0 |
| 42.5 45.0 4.5 | 70 | 17 <br> 16 | 61 61 | $\begin{array}{r}-1 \\ \hline 1\end{array}$ | -250 | 15.2 | 45.0 | ${ }_{68} 68$ | - | 59 | 12 | - 240 | 15.2 | 45.0 | 43 | -17 | 58 | -15 | -200 | 15.6 |
| 47.0 | 6.8 | 20 | 60 | 7 | -200 | 15.1 | 47.5 | 65 | -3 | 56 | $\stackrel{9}{9}$ | -210 | 15.4 | 47.5 | 42 | -25 | 57 | -22 | -170 | 15.2 |
| 4 n .0 | 73 | 18 | 64 | 5 | -180 | 15.0 | 50.0 | 66 | -5 | 57 | 7 | -190 | 15.6 | 50.0 | 997 | 99 | 94 | 997 | 997 | 999.0 |





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| ractus | vat | var | VRT | VRR | d-values | tanj | rabtus | vat | var | VRT | vrr | n-values | tanj | radius | - vat | var | VRT | VRR | d-values | iAns |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }_{5} .0$ | 17 | $\mathfrak{l}$ | 4 | 8 | -800 | 17.6 | 5.0 | -3 | 2 | 11 | -3 | -790 | 18.2 | 5.0 | 999 | 997 | 909 | 999 | 999 | 999.0 |
| 7.5 | 19 | 1 | 6 | 9 | -800 | 18.2 | 7.5 | 1 | 3 | 15 | -2 | -770 | 18.4. | 7.5 | 7 | -14 | 20 | -7 | -780 | 14.0 |
| 10.0 | 23 | 2 | 11 | 10 | -780 | 18.6 | 10.0 |  | 3 | 18 | -1 | -770 | 13.6 | 10.0 | 11 | -6 | 26 35 | -3 | -710 -750 | 19.6 |
| 12.5 | 36 | 1 | 23 | 10 | -770 | 18.0 | 12.5 | 12 | 1 | 27 | -1 | -710 | 17.0 | 12.5 | 34 | - | 49 |  | -730 | 19.4 18.2 |
| 14.9 | 56 | -2 | 44 | 7 | -740 | 17.2 | 15.0 | 20 | ${ }^{0}$ | 35 | $-1$ | -760 | 17.0 | 15.0 17.5 | 34 45 | 0 | 49 59 59 | -2 | -730 -700 | 19.2 17.4 |
| 1.7 .5 | 76 | 0 | 64 | 9 | -760 | 16.7 | 17.5 | 38 | -7 | 53 50 50 | -15 | -660 | 16.8 | 20.0 | 43 | -3 | 57 | -9 | -610 | 17.0 |
| 20.0 | 94 | -1 | 73 | 9 | -630 | 16.0 | 27.0 | 44 | -11 | 85 | -9 | -600 | 16.2 | 22.5 | 43 | 4 | 57 | -3 | -550 | 16.8 |
| 22.5 | $\stackrel{\square}{\square}$ | -1 | 70 | 10 | -560 | 15.2 | 22.5 | 50 | -12 | 65 | -10 | -550 | 15.8 | 25.0 | 43 | 11 | 56 | 4 | -480 | 16.4 |
| 27, 2 | 76 | $\cdots$ | 65 | 13 | -4,60 | 14.8 | 27.5 | 48 | -13 | 63 | -11 | $-4.0$ | 15.7 | 27.5 | 4 2 | 11 | 55 | 3 | -410 | $11^{1.1}$ |
| 30.0 | 74 | 2 | 63 | 12 | -410 | 14.8 | 30.0 | 43 | $-13$ | 58 | -10 | - 30 | 15.7 | 30.0 | 45 | 9 | 57 55 | - | -320 -340 | 15.8 16.3 |
| 22.5 | 71 | 1 | 60 | 11 | -360 | 14.8 | 32.5 | 41 | -10 | ${ }_{5}^{56}$ | - -6 | -370 | 15.7 16.0 | 32.5 35.0 | 43 | 11 | 55 55 | -2 | -340 | 15.0 |
| 35.0 | 71 | 0 | 60 | 10 | -320 | 14. ${ }^{14}$ | 35.0 37.5 | $4{ }_{4}^{40}$ | -11 | 55 <br> 53 | -6 | - 270 | 16.0 | 37.5 | 42 | 12 | 53 | 1 | - 260 | 15.4 |
| 37.5 | 51) | 1 | 57 56 | 11 | -290 -270 | 14.8 14.8 | 47.0 | 37 | -12 | 52 | -8 | -270 | 15.7 | 40.0 | 39 | 11 | 49 | $\bigcirc$ | -220 | 15.2 |
| 4.2 .5 | 6\% | 5 | $5{ }_{5}$ | 13 | -240 | 14.8 | 42.5 | 35 | -13 | 50 | -9 | -260 | 15.4 | 42.5 | 37 | 12 | 47 | 2 | -200 | 15.3 |
| 45.0 | 6.3 | 7 | 55 | 15 | -220 | 15.2 | 43.0 | 38 | -14 | 52 53 5 | -10 | -250 -220 | 15.2 15.2 | 45.0 47.5 | 38 | 16 | 45 | 4 | -140 | 15.4 |
| 47.3 | $7{ }^{1}$ | ${ }_{-3}$ | 58 | ${ }_{5}^{11}$ | -200 | 15.4 999.0 | 47.5 50.0 | 38 <br> 8 | -10 | 53 | -6 | -? ${ }^{\text {co }}$ | 15.1 | 50.0 | 34 | 17 | 43 | 5 | -130 | 15.5 |





| /CLEC / 500913 / $15600 / 577 / 1920-1945 / 1 / 33 / 56 / 583$ |  |  |  |  |  |  | / 15 | 90 | 1 | 270 | ---1 | 1 | -32 | 115 | 75 | $117$ | 315 | ---- | 1 54 | /25.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | vat | var | vRT | vRk | o-values | tadj | kallus | vat | var | VRT | VRR | d-values | ings | radius | vat | VAR | VRT | vrr | d-values | tanJ |
| 5.0 | 26 | 4 | 16 | 7 | -100 | 5.0 | 5.0 | 3 | - 6 | 15 | -3 | -50 | 5.4 | 5.0 | 5 | 5 | 11 | -7 | -po | 5.2 |
| 1.3 | 27 | 1 | 17 | 5 | -160 | 5.4 | 7.5 | 5 | -5 | 17 | -1 | -60 | 5.5 | 7.5 | 6 | 5 | 14 | -6 | -80 | 5.1 |
| 10.0 1.5 | 34 38 | -1 | 24 27 | 5 | -160 -70 | 5.4 4.6 | 10.0 12.5 | 7 | -3 -7 | 19 <br> 24 | - ${ }_{-}$ | -50 | 5.3 | 10.0 | 10 15 | 7 | 17 | -6 | - -80 | 5.1 |
| 14.0 | 4.3 | -1 | 37 | 4 | -30 | 3.2 | 15.0 | 10 | -7 | 23 | -2 | -40 | 4.7 | 12.5 15.0 | 15 <br> 24 | ${ }_{9}$ | 239 | -5 | -70 | 4.4 |
| :7.3 | 61 | -? | 52 | 4 | 30 | 2.2 | 17.5 | 22 | -3 | 35 | 2 | - | 3.0 | 17.5 | 42 | 7 | 56 | -5 | 70 | 2.2 |
| 20.0 | 63 | 3 | 53 | 9 | 0 | 1.4 | 27.0 | 39 | -? | 54 | 3 | 40 | 2.0 | 20.0 | 45 | 6 | 53 | -6 | 110 | 1.9 |
| 27.5 25.0 | \% | $-3$ | 51 51 | 3 | 130 160 | $\stackrel{.}{ } \cdot 1$ | 22.5 25.0 | 39 <br> 39 | -1 | 53 | 5 | RO | 1.8 | 22.5 25.0 | 48 54 54 | 6 | 56 | -6 | 140 | 1.6 |
| 27. ${ }^{\text {\% }}$ | 0 | -i | 53 | $\frac{4}{5}$ | 200 | -. 8 | 25.0 | 49 | -1 -3 | 568 | 4 | 130 160 | 1.2 .6 | 25.0 21.5 | 54 | 7 | 62 56 | -6 | 170 200 | 1.3 1.2 |
| 30.0 | 61 | $-3$ | 51 | 3 | 240 | -. 5 | 30.0 | 41 | -6 | 55 | -2 | 200 | $\square 3$ | 30.0 | 48 |  | 53 | -6 | 230 | 1.0 |
| 37.5 | 50 | -1 | 50 | 5 | 200 | -. 5 | 32.5 | 43 | -5 | 58 | -1 | 230 | 0.0 | 32.5 | 43 4 4 | ${ }^{\circ}$ | 49 | -4 | 270 | 1.1 |
| 39.6 37.5 | 62 80 | 4 | 52 50 | ? | 310 330 350 | -.5 -.4 | 35.0 37.5 | 43 41 | - ${ }^{-1}$ | 58 55 | 2 | 290 | - ? | 35.0 | 43 | 11 | 49 | -1 | 290 | 1.2 |
| 47.5 | 80 | $\stackrel{2}{1}$ | 50 | 8 | 330 350 | -. 4 | 37.5 40.0 | 41 40 | -1 -3 | 55 54 | 1 | 290 330 | .3 | 37.5 40.0 | 43 43 4 | ${ }_{8}^{12}$ | 51 48 | -1 -5 | 320 340 | 1.5 1.2 |
| 42.5 | 6.4 | ${ }_{8}$ | 58 | 13 | 380 | -. 6 | 42.5 | 42 | -4 | 58 | \% | 360 | 0.0 | 42.5 | 42 | 10 | 50 | - -3 | 440 | 1.0 |
| 45.0 | 65 | 10 | 55 | 15 | 4 CO | -. 7 | 45.0 | 41 | -3 | 55 | 2 | 380 | -. 2 | 45.0 | 43 | 10 | 47 | -3 | 376. | .7 |
| 47.3 | 63 | 12 | 58 59 | 17 | 430 | -. ${ }^{\text {a }}$ | 47.5 | 37. | -3 | 54 | ? | 410 | -. 5 | 47.5 | 43 | ${ }^{8}$ | 47 | -6 | 390 | 1.1 |
| 50.0 | 67 | 14 | 59 | 19 | 460 | -.8 | 50.0 | 38 | -5 | 53 | 0 | 430 | -. 8 | 50.0 | 42 | 10 | 49 | -3 | 400 | . 9 |



| smiothfo vortex averages |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| rantus | vat | var | vRT | vrr | n-values | tanj | vatr |
| 5.0 | 16 | 2 | 15 | -0 | -74 | 5.2 | 403 |
| 7.5 | 20 | 2 | 19 | 1 | -60 | 5.2 | 583 |
| 12.0 | 24 | 2 | 24 | 1 | -47 | 5.1 | 804 |
| 12.5 | 29 | 2 | 29 | 1 | -25 | 4.7 | 1083 |
| 15.0 | 37 | 3 | 37 | 2 | 2 | 3.9 | 1734 |
| 17.5 | 50 | 3 | 51 | 3 | 33 | 3.0 | 2892 |
| 20.0 | 58 | 2 | 53 | 2 | 66 | 2.0 | 3697 |
| 22.5 | 57 | 2 | 59 | 1 | 108 | 1.4 | 37.35 |
| 25.0 | 59 | 1 | 58 | 1 | 14.4 | .9 | 3575 |
| 21.5 | 57 | 0 | 57 | 0 | 178 | . 6 | 3478 |
| 30.0 | 51 | 0 | 57 | -0 | 212 | . 5 | 34,50 |
| 32.5 | 56 | 2 | 54 | 0 | 247 | . 4 | 3346 |
| 35.0 | 55 | 4 | 51 | 1 | 278 | . 5 | 3251 |
| 37.5 | 55 | 2 | 53 | 1 | 307 | . 5 | 3196 |
| 42.0 | 54 | 2 | 34 | 1 | 340 | . 5 | 3152 |
| 42.5 | 54 | 3 | 55 | 2 | 370 | . 3 | 3129 |
| 45.6 | 54 | 3 | 54 | 3 | 386 | . 2 | 3081 |
| 47.5 | 53 | 3 | 54 | 3 | 404 | . 0 | 3047 |
| 50.0 | 53 | 4 | 53 | 3 | 416 | -. 1 | 3002 |



LEVEL 3



| kadius | vat | var | VRT | vRR | d-values | indj | radius | va | var | VRT | VRr | n-values | taoj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5.0 7.5 | 10 | -12 | 3 | 0 | 999 | 999.0 | 5.0 | -9 | -12 | 9 | -9 |  |  |
| 10.0 | 14 | -13 | 4 | -2 | 1810 | -34.6 | 7.5 | -16 | -5 | 10 | -9 | 10.00 | -31.5 |
| 12.5 | 17 | -11 | 7 | -1 | 1910 | - -3.14 | 10.0 | -15 | 1 |  | -7 | isco | -34.6 |
| 15.0 | 23 | -9 | 12 | 0 | 1 sco | -34.4 | 12.5 | -12 | 5 | 5 | -3 | 1810 | -34.7 |
| 17.5 | 27 | - -1 | 17 | 3 | 1800 | -34.3 | 17.5 | -7 -2 | 12 | 10 | 3 | 18.10 | -34.8 |
| 20.0 22.5 | 29 13 | - | 18 | 7 | 18 CO | $-34.2$ | 20.0 | -2 | 12 9 | 14 | -1 | 1870 1810 | -3.98 -35.0 |
| 25.0 | 31 | 3 | 25 | 12 | 18 co | -34.2 | 22.5 85.0 | 15 |  | 20 | -4 | 1790 | -35.2 |
| 27.5 | $\begin{array}{r}38 \\ 3 \\ \hline 18\end{array}$ | 11 | 31 | 20 | 1890 | -34.1 | 27.5 | 215 | \% | 25 | -6 | 1790 | $-35.3$ |
| 30.0 | 39 | 15 | 35 | 25 | 1810 | -34.0 | 30.5 | $\begin{array}{r}23 \\ 32 \\ \hline\end{array}$ | ${ }_{10}^{8}$ | 33 <br> 30 | $-3$ | 1790 | -35.6 |
| 32.5 | 37 | 10 | 34 | 21 | 1970 | -34.2 | 32.5 | 33 | 1 | 39 40 | $-2$ | 1790 | -36.2 |
| 35.0 37.5 | $\begin{array}{r}36 \\ 35 \\ \hline\end{array}$ | - | $\begin{array}{r}30 \\ \hline\end{array}$ | 13 | 1830 | -34.8 | 35.0 | 39 29 | 3 | 40 39 | -8 -4 | 1810 | -76.9 -37.2 |
| 40.0 | 36 | -1 | 33 | 10 | 1840 1850 | -35.6 -36.0 | 37.5 | 29 | 5 | 39 | -7 | 1850 | -37.2 |
| 42.5 45.0 | 49 | - 5 | 39 42 4 | -7 | 1860 | -36.5 | 42.5 | 29 32 | 5 8 | 39 <br> 39 | -7 -4 | 1860 | -37.7 |
| 47.5 | 47 | -6 | 41 | -7 | 1870 1890 | -37.0 -37.4 | 45.0 | 29 | ${ }^{\text {a }}$ | 38 | -4 | 1 ¢0n | -3n.0 |
| 50.0 | 47 | -5 | 38 | 8 | 1890 | -37.6 | 47.5 50.0 | 27 27 | $\stackrel{7}{8}$ | 36 35 | -6 -5 | 1870 | $-3 n .0$ -34. |



| 2aisus | vat | var | VRT | vrr | d-values | tadj | radius | vat | var | vrt | VRR | d-valufs | TADJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 977 | 997 | 1 | 999 | 999 | 999.0 |  |  |  |  |  |  |  |
| 7.5 | -12 | $\bigcirc$ | 2 | -2 | 959 | 997.0 | 7.5 | -10 | -11 | -3 -3 | -3 | 1700 | -34.8 |
| 10.0 | 15 | 0 | 4 | 2 | 999 | 999.0 | 10.0 | -14 | -11 | - | -2 | 1700 1700 | -34.3 |
| 12.5 | 21 | ? | 7 | 5 | 979 | 999.0 | 12.5 | -16 | -10 | -4 | -1 | 1700 1690 | -34.8 |
| 15.0 | 22 | 1 | 8 |  | 999 | -34.3 | 15.0 | -16 | -9 | -6 | 0 | 1690 1690 | -34.7 |
| . 17.5 | 24 | 0 | 9 | 4 | 999 | -34.5 | 17.5 | -10 | -6 | 5 | 5 | 1700 | -35.0 |
| 20.0 | 72 | 0 | 10 | 4 | 999 | -34.4 | 20.0 | -4 | -6 | 7 | 5 | 1720 | - 35.0 |
| 27.5 | 28 | , | 15 | 6 | 999 | -34.1 | 22.5 | -1 | -10 | 9 | 2 | 1750 |  |
| 2h.0 | 17 | \% | 21 | 12 | 979 | -33.9 | 25.0 | -3 | -9 | 10 | 5 | 1770 | - 35.2 |
| 30.0 | ${ }_{4} 3$ | 4 | 22 | 9 | 999 | -34.4 | 27.5 | , | -4 | 13 | 7 | 1790 | -35.4 |
| 37.5 | 34 | - ${ }^{\text {a }}$ | 25 22 | $\stackrel{8}{4}$ | 999 999 | -35.0 -34.9 | 30.0 32.5 | 11 | -1 | 18 | 11 | 1860 | $-35.5$ |
| 35.0 | 29 | -4 | 15 | 1 | 999 | -35.0 | 35.0 | 13 | -2 |  | 12 | 1820 1840 |  |
| 37.5 | 25 | - | 11 | -2 | 999 | -35.2 | 37.5 | 9 | -7 | 23 | 10 | 1840 1820 | -36.1 |
| 41.0 | 23 | -5 | 15 | 0 | 999 | -35.7 | 40.0 | 11 | -7 | 20 | 5 | 1810 | -36.4 |
| 42.5 | 37 | 0 | 23 | 5 | 999 | -36.4 | 42.5 | 12 | -7 | 23 | 5 | 1810 | -37.0 |
| 47.5 | $4{ }_{48}$ | $-2$ | 30 32 | 4 | 999 | -37.0 | 45.0 47.5 | 21 25 | $-5$ | $\begin{array}{r}28 \\ 3 \\ \hline\end{array}$ | 7 | 1810 | -37.4 |
| 56.0 | 49 | , | 33 | 7 | 999 | -37.7 | 47.5 50.0 | 25 23 | -6 -3 | 33 32 | 6 | 1820 1830 | $-37.6$ |



| smgothen vortex avernges |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| sacilis | vat | var | vkt | ver | o-values | tanj | vatz |
|  |  |  |  |  |  | -34.5 | B6 |
| 5.5 | -2 | -1 | 4 | -0 | 1762 | -34.5 -3.5 -3.6 | 157 157 227 |
| 110.0 | 0 | -0 | 4 | 0 | 1763 1763 1763 | -34.6 | 227 <br> 283 <br> 17 |
| $15 . \mathrm{c}$ | 5 | 3 |  | 4 | 1763 | -34.6 | 317 |
| 17.5 | ${ }_{1}^{3}$ | 4 | 10 | 4 | 1769 174 174 | -34.7 | 316 318 |
| 20.6 | 11 | " | 12 | 4 | ${ }^{1774}$ | -34.8 | 307 |
| 24.6 27.5 | ${ }_{23}^{18}$ | 5 | 19 24 | 7 | 1789 1797 | -34.9 -35.1 | 517 777 |
| 30.0 | 27 | 8 | 28 | 8 | 1809 | -35.3 | 9,699 |
| 38.5 | ${ }_{27}^{28}$ | : | 29 | ${ }_{2}^{5}$ | 1825 1839 | -35.7 -36.0 | 954 <br> 856 <br> 89 |
| 37.3 | 20 | -0 | 27 | 0 | 1848 | -36.4 | ¢988 |
| 40.0 | 27 30 | -0 | 280 |  | 1895 1885 | -36.7 | +882 |
| 45.0 47.5 | ${ }^{32}$ | ${ }_{0}^{1}$ | 333 | - | $1 \begin{aligned} & 1870 \\ & 1877\end{aligned}$ | -37.3 -37.5 | 1113 1219 |
| 8 Cc 0 | ${ }_{33}$ | 1 | 33 | 1 | 1879 | -37.6 | 1237 |








LEVEL 2

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rautils | vir | VAR | VRt | vRr | d-values | tads | radius | vat | var | vRt | VRR | d-values | TADJ |
| 5.0 | 13 | -6 | 14 | -14 | 99 | -30.3 | 5.0 | 4 | $-7$ | 5 | 1 | 1420 | -32.0 |
| 7.5 | 45 | 0 | 47 | -8 | 999 | -32.5 | 7.5 | 26 | 5 | 28 | 13 | 1470 | -32.7 |
| 10.0 | 6.9 | 21 | 71 | 13 | 999 | -33.1 | 10.0 | 53 | 19 | 55 | 26 | 1520 | -33.6 |
| 12.5 | 57 | 21 | 59 | 13 | 999 | -33.7 | 12.5 | 51 | 20 | 54 | 27 | 1620 | -34.2 |
| $15 . ?$ | 55 | 14 | 57 | ${ }^{8}$ | 939 | $-34.3$ | 15.0 | 47 | 14 | 52 | 22 | 1860 | -35.0 |
| 11.5 | 31 | 14 | 53 | 6 | 999 | -34.9 | 17.5 | 44 | 12 | 53 | 19 | 999 | -36.7 |
| 2 cos | 43 | 10 | 46 | 2 | 999 | -35.7 | 20.0 | 45 | 6 | 49 | 13 | 999 | -37.2 |
| 22.5 | 43 | ${ }^{6}$ | 45 | -2 | 999 | -36.7 | 22.5 | 38 | 4 | 42 | 10 | 997 | -37.? |
| 25.0 | 42 | 4 | 45 | -4 | 999 | -36.8 | 25.0 | 32 | ? | 37 | 4 | 994 | -36.7 |
| 27.3 | 36 | 3 | 37 | -5 | 999 | -37.? | 27.5 | 26 | 2 | 31 | 9 | $99 \cdot$ | -37.2 |
| $3 \%$ | 36 | 4 | 39 | -4 | 999 | -37.2 | 30.0 | 26 | 1 | 31 | B | 999 | -37.5 |
| 32.5 | 31 | $-3$ | 33 | 5 | 999 | -37.\% | 32.5 | 25 | 0 | 30 | 7 | 997 | -38.1 |
| 35.0 | 31 | 5 | 33 | - -4 | 999 | -37.5 | 35.0 | 25 | 0 | 30 | $?$ | 999 | -30.0 |
| 37.3 | 31 | 4 | 33 | -4 | 999 | $-37.7$ | 37.5 | 24 | -1 | 29 | 5 | 997 | -3p.1 |
| 43.5 | 30 | 3 | 33 | -4 | 999 | -37.9 | 40.0 | 22 | -2 | 27 | 4 | 999 | -39.0 |
| 42.5 | 33 32 | 4 | 36 <br> 34 | -4 | 999 999 | -38.0 -38.0 | 42.5 45.0 | 17 15 | -4 | 22 | 3 | 999 | $-33.1$ |
| 47.5 | 32 | \% | 35 | 0 | 999 | -3H.1 | 47.5 | 1.7 | $-3$ | 22 | ; | 999 | -38.2 -38.3 |
| 50.0 | 3 | 10 | 34 | 2 | 999 | -3n.1 | 50.0 | 17 | -4. | 22 | 2 | 999 | -30.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13125 | 1601 | 514 | 1601 | 1 | , 58 / | $55 / 12.5$ |  |  |  |  |  |  |  |
| zantus | vat | var | vrt | vre | d-values | tanj | radius | vat | var | VRT | var | n-values | tanj |
| 4.9 | 97 | 937 | 499 | 999 | 999 | 999.0 | 5.0 | 399 | 979 | 999 | 9.99 | 999 | . 999.0 |
| 1.5 | 949 | 94\% | 999 | 999 | $9 ¢ 9$ | 999.0 | 7.5 | 779 | 999 | 979 | 999 | 997 | -979.0 |
| 10.9 | 999 | $99 \%$ | 979 | 994 | 959 | 999.0 | 10.0 | 999 | 999 | 999 | 999 | 994 | 994.0 |
| 15.0 | ${ }_{5} 5$ | \% | 45 | 14 | 999 999 | -34.5 -35.0 | 12.5 15.0 | 4.7 | -13 | 57 54 | -7 -7 | 999 | -34.5 -36.3 |
| 17.5 | 47 | 2 | 42 | 3 | 999 | -35.9 | 17.5 | 39 | -7 | 46 | -4 | 999 | -35.5 |
| 2,.0 | 45 | -? | 40 | 3 | 994 | -36.2 | 20.0 | 39 | -5 | 46 | -2 | 994 | -36.7 |
| $2 ? .9$ | 43 | -5 | 37 | 0 | 999 | -36.7 | 22.5 | 42 | -6 | 50 | -4 | 997 | -33.0 |
| 25.0 | 40 | -2 | 34 | 3 | 999 | -36.9 | 25.0 | 37 | -3 | 44 | -1 | 997 | -33.0 |
| 27.5 | 37 | 1 | 31 | 6 | 979 | -37.1 | 27.5 | 34 | -3 | 42 | -1 | 999 | -39.0 |
| 37.9 3.5 | 30 32 | 1 | 24 | 7 | 999 | -37.5 | 30.0 | 317 | -2 | 39 | -1 | 499 | -39.0 |
| 32.3 35.0 | 32 30 30 | 1 | 226 | 6 5 | 979 499 | -37.6 -37.7 | 37.5 35.0 | 27 27 | -1 | 35 30 | - | 999 999 | -37.9 |
| 37.5 | 37 | -1 | 21 | 5 | 999 | -37.7 | 37.5 | 15 | - | 23 | - | 999 | - 77.8 |
| 41.0 | 25 | -4 | 19 | 1 | 999 | -37.7 | 40.0 | 15 | -1 | 23 | -2 | 999 | -31.9 |
| 42.5 | 24 | -5 | 18 | 0 | 999 | -37.8 | 42.5 | 10 | -3 | 1 A | -4 | 999 | -37.8 |
| 4 | $2 ?$ | -5 | 16 | 1 | 999 | -37.9 -37.9 | 45.0 47.5 | . 11 | -1 | 19 | -2 | 999 | -38.0 |
| 53.0 | 20 | -1 | 14 | 4 | 999 | -38.0 | 50.0 | 14 | 4 | 22 | 3 | 999 | -30.9 |




|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| q.apius | vat | var | VRT | var | o-values | tanj | ramius | vat | var | vRI | VRR | o-valufs | [ADJ | andius | vat | var | VRT | VRR | o-values | tan |
| 5.0 | 22 | -5 | 36 | -17 | -380 | 12.5 | 5.0 | 51 | 6 | 31 | 14 | -450 | 11.2 | 5.0 | 35 | -5 | 49 | 8 | -420 | 15.3 |
| 7.3 | 35 | 5 | 45 | -9 | -350 | 9.7 | 7.5 | 71 | -1 | 51 | 10 | -360 | 11.0 | 7.5 | 46 45 | -4 | 59 55 | ? | -350 -290 | 15.? |
| 10.0 | 68 | -7 | 78 | -23 | -260 | 8.5 | 10.0 | n7 38 | -5 | 68 | 5 | -270 -180 | 11.08 0.4 | 12.5 | $4{ }^{49} 8$ | -2 | 55 | 18 | -240 -240 | 12.8 |
| 12.5 15.0 1.5 | 67 67 | -6 | 73 | -17 | -170 | 7.4 | 15.0 | no | -3 | 81 | 5 | -90 | 0.7 | 15.0 | 67 | 1 | 73 | 18 | -180 | 11.3 |
| 17.5 | 67 | -1 | 73 | -16 | 0 | 6.3 | 17.5 | 101 | -10 | 82 | 2 | -20 | 9.4 | 17.5 | 57 | -4 | 64 | 13 | -130 | 11.7 |
| 20.0 | 65 | 3 | 71 | -14 | 50 | 5.8 | 20.0 | 102 | -5 | 83 | 9 | 60 | 8.0 | 20.0 | ¢00 | - $\begin{aligned} & -22 \\ & -20\end{aligned}$ | 64 | -4 | -40 | H. ${ }^{\text {a }}$ |
| 22.5 | \% | 5 | 70 67 | -17 -11 | 90 150 | 4.8 | 22.5 25.0 | 100 | -1 | 81 77 | 12 | 2 l | 7.0 | 25.0 | 50 | -16 | 54 | 2 | 80 | ก.1 |
| 2\%.0 | ${ }_{5}{ }^{\text {a }}$ | 4 | 67 65 | -14 | 2 Co | 4.2 | 27.5 | 95 | -4 | 76 | 9 | 260 | 6.9 | 27.5 | 4.4 | -15 | 47 | $?$ | 130 | $7 \cdot 1$ |
| 30.0 | 55 | 0 | 62 | -17 | 230 | 4.3 | 30.0 | 94 | -9 | 75 | 4 | 2 20 | 6.4 | 30.0 | 46 | -15 | 49 | 3 | 190 230 | 7.3 |
| 32.5 | 51 | , | 57 | $-10$ | 250 | 3.8 | 32.5 | 30 | -5 | 71 68 | ${ }_{17}$ | 310 310 | 6.2 6.0 | 32.5 | $4{ }_{4}^{46}$ | -19 | 49 | 2 | 240 | 3.7 |
| 35 | 53 | ? | 60 56 | -17 -14 | 230 320 | 3.5 | 33.0 | 885 | - | 66 | 14 | 350 | 5.1 | 37.5 | 4 | -17 | 45 | 1 | 2 20 | 5.3 |
| 40.0 | 50 | 7 | 57 | -11 | 360 | 3.5 | 40.0 | 80 | 1 | 62 | 14 | 330 | 4.7 | 40.0 | 45 | $-18$ | 46 | 1 | 290 | 4.7 |
| 42.5 | 45 |  | 54 | -13 | 400 | 3.4 | 42.5 | 76 | 1 | 57 | 13 | 4 CO | 4.4 | 42.5 450 | 47 | -21 -25 | 48 | -3 | 310 | 5.2 |
| 459.0 | 997 | 908 | $\begin{array}{r}59 \\ \hline 99\end{array}$ | -12 999 | 440 999 | 3.0 999.0 | 45.0 47.5 | 72 72 | -4 | 59 | 7 | 440 | 3.3 | 47.5 | 46 | -24 | 46 | -6 | 360 | 5.5 |
| 31.0 | 939 | 949 | 999 | 999 | 999 | 994.0 | 50.0 | 70 | -6 | 51 | 7 | 450 | 4.2 | 50.0 | 45 | -21 | 44 | -3 | 380 | 4.6 |




| 2a\%ius | vat | var | vRt | var | d-values | TADJ | ramius | vat | var | VRT | vRR | d-values | TADJ | radius | vat | var | vRT | vRR | d-values | tand |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 44 | '10 | 25 | 7 | $-470$ | 9.2 | 5.0 | 24 | -14 | 39 | 1 | -420 | 15.7 | $5.0{ }^{\circ}$ | 27 | -3. | 4.4 | 10 | $-4>0$ | 14.8 |
| 7.5 | 73 | 21 | 52 | 13 | -390 | 8.4 | 7.5 | 53 | -24 | 61 | -3 | -340 | 13.7 | 7.5 | 46 | $\stackrel{9}{5}$ | 64 | 20 | -340 -280 | 13.0 |
| 1.0 | 75 | 23 | 54 | 15 | -300 | 7.0 | 10.0 | 65 | -20 | 70 | 1 | -240 | 11.0 | 10.0 | ${ }_{5}^{60}$ | 5 |  | 11 | -290 | 13.9 13.4 |
| 17.5 | 76 | 20 | 55 | 13 | -240 | 6.7 | 12.5 | 65 | -21 | 68 | 1 | -170 | 17.4 | 12.5 | 53 | -4 | ${ }_{84}$ | 1 | -2c0 | 13.4 |
| 13.0 | ${ }^{1}$ | 26 | 71 | 18 | -140 | 6.6 | 15.0 | ${ }^{6}$ | -34 | 71 | -13 | - ${ }^{\text {20 }}$ | 10.5 | 15.0 | 66 | -4 | 84 | 6 | -1c0 | 4.7 |
| 17.5 | 98 | ${ }^{18}$ | 6.7 | 11 | -90 | 5.9 | 17.5 | 12 | -30 | 72 60 | -8 | 20 70 | 9.8 R.9 | 17.3 20.0 | St 57 5 | -1 | 80 76 | 12 | -40 | 9.0 7.5 |
| 23.9 | 97 | 13 | 66 | 5 | -30 | 5.2 | 20.0 | 68 | -27 -28 | 69 65 | -6 | 130 | 8.7 | 27.5 | 53 | 4 | 72 | 14 | 1 co | 7.0 |
| 22.5 | $\because$ | 13 | 81 | 6 | 50 .160 | 4.5 | 22.5 25.0 | 65 65 | - | 65 | -4 | 220 | 7.4 | 25.0 | 53 | 3 | 72 | 13 | 160 | 6.6 |
| 25.0 $\gg 0$ | 77 | 180 | 56 53 | 10 | 160 +260 | 3.0 | 27.5 | $\times 9$ | -26 | 67 | -5 | 260 | 6.4 | 27.5 | 50 | 1 | 69 | 11 | 200 | 6.3 |
| 30.0 | 75 | 8 | 54 | O | 220 | 3.7 | 30.0 | 72 | -21 | 70 | 5 | 300 | 5.0 | 30.0 | 46 | -6 | 65 | 7 | 230 | 5.7 |
| 32.5 | 71 | $\bigcirc$ | 50 | $\frac{1}{4}$ | 290 330 | 3.6 | 32.5 | 68 62 | -17 -19 | 64 58 58 | 5 2 | 340 <br> 370 | 4.8 4.4 | 32.5 35.0 | 40 | - -5 | 59 59 | ${ }_{5}^{2}$ | 280 300 | 6.1 |
| 35.9 | 71 67 | 12 | 45 | 4 | 330 370 | 3.6 | 37.5 | ${ }_{5}^{62}$ | -19 -21 | 53 | 0 | 340 | 4.2 | 37.5 | 37 | -6 | 56 | 3 | 320 | 5.9 |
|  | ${ }_{6} 9$ | 1 | 42 | -5 | 390 | 3.7 | 40.0 | 56 | -17 | 51 | 4 | 420 | 1.1 | 40.0 | 35 | -5 | 54 | 5 | 330 | 4.5 |
| 42.5 | 54 | 5 | 43 | -4 | 410 | 3.4 | 47.5 | 57 | -14 | 51 | 7 | 450 450 | 5.1 | 45.3 4.0 | 38 | -6 | 53 57 | 4 | 340 | 4.1 |
| 9 | ${ }^{13}$ |  | 42 | -2 | 440 460 | 3.0 2.9 | 45.0 | 55 | -12 -13 | 48 | 7 | 450 470 | 3.7 | 47.5 | 32 | -9 | 51 | 1 | 400 | 4.2 |
|  | 61 56 | 12 | 35 | 2 | 480 | 2.8 | 50.0 | 4. | -18 | 42 | 2 | 500 | 3.0 | 50.0 | 30 | $-9$ | 48 | 2 | 420 | 4.1 |



Smodthed vartex averages

| radius | vat | var | ver | VRR | d-values | tadj | vatz |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 38 | 0 | 42 | 3 | -399 | 12.6 | 1720 |
| 7.3 | 52 | 1 | 55 | 4 | -344 | 11.8 | 3035 |
| 10.0 | 63 | -0 | 6.5 | 2 | -271 | 10.9 | 4234 |
| 12.5 | 67 | -1 | 69 | 1 | -190 | 10.1 | 4794 |
| 15.0 | 72 | -2 | 74. | 0 | -105 | 8.9 | 5517 |
| 17.5 | 72 | -3 | 73 | 0 | -35 | 8.1 | 5539 |
| 70.0 | 71 | -2 | 7 | 0 | 31 | 7.2 | 5328 |
| 22.5 | ¢8 | -1 | $6{ }^{6}$ | 1 | 94 | 6.5 | 4976 |
| 25.0 | 66 | -0 | 66 | 1 | 157 | 6.0 | 4630 |
| 27.5 | 6 | $-2$ | 64 | 0 | 204 | 5.6 | 4394 |
| 3 c .0 | 62 | -4, | 6,2 | -1 | 240 | 5.3 | 414.9 |
| 3\%. | 59 | -4 | 59 | -1 | 274 | 5.1 | 3745 |
| 35.0 | 57 | -3 | 57 | -0 | 306 | 4.8 | 3549 |
| 37.h | 55 | -2 | 55 | -0 | 334 | 4.5 | 3268 |
| 42.0 | 53 | -2 | 53 | -0 | 360 | 4.2 | 3045 |
| 47.5 | 51 | -2 | 52 | -0 | 385 | 4.1 | 2896 |
| 43.0 | 51 | -3 | 51 | -0 | 408 | 3.9 | 2768 |
| 47.5 | 51 | -3 | 45 | 2 | 429 | 3.8 | 2832 |
| $5 \mathrm{c} . \mathrm{c}$ | 49 | -3 | 44 | 2 | 443 | 3.7 | 2.623 |








HFLEVE/52092h/6400/811/1826-1842/0/30/76/232//HELENE/580926/6400/811/1756-1804/0/30/76/234/


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| prantus | vat | var | VRT | VRR | d-values | tad J | radius | vat | var | VRT | VRR | o-values | 1405 |
| 5.0 | 909 | 799 | 999 | 999 | 999 | 977.0 | 5.0 | 979 | 999 | 999 | 999 |  |  |
| 7.5 | 971 | 799 | 999 | 999 | 999 | 999.0 | 7.5 | 979 | 909 | 499 | 999 | 999 | 997.0 |
| 10.0 12.5 | 799 | 999 789 | 999 | 999 999 | 999 | 999.0 | 10.0 | 999 | 999 | 979 | 979 | 999 | $\xrightarrow{\text { ¢9\%. }} 9$ |
| 15.0 | 394 | 999 | 999 | 999 | 999 | 999.0 | 12.5 15.0 | 479 <br> 970 | 999 | 999 | 999 | 999 | 999.0 |
| 17.5 | 379 | 790 | 999 | 999 | 999 | 999.0 | 17.5 | 972 | 979 | 499 | 4979 | 999 990 | 979.0 |
| 20.0 | 979 | 799 | 999 | 999 | 999 | 999.0 | 20.0 | 499 | 979 | 997 | 999 | 999 | 99.0 |
| 22.5 |  | 997 | 797 75 | 999 1 | 999 -430 | 999.0 14.3 | 22.5 25.0 | 999 | 999 | 997 | 999 | 999 | 999.0 |
| 27.5 | 66 | -3 | 75 | 1 | -400 | 14.4 | 27.5 | 87 | 19 | 92 87 | - ${ }^{3}$ | -430 -370 | 15.5 |
| 3 C .0 <br> 3.5 <br> 0.5 | 6.4 68 | -1 | 73 | 1 | : $=370$ | 14.4 | 37.0 | 83 | 9 | 96 98 | -2 | -370 -320 | 14.9 14.8 18.8 |
| 32.5 35.0 | 62 68 | 3 | 72 | 4 | -350 -330 | 14.9 | 32.5 | 80 | 10 | 82 | -20 | -320 | 14.8 15.1 |
| 37.5 | 6 | 6 | 70 | $\stackrel{7}{1}$ | -330 -300 | 15.9 15.1 | 35.0 37.5 | 75 | 11 | 77 | - | -25c | 15.2 |
| 40.0 | 53 | 6 | 73 | 6 | -250 | 15.1 | 40.0 | 70 | 7 | 73 | -2 | -230 -170 | 15.0 |
| 42.5 | 63 | 5 | 73 | 5 | -220 | 14.2 | 42.5 | 69 | 1 | 74 | -7 | -170 | 14.1 |
| 47.5 | 63 56 | ? | 71 66 | 5 | -190 -190 | 14.9 14.0 | 45.0 47.5 | 71 | $1{ }^{4}$ | 75 | -5 | -150 | 15.1 |
| 50.0 | 54 | 5 | 63 | 5 | -190 | 14.3 | 50.0 | 70 | 10 | 77 | 0 | -120 -110 | 14.8 |



| panius | vat | $\checkmark$ AR | VRT | vrr | o-values | tad J | radius | var | var | vR ${ }^{\text {r }}$ | VRR | D-values | TAD |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | ¢99 | 997 | 999 | 999 | 999 | 999.0 | 5.0 | 999 | 999 |  |  |  |  |
| 7.5 | 7 | 799 | 999 | 999 | 999 | 994.0 | 7.5 | 999 | 997 | 999 | 999 |  | 999.0 |
| 10.0 | 999 | 799 | 979 | 997 | 999 | 997.0 | 10.0 | 999 | 999 | 999 | 999 | 999. | 999.0 |
| 17.5 | $79 \%$ | 249 | 979 | 999 | 999 | 999.0 | 12.5 | 999 | 999 | 499 | 999 | 974 | 999.0 994.0 |
| 15.0 | 999 | 499 | 999 | 999 | 999 | 999.0 | 15.0 | 979 | 499 | 994 | 999 | 999 | 999.0 |
| 17.5 | 973 | 779 | 979 | 999 | 999 | 994.0 | 17.5 | 993 | 949 | 999 | 999 | 999 | 979.0 |
| 20.0 | $99 \%$ 9.9 | 79.1 | 999 999 | 997 999 | 999 | 999.0 999.0 | 20.0 22.5 | 979 | 999 | 999 | 999 | 999 | 39\%.0 |
| 25.0 | 75 | $-3$ | 85 | -5 | -470 | 99.0 | 22.5 25.0 | 88 | 999 | 999 | 499 | 959 | 99.7.0 |
| 27.5 | 74 | -3 | 82 | -5 | -430 | 14.7 | 27.5 | 74 | 4 | 77 | - 5 | -300 -200 | 15.5 |
| 33.0 | 69 | -3 | 90 | -7 | -360 | 14.7 | 30.0 | 70 | 2 | 67 | -5 | -290 -220 | 15.0 15.9 |
| 32.5 | 6.9 | -2 | 76 | -7 | -280 | 13.3 | 32.5 | 66 |  | 63 | -6 | -190 | 15.3 |
| 35.0 | $\stackrel{8}{68}$ | ? | 76 | $-4$ | -260 | 15.2 | 35.0 | 62 | 2 | 59 | -7 | -150 | 15.4 |
| 37.5 | ${ }_{6}^{69}$ | -5 | 78 | -6 | -320 | 14.8 | 37.5 | 60 | 3 | 55 | - 8 | -110 | 15.1 |
| 47.5 | 6 | 3 | 72 | -2 | -240 | 14.7 | 40.0 | 59 | 4 | 54 | -5 | -70 | 15.0 |
| 45.0 | H1 |  | 68 | -3 | -200 | 14.6 14.9 | 45.0 | 58 60 | 3 | 52 58 58 | -5 | -40 | 15.1 |
| 47.5 | 60 | 6 | 67 | -1 | -170 | 13.9 | 47.5 | 61 | 2 |  | -7 |  | 15.0 14.5 |
| 50.0 | 59 | 1 | 85 | 0 | -110 | 14.0 | 50.0 | 60 | ${ }_{1}^{2}$ | 55 54 | -8 | 30 30 | 14.5 14.7 |


smcothed virtex averages

| 2antus | vat | VAR | VRT | vRr | d-values | tads | vat2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | ¢9, | 999 | 999 | 999 | 999 | 999.0 | ч99 |
| 7.5 | 947 | 999 | 979 | 999 | 999 | 999.0 | 999 |
| 10.11 | $49 \%$ | ¢า9 | 499 | 999 | 999 | 999.0 | 999 |
| 12.5 | 779 | 799 | 999 | 999 | 999 | 999.0 | 499 |
| 15.0 | 599 | 979 | 9.99 | 999 | 999 | 999.0 | 999 |
| 17.5 | 3n* | -79 | 9ッ9 | 999 | 999 | 999.0 | 997 |
| 20.0 | 999 | 999 | 999 | 999 | 999 | 999.0 | 999 |
| 27.3 | 797 | 799 | 9.99 | 999 | 999 | 999.0 | 999 |
| 35.6 | 9 | $\bigcirc$ | $0^{2}$ | 1 | -382 | 15.5 | 6675 |
| 27.5 | 73 | - | 80 | 1 | -346 | 15.3 | 6314 |
| 36.0 | 70 | 0 | 77 | 1 | -300 | 15.3 | 5894 |
| 32.6 | 72 | 1 | 74 |  | -257 | 15.3 | 5383 |
| 3 h .6 | 70 | 2 | 71 | 3 | -227 | 15.4 | 4958 |
| 37.9 | 67 | 2 | 67 | 4 | -200 | 15.2 | 4658 |
| 40.8 | 66 | 3 | 61 | 4 | -164 | 15.1 | 4406 |
| 42.5 | 64 | 3 | 66 | 4 | -133 | 14.9 | 4177. |
| 45.6 | 63 | 4 | 65 | 4 | -109 | 14.8 | 4040 |
| 47.5 | 6 6 | 4 | 63 | 4 | -85 | 14.7 | 3832 |
| 5 C .0 | 61 | 4 | 62 | 4 | -68 | 14.7 | 3759 |



STORM



## STORM 4

LEVEL 4 SPD/ DIR / HDG /NOTH/STM/ANGIE/EYERAM/ PRFS/ACTUAL/REL MMAX WD/


| zarius | vat | var | vrt | vRr | D-values | tadj | radius | vat | var | VRT | vrr | d-values | IADJ | ratius | vat | var | vRt | vRr | d-valuf | tans |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | ${ }^{0}$ | 7 | 7 | 0 | -910 | 10.2 | 5.0 | 18 |  |  |  |  |  |  |  |  |  |  |  |  |
| 7.5 | 12 | -? | 25 | -1 | -9n0 | 2.0 | 7.5 | 27 | 13 | 21 | 13 | -830 | 10.2 9.8 | 5.0 7.5 | 13 | 5 | 10. | -2 | -890 | 9.0 |
| 10.0 12.5 70.0 | 50 30 | 13 | 55 88 | 0 | -840 | 1.4 | 10.0 | 4.5 | 12 | 41 | 12 | -190 | 9.8 | 7.5 10.0 | ${ }_{28}^{13}$ | 3 | 15 30 | 0 | -870 | 7.5 |
| 12.5 | 310 | 13 | ${ }^{88}$ | 6 | -750 | $\cdot 4$ | 12.5 | 92 | 12 | 77 | 8 | -720 | t.0 | 12.5 | 55 | 10 | 53 | ${ }_{7}$ | -810 -720 | 5.4 |
| 17.5 | 100 | 11 | 96 | 6 2 | -620 -420 | $\stackrel{1}{2}$ | 15.0 | 101 | -2 | 91 | - | -6.0 | 4.? | 15.0 | RO | 17 | 79 | 11 | -720 -600 | 3.9 3.0 |
| 22.0 | 102 | 17 | 97 | 7 | -270 | . 4 | 17.5 20.0 | 109 | -4 | 91 | -4 | -460 | 3.2 | 17.5 | 107 | 24 | 98 | 15 | -480 | 1.0 |
| P:. 5 | 27 | 13 | 97 | 7 | -170 | . 4 | 22.5 | 96 | -6 | 89 | -4 | -320 | 2.4 2.2 | 20.0 22.5 | 98 82 | 13 | 85. | 4 | -350 | 0.0 |
| $2 \%$ | 30 | 7 | 80 | 3 | -30 | . 2 | 25.0 | 96 | -9 | 87 | -8 | -70 | 1.9 | 25.0 | 82 98 98 | 15 16 | 85 78 | 7 | -250 | $\cdot 2$ |
| $\stackrel{3}{3} \cdot 6$ | $\stackrel{8}{9}$ | 7 | 76 76 | $\stackrel{2}{0}$ | 90 190 | 0.0 .6 | 27.5 30.0 | 72 | -1 | 84 <br> 83 <br> 8 | -3 | - 30 | 1.4 | 27.5 | 75 | 18 | 78 | 7 | -180 -70 | $\cdot{ }_{-}$ |
| 37.5 | 3 |  | 74 | -2 | 260 | 1.1 | 37.5 | 90 | -2 | -83 | -2 | 170 | 1.5 | 30.0 | 67 | 14 | 69 | $s$ | 20 | c.0 |
| 35.0 | 94 | 1 | 76 | $-4$ | 320 | 2.2 | 35.0 | 85 | -2 | 78 | -2 | 370 | 1.5 | 32.9 35.0 | 72 | 12 | 68 | 5 | 40 | -. 2 |
| 37.5 | 习习 | 0 | 80 | -5 | 380 | 3.2 | 37.5 | an | -10 | во | -5 | 270 | 96 | 35.0 37.5 | ${ }_{68}$ | 11 | 68 | 2 | 170 | -.. |
| 42.0 | 9\%9 | -1 | 77 | 994 | 3.80 | 5.8 | 40.0 | 54 | -2 | 77 | -3 | 330 | 1.0 | 40.0 | 718 | 11 | 68 | 2 | 240 | -. 0 |
| 4, | - | 9 | ¢09 ${ }^{69}$ | 999 | 390 999 | 999.? | 42.4 45.0 | 77 | $\stackrel{2}{4}$ | 69 | 0 | 370 | 1.0 | 42.5 | ${ }_{6}$ | 19 | 68 64 | 10 | 290 350 | -1.0 |
| 47.5 | \%9\% | 99 | 989 | 999 | 999 | 999.0 | 47.5 | 61 | 4 | 58 | 3 | +470 | ${ }_{-6}$ | 45.0 | 5 5 | 8 | 58 | 7 | 390 | . 2 |
| 50.0 | c) | 977 | 779 | 999 | 999 | 999.0 | 50.0 | 64 | - | 56 | 6 | 410 | $\therefore 1$ | 50.0 | 5 | -6 | 55 | -11 | 410 | 0.0 |

/


| 23:1us | vat | V18 | VRT | ver | d-values | TADJ | ramius | vat | var | vRt | vRR | D-values | tanj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ¢. 0 | 19 | 4 | 10 | -4 | 999 | 9.4 | 5.0 | 4 | 3 | 12 | -1 | 994 | 21.9 |
| 7.3 | 27 | $-3$ | 17 | -4 | -8co | 9.6 | 7.5 | 15 | 6 | 20 | -1 | -8.40 | 1 c .2 |
| 12.0 | 46 | -4 | 38 | -4 | -720 | 9.4 | 10.0 | 71 | 12 | 36 | 4 | -740 | 9.3 |
| 12.5 | 82 | 6 | 13 | 5 | $-700$ | 7.6 | 12.5 | 62 | 14 | 66 | 7 | -720 | 7.4 |
| 15.0 | 117 | I | 111 | 5 | -580 | 4.6 | 15.0 | a3 | 17 | 82 | 11 | -640 | 5.6 |
| 17.5 29.0 | 115 114 149 | $\begin{array}{r}-1 \\ \hline\end{array}$ | 107 107 | $?$ | -440 -340 | 2.3 | 17.5 | 87 | 13 | 89 | 8 | -5.50 | 3.2 |
| 22.5 | 106 | -3 | 94 | -1 | -340 -260 | 2.2 | 20.0 | 89 | 10 | 92 | 6 | -450 | . 2 |
| 25.9 | 97 | -3 | 91 | -1 | -130 | 1.4 | 22.5 | 89 88 8.4 | 4 | 81 | 4 | -350 | 0.0 |
| 27.5 | $\cdots$ | - | 33 | -4 | -160 | . 4 | 21.9 | 13 | 4 | ${ }_{8} 8$ | -3 | -260 -160 | 84 |
| 33.0 | 96 | $\rightarrow$ | 85 | -1 | -10 | . 1 | 30.0 | 71 | 2 | 77 | -4 | -80 | $\bigcirc$ |
| 32.5 36.0 | 31 | -7 | 80 | -6 | я | . 3 | 32.5 | 70 | 0 | 76 | -4 | 10 | -. 5 |
| 35.0 37.5 | $\stackrel{\circ}{2}$ | -6 | 77 | -5 | 180 | . 6 | 35.0 | 72 | 7 | во | 0 | 100 | -. 4 |
| 45.0 | 87 | -10 | 77 | -9 | 260 | . 7 | 37.5 | 71 | -2 | 78 | -7 | 180 | -. 6 |
| 42.5 | 73 | -16 | 81 | -11 | 370 | 1.0 | 40.0 | $\begin{array}{r}67 \\ 59 \\ \hline 72\end{array}$ | -10 | 73 | $-16$ | 270 | -. 7 |
| 43.0 | 999 | 4 | 999 | 0 | 979 | 999.0 | 45.0 | 72 | -10 | 73 | -12 | $\begin{array}{r}370 \\ 370 \\ \hline\end{array}$ | --7 |
| 47.5 | 949 | 979 | 999 | 999 | 999 | 994.0 | 47.5 | 66 | -9 | 74 | -5 | 40.0 | -1.3 |
| 32.0 | 999 | 493 | 990 | 999 | 999 | 999.0 | 50.0 | 59 | 16 | 75 | 22 | 4 CO |  |



STORM 4

|  | GTODA / DATE /FEET , ARFGB. , IMTEPVAL /OUT/ LAT/LOAG/ IO, |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { STODM } \\ & \text { SPO/ DI } \end{aligned}$ |  |  | $\begin{aligned} & \text { TRUE } \\ & \text { HDG } \end{aligned}$ | $\begin{aligned} & \text { OCTANT } \\ & \text { OTH/STM. } \end{aligned}$ | $\begin{aligned} & \text { IMR RD } \\ & \text { YERA } \end{aligned}$ |  | MAX WYMn CTUAL/RE |  |  | $\begin{aligned} & \text { RADTUS } \\ & M A X \text { WOI } \\ & =-2= \end{aligned}$ |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 78, 315 | 3001 | 1 | 251 | - | 181 | 72122. | 1315 | 2101 | 15 | 210 / |  | 1441 | 55 1 ? |
| ralius | vat | VAR | vRT | VRR | 1)-values | tadj | ragitus | vat | var | v2t | vra | o-values | tanj |
| 5.0 | 37 | -2 | 3 | 1 | 1520 | $-31.3$ | 5.0 | 9 | -7 | 13 | -7 -7 | 1560 1570 | -31.4 -31.2 |
| 7.5 | 9 | 0 | 5 | 1 | 1550 1500 1500 | -31.2 -31.1 | 7.5 10.0 | 10 14 18 | -7 -8 | 20 | -8 | 1600 | -31.2 |
| 10.0 | $? 7$ | $\frac{1}{2}$ | $1{ }^{7}$ | 1 | 550 1630 | -31.0 | 12.5 | 21 | -7 | 30 | -6 | 1670 | $-36.9$ |
| 12.0 | 911 | 2 | 23 | 5 | 1670 | -31.2 | 15.0 | 37 | -1 | 38 | 0 | 1640 | -30.9 -31.0 |
| 17.5 | 76 | 15 | 43 | 15 | 1690 | $-31.8$ | 17.5 20.0 | 34 27 | 0 | 43 <br> 38 | 2 | 18.70 | -31.0 |
| $2 \mathrm{c} . \mathrm{C}$ | 72 | 17 | 63 72 | 16 8 8 | 1770 1750 | -32.6 -3.8 | 20.0 22.5 | 37 | h | 45 | ${ }_{8}$ | ${ }_{1720^{\circ}}$ | -31.7 |
| 22.5 23.0 | 75 | 8 | 72 69 | 3 | 1780 | -35.0 | 25.0 | 43 | 14 | 53 | 17 | 1750 | -21.6 |
| 25.0 27.5 | 74 | $-1$ | 69 60 | -1 | 18 co | $-35.8$ | 27.5 | 44 | 11 | 54 55 | 11 | $17 \times 0$ 18.0 1800 | -33.1 -33.9 |
| 30.0 | 74 | $-5$ | 62 | -5 | 1320 | -36.2 | 30.0 32.5 | 44 40 | $\stackrel{1}{0}$ | 55 50 | 2 | 1870 | -3.3.9 |
| 32.5 | 12 | -3 | 64 60 | -3 5 | 1940 1870 | -36.7 -37.0 | 32.5 35.0 | 37 | - | 47 | -1 | 1240 | -34.0 |
| 36.0 37.5 | 6 | $\cdots$ | 6, 3 | 13 | 1890 | -37.5 | 37.5 | 37 | -2 | 48 | -2 | 1850 | -34.7 |
| 4 ran | ¢ 3 | 17 | 63 | 17 | 1930 | $-37.3$ | $4{ }_{4}$ | 37 | -1 | 48 | 2 |  | -31.0 -35.2 |
| 42.5 | ${ }_{5} 1$ | 20 | 62 60 60 | 17 | 1340 <br> 1970 | -37.8 -37.8 | 42.5 45.0 | 37 35 3 | ${ }_{5}^{2}$ | 45 | ${ }_{5}$ | 1910 | -15.4 |
| 45.0 | 1.3 | ? 3 | 60 58 | 19 20 | 1980 | -37.8 | 47.5 | 36 | 799 | 44 | 997 | 1 1890 | 995 |
| 510 | 6, | 25 | 58 | 25 | 1990 | -37.9 | 50.0 | 973 | 999 | 43 | 779 | 1950 | 997.0 |

MIT:
 /9/315/100/W/7/240/9 /949/67/59/22.5

| ractus | var | var | vRT | vrr | o-values | tanj | Rantus | vat | var | VkT | ver | n-values | IAİJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ? | - | 11 | 10 | 14.60 | -30.5 | 5.0 | 7 | -6 | 15 | -15 | 959 | -30.? |
| 7.5 | 16 | -5 | 15 | ¢ | 1470 | -30.4 | 1.3 |  | -7 | 13 | -10 | 997 | -35.0 |
| 11.0 | ? 0 | -? | 19 | 10 | 1460 | -30.4 | 10.0 | 18 | -3 | 10 23 | - | 9 | -30.0 |
| 17.5 | 27 | 1 | 21 | 14 | 1490 | -30.7 | 15.0 | 35 | 5 | 33 | -1 | $9 \% 9$ | -31.2 |
| 15.0 | 27 | 2 | 25 | 18 |  | -30.7 | 17.5 | 52 | 12 | 47 | 0 | 97 | -3!.6 |
| 17.5 | 97 | 3 | 71 | 22 | 1500 | -31.3 | 20.0 | 60 | 13 | 52 | 3 | 949 | -32.4 |
| 20.0 | 76 | 11 |  |  |  | -32.1 | 27.5 | 67 | 5 | 59 | 6 | 977 | -32.4 |
| 27.5 | 74 | 11 | 6 | 3 | 1540 | -33.2 | 25.0 | 64 | 7 | 56 | 12 | 997 | -34.0 |
| 25.0 | 71 | -7 | 63 | - | 1540 | -34.4 | 27.5 | 56 | 23 | 53 | 16 | 9 9\% | -34.6 |
| 27.5 | ${ }^{6}$ | -3 | 5 |  | 1580 | -34.3 | 30.0 | 58 | 29 | 52 | 16 | 94. | -3\%.7 |
| 30.5 | 64 | -3 | 57 | - | 1600 |  | 32.5 | 5.5 | 28 | 47 | 16 | ววา | -35.4 |
| 32.5 | 61 | -17 | 53 | -7 | 1620 | -36.2 | 35.0 | 54 | 29 | 46 | 17 | 959 | -35.6 |
| 35.0 | n5 | -17 | 55 | -5 | 1670 | -36.7 | 37.5 | 53 | 30 | 44 | 18 | 999 | -35.8 |
| 37.5 | 65 | -14 | 55 | -5 | 1670 | -30.3 | ¢0.0 | 50 | 29 | 40 | 11 | $9 ¢ 8$ | -36.0) |
| 47.0 | 65 | -4 | 56 | 3 | 1720 | -36.8 | 42.5 | 45 | 24 | 37 | 14 | $9 ¢ 9$ | -36.2 |
| 42.5 | 6,4 | -1 | 56 | 3 |  |  | 45.0 | 45 | 24 | 38 | 13 | 799 | -36.4 |
| 45.0 | 61 | -5 | 53 | \% | 1810 | -37.2 | 47.5 | 45 | 23 | 39 | 12 | 949 | -70.5 |
| 47.5 | 54 | -2 | 47 | 7 | 2840 | -36.9. | 50.0 | 43 | 22 | 36 | 11 | 979 | -36.7 |



racius vaibhootheo wightio vortex averages

smodimed vortfex averages



Stirm date llve plvi infavil i-0 lat long oir spo

 unsmoothid welghted vortex averages

| qapius | var | var | VRT | vRr | d-values | tanj | vati |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 1 ? | ${ }^{\circ}$ | 6 | 0 | - ${ }^{\text {S }} 0$ | 12.3 | 173 |
| 7.5. | 19 | 3 | 17 | -0 | -841 | 11.7 | 477 |
| 10.0 | 24 | 1 | 22 | 1 | -191 | 11.4 | 677 |
| $12 . \%$ | 33 | - | 32 | -2 | -761 | 11.1 | 1200 |
| 15.0 | 48 | 3 | 48 | ${ }_{1}$. | -725 | 10.6 | 2405 |
| 17.5 | 62 | 4 | 64 | $i^{\circ}$ | -695 | 10.0 | 3993 |
| 28.0 | 71 | -0 | 71 | -4 | -580 | 9.4 | 5391 |
| 22.5 | 63 | 3 | 6.9 | 1 | -513 | 9.1 | 4940 |
| 29.0 | 65 | 3 | 65 | 1 | -4,56 | ${ }^{8.8}$ | 4398 |
| 30.0 | 64 | 1 | 63 | -1 | -345 | ${ }_{8.1}$ | 4276 |
| 32.5 | 65 | 1 | 34 | -0 | -302 | 8.0 | 4409 |
| 35.0 | ${ }^{6}$ | 4 | 86 | -2 | -262 | 8.0 | 4094 |
| 37.5 | 62 | 0 | 84 | -1 | -225 | 7.9 | 3942 |
| 40.0 | 61 | 0 | 61 | -1 | -197 | 7.6 | 3748 |
| 42.5 | 58 | -6 | 65 | -1 | -161 | 7.3 | 3389 |
| 45.0 47.5 | 53 | $-7$ | 64 67 | -8 | -165 | 7.2 | 3478 |
| 5 c 0 | 54 | -7 | 60 | $-_{-8}$ | -100 | 7.5 | 2980 |

smoothed virtex averages

| aneius | vat | var | vrt | Vrr | o-values | tad. | vat2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 14 | 5 | 10 | 0 | -847 | 12.1 | 259 |
| 7.5 | 19 | 3 | 17 | 0 | -827 | 11.7 | 448 |
| in.u | 25 | 1 | 24 | 0 | -793 | 11.4 | 750 |
| 12.5 | 35 | 1 | 34 | -0 | -760 | 11.1 | 1389 |
| 15.0 | 48 | 3 | 48 | 0 | -726 | 10.6 | 2548 |
| 17.5 | 61 | 3 | 62 | -0 | -674 | 10.0 | 3981 |
| 20.0 | 68 | 1 | 68 | -0 | -587 | 9.5 | 4926 |
| 22.3 | 68 | 3 | 67 | 1 | -517 | 9.1 | 4799 |
| 25.0 | 65 | 3 | 65 | 1 | -4,58 | 9.8 | 4.54 |
| 27.5 | 64 | 1 | 64 | -0 | -401 | 8.4 | 4302 |
| 30.0 | 64 | 1 | 64 | -0 | -348 | 8.1 | 4316 |
| 32.9 | 65 | 1 | 65 | -0 | -304 | 8.0 | 4,373 |
| 35.0 | 63 | 3 | 65 | -2 | -268 | 8.0 | 4061 |
| 37.5 | (2) | 0 | 64 | -1 | -227 | 7.9 | 3924 |
| 40.6 | ${ }_{6}$ | -0 | n? | -1 | -195 | 7.6 | 3821 |
| 42.5 | 58 | -5 | 65 | -2 | -167 | 7.4 | 3403 |
| 15.9 | ¢9 | -7. | 65 | -8 | -159 | 7.2 | 3522 |
| 47.5 | 5 H | -7 | 64 | -8 | -124 | 7.3 | 3470 |
| 50.0 | 55 | -7 | 61 | -8 | -108 | 7.5 | 3150 |





|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 10/ 25 / 255 / 4 / $5 / 255$ |  |  |  | , | $0 / 105 / 95 / 73.5$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| raptus | vat | var | VRT | vRr | d-values | tadj | radius | vat | var | VRT | VRr | d-values | 1ans | Rabius | vat | var | vri | VRr. | n-values | [A11] |
| 5.0 | * | -: 5 | 30 | -1 | -780 | 12.2 | 5.0 | 999 | 999 | 399 | 999 | 999 | 9970 | 5.0 | 27 | ${ }^{\top}$ | ${ }^{3}$ | 3 | -780 | 11.4 |
| 1.5 | $?$ | -15 | 31 | $-13$ | -770 | 13.8 | 7.5 | 999 | 999 | 999 | 999 | 499 | 994.0 | 7.3 | 36 | -3 | 19 | 7 | $-770$ | 12.2 |
| 10.0 | 1 | -6 | 30 | $-10$ | -740 | 14.4 | 10.0 | 977 | 939 | 997 | 999 | 979 | 797.0 | 10.0 | 37 | -7 | 25 | 6 | -750 | 12.2 |
| 12.5 | 17 | 2 | 23 | -7 | -730 -710 | 13.8 | 12.5 | 41 54 | 20 | 28 | 4 | -610 -6.00 | 10.7 | 12.5 | 45 | -12 -14 | 33 42 | ${ }_{2}$ | .740 -700 | 12.2 |
| 19.0 | 26 | 1\% | 40 58 | -3 2 | -710 -690 | 11.3 10.4 | 15.0 17.5 | 54. 6.4. | $1{ }_{18}^{18}$ | 31 40 | $1{ }^{8}$ | $-6,00$ -560 | 10.5 4.7 | 15.0 17.5 | 53 76 | -14 -17 | 42 65 | 2 -3 | -760 -610 | 13.1 13.1 |
| $1 \times .5$ | 59 | is | 80 | 4 | -670 | 9.0 | 20.0 | 13. | 19 | 51 | 14 | -530 | \% 0 | 20.0 | 100 | -18 | 70 | -2 | -590 | 13.2 |
| 23.9 | 74 | 20 | 79 | 2 | -600 | 8.6 | 22.5 | 79 | 19 | 55 | 17 | -500 | 4.3 | 22.5 | 105 | -17 | 95 | 4 | -490 | 10, |
| 25.6 | $\bigcirc$ | 13 | 87 | 0 | -650 | 8.4 | 25.0 | 90 | 21 | 68 | 20 | $-4.50$ | 9.1 | 25.0 | 9 | -16 | 87 | 2 | -440 | 11.0 |
| 27.5 | 0 | 16 | 90 | 2 | - 500 | 8.2 | 27.5 | 104 | 23 | 82 | 23 | $-1.60$ | P. 5 | 27.5 | 93 | -19 | 82 | 0 | -390 | 9.5 |
| 30.0 | 8.3 | 19 | 89 | 0 | -4c0 | 7.7 | 30.0 | 103 | 19 | 88 | 20 | -310 | 7.6 | 30.0 | 84 | -21 | 79 | - 2 | -340 | \% 0 |
| 32.7 | ${ }^{2} 3$ | 21 | 39 | 2 | -290 | 7.1 | 32.5 35.0 | 101 | 15 | ${ }_{71}^{81}$ | 17 | -250 | 7.0 | 32.5 | $3 ?$ | -18 -15 -15 | 76 | 1 | -371 -200 | 9.2 |
| 35.0 | 9 | 27 | 86 | 0 | -270 | 6.6 | 35.0 | 96 | 11 | 78 | 15 |  | 6.8 | 35.0 | 719 | -15 | 73 | 3 | -260 | 7.5 |
| 37.3 | 70 74 0 | 17 | 96 90 | -1 | -230 -210 | 6.3 5.7 | 37.5 40.0 | 9.9 9 | ${ }_{4}^{6}$ | 71 63 | 11 | -120 -100 | 6.6 6.7 | 37.5 40.0 | 18 75 | -12 | 71 | 8 | -240 -100 | 7.3 |
| $4 r .0$ $4 \%$ 4.0 | 1.4 30 | 18 | 90 96 | - | -210 -180 | 5.7 5.7 | 40.0 |  | 4 | 63 57 | 9 | -100 -70 -20 | 6.7 6.9 | 40.0 42.5 | 75 73 | -11 -9 | 69 66 | ${ }_{9}^{8}$ | -100 -120 | 6.9 6.9 |
| 41.0 | $?$ | 17 | 98 | -1 | -150 | 6.0 | 45.0 | 76 | 0 | 58 | 7 | -70 | 6.6 | 45.0 | 70 | -7 | 63 | -11 | -80 | 6.9 |
| 47.5 | $\bigcirc$ | 16 | 86 | -1 | -120 | 6.2 | 47.5 | 76 | 1 | 57 | 7 | -40 | 6.3 | 47.5 | 66 | $-6$ | 59 | $-12$ | -40 | 7.3 |
| \%(\% | 78 | 17 | 84 | 0 | -90 | 5.9 | 50.0 | 75 | 0 | 57 | 7 | -20 | 6.0 | 50.0 | 65 | -5 | 57 | 13 | -10 | 7.1 |



karlus vat var - vrt vrr devalues

| radius | vat | var | VRT |
| :---: | :---: | :---: | :---: |
| 5.0 | 17 | -29 | 20 |
| 7.5 | ? 9 | -29 | 16 |
| 10.0 | 34 | -5 | 25 |
| 12.5 | 47 | -5 | 31 |
| 15.0 | 9.7 | -3 | 40 |
| 17.5 | 69 | -3 | 50 |
| 20.0 | 79 | 0 | 63 |
| 22.5 | 95 | 5 | 79 |
| 25.0 | 103 | 6 | 90 |
| 27.5 | 107 |  | 35 |
| 30.0 | 97 | 0 | 85 |
| 32.5 | 93 | -1 | 83 |
| 35.0 | 90 | -2 | 78 |
| 37.5 | 97 | -s | 74 |
| 40.0 | 93 | -11 | 71 |
| 42.5 | 93 | - | 83 |
| 45.0 | 79 | -11 | 66 |
| 47.5 | 77 | $-11$ | 66 |


| VRT | vRR | d-values | TADJ |
| :---: | :---: | :---: | :---: |
| 20 | -16 | -740 | 12.2 |
| 16 | -11 | -740 | 12.0 |
| 25 | 6 | -730 | 11.6 |
| 31 | 6 | -7c0 | 11.6 |
| 40 | 3 | -670 | 11.5 |
| 50 | A | -630 | 11.8 |
| 63 | 11 | -5.50 | 11.4 |
| 79 | 16 | -520 | 10.4 |
| 90 | 17 | -460 | 9.4 |
| 95 | 17 | -4.0 | 8.8 |
| 85 | 13 | -330 | 9.3 |
| ${ }^{2}$ | 14 | -300 | 7.9 |
| 7 P | 13 | -340 | 7.3 |
| 74 | 10 | -190 | 4.8 |
| 11 | 5 | -140 | 6.7 |
| 59 | 5 | 100 | 7.0 |
| 66 | 5 | -80 | 7.4 |
| 66 | 6 | -50 | 7.6 |
| 63 | 7 | -20 | 7.5 |

RADIUS
5.0
7.5
10.0
12.5
15.0
17.5
20.0
22.5
25.0
27.5
30.0
32.5
37.0
37.5
40.0
42.5
45.0
47.5
 979
999
999
999
-13
-14
-12
-12
-14
-16
-14
-9
-5
-3
-2
1
1
1
0
2
 999
994
997
990
-750
720
720
660
620
6800
580
-490
-440
460
-360
350
-290
260
230 993. 993.0
999.0


IDCNNA /600004/13800/618/2030-2044/1/17/59/322/

radius vat var vrt vrr d-values taoj

| 5.0 | 24 | 18 | 15 | 7 | -470 | 12.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7.5 | 36 | 26 | 24 | 19 | -390 | 8.3 |
| 10.0 | 33 | 17 | 70 | 11 | -300 | 7.3 |
| 12.5 | 120 | 21 | 107 | 17 | -220 | 5.9 |
| 15.0 | 115 | 20 | 101 | 16 | -20 | 5.6 |
| 17.5 | 105 | 30 | 92 | 25 | 210 | 5.1 |
| 20.0 | ? 6 | 13 | 73 | 8 | 300 | 4.2 |
| 22.5 | 99 | 1 | 76 | -5 | 310 | 4.0 |
| 25.0 | 87 | 21 | 75 | 15 | 340 | 3.3 |
| 27.5 | 79 | 27 | 67 | 21 | 430 | 2.3 |
| 30.0 | 69 | 23 | 57 | 16 | 440 | 2.0 |
| 32.5 | 71 | 12 | 59 | 5 | 470 | 1.3 |
| 35.0 | 68 | -3 | 46 | -11 | 530 | 1.8 |
| 37.5 | 53 | -9 | 42 | -16 | 540 | 1.3 |
| 40.0 | 45 | -3 | 33 | -17 | 570 | 1.3 |
| 42.5 | 54 | -7 | 42 | -15 | 580 | 1.3 |
| 45.0 | 55 | -4 | 43 | -12 | 600 | 1.2 |
| 47.5 | 56 | 2 | 44 | -6 | 630 | 1.1 |
| 50.0 | 51 | 9 | 39 | 1 | 640 | . 7 |

JOONNA /600004/13800/618/2046-2101/0/17/59/323/ $11512901799, x / 9,1210,195211181128 / 12.5$

| radius | vat | vas | vRt | vrr | d-values | TADJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 6 | 8 | 19 | 5 | -480 | 14.3 |
| 7.5 | 51 | -21 | 64 | -20 | -320 | 12.3 |
| 10.0 | 67 | -14 | 80 | -11 | $\rightarrow 30$ | 11.2 |
| 12.5 | 118 | -3 | 128 | -1 | -150 | 9.4 |
| 15.0 | 90 | -3 | 101 | 3 | -50 | 9.4 |
| 17.5 | 110 | -13 | 122 | -7 | 50 | 6.6 |
| 20.0 | 112 | -6 | 123 | 0 | 60 | 4.3 |
| 22.5 | 83 | -12 | 95 | -6 | 170 | 3.9 |
| 25.0 | 84 | -9 | 95 | -3 | 250 | 3.7 |
| 27.5 | 68 | -7 | 80 | -1 | 270 | 3.4 |
| 37.0 | 59 | 6 | 71 | 12 | 350 | 3.3 |
| 32.5 | 60 | -3 | 72 | 3 | 430 | 3.0 |
| 35.0 | 55 | 0 | 66 | -6 | 460 | 3.6 |
| 37.5 | 40 | -5 | 52 | 1 | 480 | 3.3 |
| 40.0 | 51 | -6 | 62 | 0 | 500 | 3.4 |
| 42.5 | 49 | -4 | 60 | 2 | 520 | 3.3 |
| 45.0 | 48 | 2 | 60 | 8 | 570 | 3.2 |
| 47.5 | 42 | 2 | 53 | 7 | 570 | 3.2 |
| 50.0 | 42 | 3 | 53 | 8 | 590 | 2.8 |



/0г: /-1/70/135/5E/6/130/10W0/935/129/135/22.5/9/270/135/Nw/2/300/13/1935/150/145/15.0

| pastus | vat | var | vrt | VRR | d-values | radj | ragius | vat | var | VPT ${ }^{\text {t }}$ | VRP, | d-valufs | incs |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4.0 | ราง | 979 | 979 | $9 \%{ }^{\text {¢ }}$ | 999 | 999.0 | 5.0 | $37 \%$ | จาา | 090 | 990 | 997 | 797.0 |
| 7.5 | 994 | 99. | 999 | 999 | 999 | 999.0 | 7.5 | 37 | -16 | 40 | -5 | -1360 | 17.4 |
| 10.0 | 39 | -R | 47 | -7 | -1480 | 21.0 | 10.0 | 47 | $-14$ | 47 | -3 | -126.0 | 17.7 |
| 12.5 | 63 | -1 | 70 | 2 | -1300 | 20.5 | 12.5 | 49 | -9 | 46 | 3 | -1220 | 17.4 |
| 15.0 | 83 | 4 | 9 | 8 | -1190 | 17.5 | 15.0 | 150 | $-19$ | 145 | -13 | -950 | 16.9 |
| 11.5 | 96 | 25 | 102 | 30 | -1000 | 17.2 | 17.5 | 119 | -15 | 113 | -5 | -aco | 15.9 |
| 2 c .0 | 114 | 9 | 120 | 15 | -920 | 16.7 | 20.0 | 114 | 0 | 107 | , | -590 | 13.5 |
| 22.5 | $1 ? 9$ | -17 | 135 | -11 | -650 | 16.0 | 22.5 | $11 ?$ | 10 | 104 | 18 | -520 | 15.3 |
| 25.0 | 121 | $-17$ | 106 | -12 | -590 | 15.4 | 25.0 | 39 | 7 | 91 | 14 | $-430$ | 15.2 |
| 27.5 | 13 | $-13$ | 98 | -7 | -520 | 14.5 | 27.5 | 87 | ${ }^{3}$ | 79 | 10 | -350 | 15.1 |
| 37.8 | 97 | -14 | 92 | -9 | -420 | 14.1 | 30.0 | 86 | 14 | 77 | 21 | - 250 | 15.0 |
| 32.5 | 79 | $\rightarrow$ | 84 | -3 | -350 | 14.0 | 32.5 | 85 | 16 | 77 | 23 | - 170 | 13.0 |
| 35.0 | 37 | -6 | 92 | 0 | -310 | 14.1 | 35.0 | 84 | 5 | 76 | 12 | -290 | 14.6 |
| 37.5 | P3 | -18 | $8{ }^{88}$ | -12 | -300 | 14.0 | 37.5 | 93 | T | 84 | 14 | -180 | 14.4 |
| 40.0 | 17 | $-17$ | 76 | $-13$ | -260 | 14.6 | 47.0 | 94 | 7 | 76 | 14 | -140 | 11.9 |
| 42.5 | 34 | -15 | ${ }_{88}$ | -10 | -210 | 13.6 | 42.5 | 79 | -3 | 71 | 4 | -60 | 13.7 |
| 45.0 | 92 | -24 | 86 | -19 | -160 | 12.6 | 45.0 | 74 | -3 | 65 | 3 | -20 | 13.6 |
| 47.5 | 9. | -17 | 88 | -11 | -130 | 12.5 | 47.5 | 73 | 2 | 65 | 8 | 0 | 13.0 |
| 37.0 | 84 | -17 | R8 | -11 | -120 | 12.6 | 50.0 | 71 | O | 65 | 6 | 30 | 13.3 |


| 0¢w: | C60707 | $\bigcirc \mathrm{Oco}$ | ts | 9-1 | 1 | 22 | 11 | 270 | 9 | 305 | NF | 50 | 325 | inko | 935 | ${ }^{87}$ | 17.5 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| onden |  | aran | ${ }_{760}$ |  | 1 | 22 | 71 | 270 270 | ? |  | ${ }_{\text {Sk }}^{\text {SF }}$ | 130 205 | ${ }_{\text {32, }}^{326}$ | 10 | ${ }_{9} 935$ | 129 | . 5 | 1315 |
| Don:1 | 6core7 | 32:0 | tso | 1655-1712 | 0 | 22 | 71 | 270 | , | 135 | Nin | 300 | 327 | 13 | 935 | 150 | 15.0 | 114 |



smabthid viortex averages

| ranius | vat | var | vat | vRe | d-values | tadj | vat2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 19 | 3 | 20 | $?$ | -1183 | 15.8 | 544 |
| 7.5 | 27 | 1 | 30 | 0 | -1168 | 15.6 | 978 |
| 10.0 | 5.2 | -1 | 51 | -1 | -1132 | 14.8 | 3175 |
| 12.5 | 77 | -0 | 75 | -0 | -1038 | 13.5 | 6543 |
| 13.0 | 44 | 1 | 93 | 2 | -899 | 12.2 | 2556 |
| 17.5 | 95 | -6 | 75 | -6 | -728 | 11.1 | 9296 |
| 20.0 | 97 | -5 | 97 | -6 | -567 | 10.0 | 9550 |
| ? ${ }^{\text {¢ }}$ | 95 | -3 | 95 | -3 | -425 | 9.3 | 9107 |
| 25.0 | 9 | -0 | 42 | -0 | -343 | 8.7 | 8465 |
| 27.5; | 89 | 1 | 99 | 0 | -275 | 8.1 | 8007 |
| 3 CO | 8.4 | 1 | 84 | 0 | -211 | 7.7 | 7123 |
| 32.5 . | 81 | 1 | 81 | 0 | -142 | 7.6 | 6672 |
| 33.0 | 80 | -0 | 30 | -0 | -89 | 7.6 | 6545 |
| 37.5 | 76 | -6 | 77 | -8 | -57 | 7.6 | 5857 |
| 4 c .0 | 73 | -5 | 74 | -7 | 4 | 7.7 | 5431 |
| 42.5 | 69 | -7 | 69 | -8 | 40 | 7.5 | 4807 |
| 45.9 | 06 | -7 | 67 | -9 | 71 | 7.3 | 4411 |
| 47.5 | 65 | -6 | 66 | -8 | 100 | 7.1 | 4278 |
| 5 c .0 | 63 | -6 | 64 | -8 | 120 | 6.9 | $4 \mathrm{C73}$ |

STORM, DATE, DEPFS ALT

STORM TRUE OCTANT AZMTH TN RDR CFNT MAX UIUOS RADIUS SPO/ OIR, HDG /NOTH/STM/ANGLE/EYERAD/ DPES/ACTUAL/REL IMAX WN/

$$
\begin{aligned}
& \text { HDG /NOTH/STM/ANGLE/EYERAD/ DRES/ACTUAL/REL } / M \Delta X \text { WN/ }
\end{aligned}
$$

| ПOVNA $/ 60090 / 6400 / 811 / 1641-1706 / 0 / 23 / 79 / 332$ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| radius | vat | var | vRT | VRR | 0-values | tanj |
| 5.0 | 36 | 7 | 28 | 7 | -1640 | 17.3 |
| 7.5 10.0 | 75 | -7 -8 | 44 67 | -11 -10 | -1560 -1730 | 19.2 |
| 12.5 | 112 | 1 | 105 | -1 | -1240 | 16.7 |
| 15.0 | 131 | -11 | 124 | -14 | -1110 | 16.7 16.0 |
| 17.5 | 127 | -3 | 119 | -1 | -880 | 15.5 |
| 20.0 | 112 | ${ }^{3}$ | 105 | 0 | -750 | 15.1 |
| 22.5 25.0 | 104 9 | -1 | 97 | -1 | -680 | 14.7 |
| 27.5 | 97 | 0 2 | 92 92 | -1 | -570 | 14.4 |
| 30.0 | 74 | -1 | 87 | -1 | -4c0 | 15.0 |
| 32.5 35.0 | 89 | - ${ }^{2}$ | 82 | 2 | -340 | 14.6 |
| 35.0 37.5 | 89 89 89 | -5 | 88 | -5 | -330 -310 | 13.5 |
| 40.0 | 89 | -1 | 79 | -4 | -310 | 13.5 13.4 |
| 42.5 | ก9 | 2 | 82 | 2 | -190 | 13.2 |
| 45.0 | ${ }^{80}$ | $?$ | 73 | -2 | -150 | 13.6 |
| 47.5 | 75 | 7 | 68 | - | -120 | 13.1 |
| 50.0 | 78 | 10 | 71 | 11 | -90 | 12.8 |


storm
ocinna 600790
3 Cc 909
flve plvi interval t-o lat long dir spo $\begin{array}{lllllllllllll}0.06 C \\ 8411 & 1641-1796 & n & 23 & 79 & 305 & 10 & 20 & N & 2 & 20 & 332 \\ 911 & 1074-1623 & 1 & 23 & 79 & 305 & 10 & 65 & \mathrm{SH} & 7 & 220 & 333\end{array}$ $\begin{array}{cc}\text { RDR EYE } \\ \text { RADIUS } & \text { CFNT. } \\ \text { PRES }\end{array}$ RNES VATX RMW vitx unismothfo meichtag vortex averages

| racius | vat | var | ver | vre | o-vatues | rand | Yat2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.9 | 33 | 0 | 33 | 2 | -1640 | 18.1 | 1128 |
| 7.5 | 52 | -11 | 52 | -10 | -1515 | 18.9 | 2704 |
| 19.0 | 75 | -7 | 75 | -7 | -1400 | 17.2 | 5625 |
| 12.5 | 101 | -0 | 102 | -1 | -1260 | 16.6 | 10412 |
| 15.1 | 118 | -4 | 118 | -6 | -1120 | 16.0 | 14093 |
| 17.5 | 112 | -1 | 112 | 0 | -930 | 15.5 | 12769 |
| 20.0 | 101 | , | 102 | 3 | -790 | 15.1 | 10412 |
| 27.3 | 44 | 4 | 25 | 3 | -630 | 14.6 | 9020 |
| 25.0 | 89 | 5 | 90 | 4 | -565 | 14.4 | 8021 |
| 27.9 | 80 | 5 | 96 | 4 | -485 | 14.6 | 7565 |
| 3 c .8 | 81 | 4 | 82 | 3 | -400 | 14.7 | 6798 |
| 32.5 | 76 | 4 | 76 | 3 | -350 | 14.6 | 5745 |
| 35.0 | 72 | 0 | 72 | -1 | -325 | 14.1 | 5473 |
| 37.5 | 71 | 0 | 10 | -2 | -285 | 13.9 | 5365 |
| $40 . \mathrm{c}$ | 70 | 0 | ¢9 | -2 | -250 | 13.8 | 5312 |
| 42.5 | 63 | - | 69 | -0 | -200 | 13.6 | 5065 |
| 45.0 | 60 | 1 | 61. | -1 | -160 | 13.6 | $40 \% 0$ |
| 47.5 | 33 | 4 | 58 | 3 | -125 | 13.6 | 3653 |
| 5 c .0 | 59 | 5 | 60 | 4 | -100 | 13.4 | 3882 |

smothed vortex averages

| Ractis | vat | var | VRT | vRr | d-values | tadj | vatz |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| s.c | 39 | -3 | 39 | -1 | -1598 | 18.4 | 1653 |
| 7.5 | 5\% | -8 | 54 | -7 | -1507 | 18.3 | 3171 |
| 1 c . 0 | 76 | -5 | 76 | -5 | -1391 | 17.3 | 620 - |
| 12.5 | 9. | -2 | 100 | -3 | -1257 | 16.6 | 10281 |
| 15.0 | $1: 1$ | -3 | 112 | -4 | -1106 | 16.0 | 12809 |
| 17.5 | 10.8 | 0 | 107 | -0 | -939 | 15.5 | 12189 |
| 20.0 | 10 i | 3 | 102 | 2 | -787 | 15.1 | 16508 |
| 27.5 | 94 | 4 | 95 | 3 | -653 | 14.7 | 914 ? |
| 75.0 | 89 | 5 | 9 | 4 | -567 | 14.5 | 9187 |
| 21.5 | 85 | 5 | 86 | 3 | -494 | 14.6 | 7528 |
| 30.0 | 81 | 4 | 31 | 3 | -408 | 14.7 | 6767 |
| 32.5 | 70 | 3 | 76 | 2 | -358 | 14.5 | 6032 |
| 35.0 | 72 | 0 | 72 | -0 | -323 | 14.1 | 5585 |
| 37.3 | 71 | 0 | 70 | -1 | -285 | 14.0 | 5407 |
| 4 c .0 | 70 | 0 | 69 | -1 | -246 | 13.8 | 5274 |
| 42.5 | 6 | 0 | n6 | -1 | -201 | 13.7 | 4861 |
| 45.13 | 61 | 1 | 61 | -0 | -161 | 13.6 | 4148 |
| 47.5 | 53 | 3 | 59 | ${ }^{2}$ | -127 | 13.6 | 3834 |
| $5 \mathrm{c} . \mathrm{c}$ | 54 | 4 | 59 | 3 | -109 | 13.5 | 3866 |



STORM / DATE / FEET / MB. / TNTERVAL /OUT/LAT/LONG/ID/
STOPM TRIIE DCTANT AZMTH TA RDR CENT MAX WINDG RADIUS SPD' DIR / HOG /NOTH/CTM/ANGLE/EYERAN/ PRES/ACTUAL/REL IMAX WD/

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 116/280/335/4\%1 |  |  | 335 | ,9831 79, 65 / 10.0 |  |  |
| inflas | vat | vas | VRT | ver | d-values | TADJ | radius | vat | Vne | vet | var | o-values | mand | radius | vat | var | vrt | VRR | d-values | tanj |
| 5.10 | , | 4 | 19 | -5 | -350 | 15.2 | 5.0 | ${ }^{38}$ | 15 | 38 | -1 | -540 | 15.7 | 5.0 | $5 \pi$ | -4 | 42 |  |  |  |
| 7.5 10 | 31 36 | 7 -15 | ${ }_{51}^{3 / 4}$ | - ${ }^{1}$ | -310 -250 | 15.7 | 7.5 | $5{ }^{5}$ | 22 | 55 | 5 | -440 | 13.5 | 7.5 | 77 | -4 0 | 42 57 | 7 | -330 -250 | 15.0 11.2 |
| 12.5 | 36 4 | -15 -13 | 5 | -20 -16 | -250 -120 | 15.8 15.2 | 10.0 | 63 70 | 15 27 | 65 67 | -1 | -320 -210 | 11.6 | 10.0 | 79 | 21 | 55 | 13 | -230 | 10.0 |
| 15.0 | $4{ }^{4}$ | -17 | 58 | -16 | -130 | 14.3 | 15.0 | 66 | 26 | 67 | 9 | - -10 | 10.0 | 12.5 15.0 | 79 79 | 28 20 | 65 | 20 | -180 | 9.9 |
| 17.5 | 40 | $-15$ | 55 | -20 | -80 | 13.4 | 17.5 | 6,3 | 23 | 65 | 12 | $4{ }^{5}$ | 9.5 | 17.5 | 69 | 21 | 5 | 12 | -120 -20 | 8.9 |
| 37.0 27.5 | $4{ }^{4} 4$ | -17 | 57 | -24 -17 | -40 | 12.4 | 20.0 | 52 | $2{ }^{29}$ | 54 | 11 | 10 | 8.6 | 20.0 | 63 | 20 | 49 | 11 | 40 | 8.3 8.2 |
| 25.0 | ? | -9 | 57 | -15 | 20 | 10.8 | 25.0 | 39 | 23 | 54 42 | 3 | 50 60 | 日. 28 0.5 | 22.3 25.0 | 63 68 | 29 31 | 49 | 19 | $\bigcirc$ | 2. 3 |
| 27.5 | 41 | -4 | 54 | $-17$ | 40 | 10.3 | 27.5 | 30 | 19 | 42 | 2 | 9 | 8.7 | 27.5 | ¢2 54 | 37 | 48 | 22 28 | ${ }^{90}$ | 8.1 |
| 37.0 | 37 37 | -4 | 53 | -12 -14 | 60 | 9.7 | 30.0 | 39 | 20 | 42 | ${ }^{3}$ | 120 | 4.5 | 30.0 | 55 | 35 | 41 | 26 | 150 | 7.5 |
| 37.5 34.0 | 35 | -6 | 57 47 | -14 | 80 100 | 7.6 4.0 | 32.5 35.0 | 40 37 | 12 | 41 31 | -1 | 150 150 150 | 3.2 | 37.5 | 53 | 27 | 39 | 19 | 180 | 7.5 |
| 37.5 | 31 | -3 | 43 | -12 | 120 | 8.4 | 37.5 | 314 | 11 | 34 | -5 | 150 | 7.3 | 35.0 37.5 | 54 55 | 25 16 | 39 | 16 | 170 | 7.7 |
| 40.9 | 33 | - ${ }^{-5}$ | 38 | -15 | 140 | 8.4 | 40.0 | 34 | 12 | 34 | -4 | 180 | 7.5 | 40.0 | 58 | 17 | 4.4 | 8 | 200 | 7.1 |
| 42.5 | 27 | -61 | 41 | -14 | 150 170 | 8.5 8.5 | 42.5 45.0 | 34 | 14 | 35 | - 3 | 180 | 7.6 | 42.5 | 57 | 22 | 43 | 13 | 210 | 7.2 |
| 47.5 | 29 | - 4 | 32 | -13 | 170 | 8.5 8.4 | 45.0 | 39 34 | 12 | 41 34 | -5 -11 | 190 210 | 7.8 3.5 | 45.0 | 19 49 | 18 | 34 | 9 | 220 | 7.3 |
| 50.0 | 20 | -6 | 34 | $-13$ | 180 | \%. 4 | 50.0 | 29 | 3 | 27 | -13 | 270 | 8.7 |  | 45 | 14 | 31 | 5 | $\begin{aligned} & 230 \\ & 240 \end{aligned}$ | 68.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| n16 1290 | 20, | *11 | 2601 | , | 1-491 | 57 /20. | , 280 | 901 | W 1 | 801 | - | 159 | 3115.0 |  |  |  |  |  |  |  |
| parius | vat | v ¢ | vit | vRe | o-values | [ADJ | radius | var | var | VRT | vrr | d-valufs | 100] |  |  |  |  |  |  |  |
| 5.0 | 26 | 979 | 999 | 999 | 999 | 999.0 | 5.0 | 993 | 999 | 999 | 990 | 779 | 999.0 |  |  |  |  |  |  |  |
| 7.5 | 35 | 3 | 51 | -5 | -370 | 18.8 | 7.5 | 13 | 7 | 57 | 16 | -450 | 13.7 |  |  |  |  |  |  |  |
| 117.0 | 39 30 30 | 4 | 51 | -7 | -320 -250 | 17.0 | 10.0 | 55 | 4 | 72 | 0 | -340 | 14.6 |  |  |  |  |  |  |  |
| 17.5 $i 5.5$ | 30 4. 4 | 4 | 47 51 | -9 -11 | -250 -190 | 13.5 10.8 | 12.5 15.0 | 59 59 | -6 | 77 | -15 -20 | -330 -300 | 14.7 |  |  |  |  |  |  |  |
| 17.5 | $4{ }^{\circ}$ | A | 53 | -7 | -110 | 3.7 | 17.5 | 46 | -6 | 56 | -19 | -180 | 10.6 |  |  |  |  |  |  |  |
| 23.01 | 4. | 13 | 57 | 2 | -40 | 4.2 | $<0.0$ | 52 | 0 | 59 | -15 | -160 | 9.9 |  |  |  |  |  |  |  |
| 22.5 23.0 | 4.4 | 19 11 | 50 43 | -5 | 30 70 | 8.8 8.5 | 22.5 25.0 | 42 | 30 | 47 | -7 14 | -120 -10 -100 | ${ }^{\wedge}$ |  |  |  |  |  |  |  |
| - 3 | 41 | -14. | 43 | -2 | 30 | 8.3 | 27.5 | 59 | 33 | 48 | 18 | -10 | 4. 3 8.3 |  |  |  |  |  |  |  |
| 3 mo | 40 | 9 | $4 ?$ | -8 | 110 | 8.2 | 30.0 | 43 | 30 | 40 | 15 | 90 | 8.1 |  |  |  |  |  |  |  |
| ? 3 | 37 17 | 12 | 39 34 | -4 | 130 150 | $\stackrel{9}{8.0}$ | 37.9 35.0 | 45 | 29 | 3.5 | 16 | 100 | 1.4 |  |  |  |  |  |  |  |
| 37.3 | 33 | 17 | 34 | $-4$ | 160 | 8.2 | 37.5 | 45 | 24 | 33 | 12 | 160 | 7.5 |  |  |  |  |  |  |  |
| 48.0 | 32 | 18 | 34 | 2 | 160 | 8.2 | 40.0 | $4{ }^{46}$ | 19 | 33 | 9 | 140 | 7.2 |  |  |  |  |  |  |  |
| 17.5 4.0 | 39 35 30 | 17 | 31 | $\frac{1}{3}$ | 170 190 | 8.3 8.4 | 47.5 45.0 | $\xrightarrow{977}$ | 799 999 | 939 797 | 979 | 979 | 979.0 |  |  |  |  |  |  |  |
| 47.3 | 34 | 10 | 38 | - ${ }^{\text {a }}$ | 210 | 8.6 | 47.5 | 539 | 999 | 949 | 999 | 999 | 999.0 |  |  |  |  |  |  |  |
| 50.0 | 24 | ? | 28 | -7 | 210 | 8.7 | 50.0 | 999 | 979 | 999 | 999 | 999 | 997.0 |  |  |  |  |  |  |  |



|  | STORM / DATE / FEET, MLB. , TNTERVAL /OUT/ IAT/LONG/ ID / |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | STORM |  |  | $\begin{aligned} & \text { TRUE } \\ & \text { HDG } \end{aligned}$ | $\begin{aligned} & \text { CTANT } \\ & \text { TH/STM } \end{aligned}$ | AZMTH IM ROR CFNT MAX WTNDG RADIUS ANGLE/EYERAD/ PRFS/ACTUAL/RFI /MAX WD/ |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ralius | vat | var | vRt | vRr | d-values | tanj | raidus | vat | var | VRT | vrr | d-values | tanj |
| 5.0 | 997 | ทา9 | 999 | 999 | 979 | 999.0 | 5.0 | 8 | 999 | 499 | 999 | 999 | 999.0 |
| 7.5 16.0 | 577 | 779 979 | 999 999 | 999 999 | 999 997 | 999.0 999.0 | 7.5 10.0 | $10^{3}$ | 979 999 | 999 999 | 997 999 | 799 999 | 999.0 997.0 |
| 12.0 | 979 | วา9 | 999 | 989 | 499 | 999.0 | 12.5 | 14 | 499 | 26 | 999 | 999 | 999.0 |
| 15.0 | 17 | -3 | 979 | 3 | -1160 | $19: 0$ | 15.0 | 18 | 1 | 28 | 0 | -11c0 | 19.4 |
| 17.5 | 29 | -9 | 28 | -1 | -1150 | 20.3 | 17.5 | 21 | -? | 28 | -3 | -1000 | 19.7 |
| 26.0 | 41 | -22 | 38 | $-14$ | -1110 | 18.4 | 20.0 | 26 | 4 | 32 | ? | -1030 | 19.0 |
| 22.5 | 48 | -29 | 44 | -22 | -1060 | 18.3 | 22.5 | 36 | 5 | 45 | 2 | -1000 | 18.4 |
| 27.0 | 6.6 | -24 | 46 | -16 -4 | -1030 | 18.4 | 25.0 | 44 | 4 | 52 | 3 | -910 -930 | 14.3 18.3 |
| 27.5 30.6 | $\stackrel{9}{28}$ | -13 -13 | 80 90 | -7 | -990 -950 | 18.4 18.3 | 27.5 30.0 | 49 56 | ${ }^{6}$ | 60 65 | 3 | -930 -970 | 18.3 19.2 |
| 32.5 | 98 | -? 1 | 94 | -14 | -940 | 18.2 | 32.5 | 57 | 10 | 66 | 7 | -R60 | 10.0 |
| 35.0 | ค8 | -22 | 04 | -16 | -980 | 17.9 | 35.0 | 61 | 11 | 68 | 9 | -810 | 17.7 |
| 37.5 | 98 | -25 | 94 | -18 | -770 | 17.2 | 37.3 | 62 | 10 | 68 |  | -730 | 17.6 |
| 47.3 | 75 | -27 | 93 | -22. | -760 | 16.7 | 40.0 | 61 | 8 | 65 | 4 | -720 | 17.6 |
| 47.5 | 30 | -2n | 88 | -19 | -690 | 17.2 | 42.5 | 63 | 12 | 69 | ค | -680 | 17.6 |
| 45.0 47.5 | 87 | -26 -25 | 83 84 | -19 -18 | -670 -630 | 17.0 16.6 | 45.0 47.5 | 63 63 | 12 | 67 | ${ }^{\text {a }}$ | -670 | 17.7 |
| 50.0 | $\bigcirc 4$ | -16 | 77 | -11 | -570 | 16.8 | 50.0 | 60 | 9 | 67 | 5 | -610 | 17.5 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| /6/300/305/SE/6/145/32W0/964/83/88/32.5/6/300/295/ VW/1/295/32w0/964/91/91/35.0 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| qaitus | vat | var | vat | vfr | d-values | tad | raotus | vat | var | vrt | var | d-valufs | inds |
| 5.0 | 0 | -1 | ч9\% | -2 | -1250 | 18.8 | 5.0 | 6 | 2 | 990 | -3 | -1240 | 19.7 |
| 1.5 | 2 | -88 | 999 | -5 | -1240 -1230 | 18.6 | 7.5 | ${ }^{8}$ | 4 | 997 14 | -3 | -1210 -1197 -1190 | 14.1 |
| 12.5 | 14 | - -1 | 20 | -4 | -1220 | 19.2 | 12.5 | 16 | -1 | 17 | -7 | -1130 | 19.3 |
| 15.0 | 18 | -3 | 22 | 2 | -1210 | 19.3 | 15.0 | 22 | 0 | 22 | -6 | -1190 | 14.3 |
| 17.5 | 24 | -? | 27 | 3 | -1200 | 19.6 | 17.5 | 26 | -1 | 26 | -7 | -110, | 19.8 |
| 20.0 | 30 | -2 | 35 | 3 | -1180 | 20.0 | 20.0 | ${ }^{28}$ | $-2$ | 28 | -8 | -1150 | 19.6 |
| 12.5 | 34 | 0 | 38 | 5 | - 1150 | 20.0 | 22.5 | 33 45 4 | -3 | 28 | -9 -10 | -1140 -1130 -1180 | 20.3 |
| 27.9 | 57 | -7 | 68 | -2 |  | 18.8 | 27.5 | 62 | - | 6.5 | 2 | -1070 | 13.5, |
| 3 cos | 73 | -11 | 74 | -6 | -1030 | 18.8 | 3 n .0 | 79 | 32 | 78 | 25 | -1050 | 19.3 |
| 32.3 | 8.3 | -20 | 88 | -15 | -970 | 18.2 | 32.5 | 89 | 13 | 88 | 7 | -930 | 17. ${ }^{\text {a }}$ |
| 29.0 | 92 |  | 37 81 | $-11$ | -430 -880 | 1 A .0 | 35.0 | 9 Ci |  | 9 y |  | -930 $-8 R 0$ | 17.1 |
| 17.7 40.0 | 79 78 | -11 | 81 82 | -7 -3 | -880 | 17.9 17.9 | 37.5 40.0 | 88 82 88 | . ${ }^{7}$ | 8.5 83 | - | -880 -780 | 17.1 |
| 47.5 | 3 n | -15 | 86 | -11 | -740 | 17.7 | 42.5 | 75 | 7 | 74 | 1 | -760 | 17.1 |
| 15.6 | 77 | -20 | 83 | $-15$ | -730 | 17.1 | 45.0 | 75 | 7 | 74 | 1 | -750 | 17.1 |
| 47.5 50.0 | 73 70 | -20 -17 | 77 73 | -15 -13 | -710 -660 | 17.1 17.1 | 417.5 50.0 | 74 | 9 | 74 73 | 1 | -670 -660 | 17.2 17.2 |



 $16 / 300 / 340 / \mathrm{SE} / 6 / 150 / 32 \mathrm{WD} / 964 / 76 / 83 / 40.0 / 6 / 300 / 350 / 1 / 2 / 350 / 32 \mathrm{WD} / 964 / 96 / 89 / 35.0$

STORM / DATE / FEET / MB. / TNTERVAI


STORN TRUE OCTANT AZMTH IN ROP CFNT MAX WTNDG RADIUS SPD/ OIR / HOG/NOTH/STM/ANGLE/EYERAD/ PRFS/ACTUAL/REL /MAX WD/


CSRLA / 010907 / $4780 / 859 / 2316-2337 / 0 / 24 / 91 / 486 / / C A R L A / 610704 / 4790 / 859 / 1036-1905 / 0 / 24 / 91 / 489 /$



| Qa=tus | vat | var | Vrt | vRr | n-valijes | tanj | hadius | vat | var | VRt | vRo | o-valurs | taps |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 27 | -2 | 6 | 5 | -: 555 | 21.8 | 5.0 | 6 | -5 | 13 | -12 | -1720 | 22.5 |
| 7.5 | 37 | 5 | 10 | 10 | -1520 | 22.5 | 7.5 | 10 | 2 | 16 | -3 | -1720 | 22.5 |
| 10.0 | 30 | 7 | 15 | 10 | -1500 | 22.4 | 10.0 | 13 | - 7 | 20 | -8 | -1700 | 21.9 |
| 12.5 | 29 | 5 | 21 | 8 | -1480 | 21.7 | 12.5 | 21 | -6 | 30 | -10 | -1680 | 21.9 |
| 15.6 | 41 | -1 | 33 |  | -1450 | 21.4 | 15.0 | 42 | -7 | 46 | -11 | -1640 | 21.8 |
| 17.5 | ${ }^{611}$ | -2 | 52 | 0 | -1450 | 21.5 | 17.5 | 51 | -5 | 58 | -9 | -16,30 | 21.7 |
| $2 \mathrm{c} . \mathrm{C}$ | 0 | 6 | 77 | 8 | -1370 | 21.3 | 20.0 | 64 | 11 | 61 | 7 | -1590 | 21.5 |
| 22.5 | 103 | -9 | 91 | $-7$ | -1290 | 20.9 | 22.5 | 80 | 18 | ${ }^{17}$ | 14 | -1510 | 21.3 |
| $25 . ?$ | 97 | -7 | 99 | -5 | -1210 | 20.3 | 25.0 | 94 | 9 | 47 | 5 | -15co | 20.0 |
| 27.5 | 47 | -4 | 95 | -1 | -1120 | 20.2 | 27.5 | $\bigcirc 5$ | 15 | 93 | 11 | -1450 | 20.5 |
| 37.0 | 87 | $-4$ | 81 | -2 | -1040 | 20.2 | 30.0 | 83 | 13 | 月9 | 9 | -1230 | 20.4 |
| 32.5 | 99 | -1 | 78 | 1 | -980 | 20.2 | 32.5 | 75 | 5 | 83 | 1 | -1130 | 2 C .4 |
| 35.0 | 29 | -3 | 77 | -1 | -930 | $20 . ?$ | 35.0 | 70 | 2 | 80 | $-3$ | - 1080 | 20.5 |
| 37.5 | 94 | -i | 75 | - | -960 | 20.1 | 31.5 | 69 | 5 | 80 | 1 | -1030 | 20.3 |
| 46.0 | 84 | -4 | 74 | - | -870 | 20.0 | 40.0 | 75 | -4 | 95 | -8 | -990 | 19.7 |
| 42.5 | 85 | -4 | 72 | $-3$ | -840 | 20.1 | 42.5 | 71 | -3 | ${ }^{\text {an }}$ | -7 | -980 | 19.5 |
| 45.0 | 99 | $\begin{array}{r}-8 \\ \hline\end{array}$ | 73 | -1 | -770 -750 | 20.0 19.9 | 45.0 | 74 68 | -6 | 78 75 | -10 | -920 | 19.4 |
| 50.0 | 84 | -2 | 74 | 0 | -730 | 19.9 | 50.0 | 6.7 | -2 | 74 | -6 | -860 |  |


| stoz | date | くVLP | Plve | $1{ }^{\text {int }}$ | a | :-0 | Lat | long | cir | ${ }_{\text {SPD }}^{\text {RM }}$ | TH | ¢N | QSTM | ARL | 110 | $\underset{\text { ROR EVE }}{\text { RAD }}$ |  |  | R.YH | yrix |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| carla | 6i0909 | 4700 | 95\% | 231 | 2337 | 1 |  | 91 | 310 | 8 | 20 | N | 3 | 20 | 486 | 20w | 948 | 107 | 22.5 |  |
| ${ }_{\text {casla }}$ | 610309 | 4783 | -5 5 | 181 | R4, | 1 | 24 | 91 | 3i0 | 8 | 215 | VE | 3 | 45 | 487 | 27 Wm | 948 | 103 | 22.5 | 105 91 |
|  | 615900 | 4730 | Ch\% | 183 |  | c | 24 | 91 | 310 | ${ }^{8}$ | 225 | SH | 7 | 225 | 488 | 22 WD | 948 |  | 25.9 | 84 |
| cavla | $0.040 \%$ | 4780 | P. 54 | 225 | 316 | I | 74 | 91 | 310 | ${ }_{8}$ | 70 | H | 8 | 250 | 489 | 20w0 | 948 | 85 |  | 93 |
|  |  | rafius |  | unswoctheid heighten vortex averages |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | vat | var |  | vet | vRz | R | d-values |  |  | tadj | vatz |  |  |  |  |  |  |
|  |  | 9.0 |  | 15 | 0 |  | 12 |  | -1 |  |  |  | 22.1 | 329 |  |  |  |  |  |  |
|  |  | 10.0 |  | 24 <br> 28 | 4 |  | $\begin{array}{r}21 \\ 27 \\ \hline 18\end{array}$ |  |  | ${ }_{-1699}$ |  |  | 22.1 | ${ }^{674}$ |  |  |  |  |  |  |
|  |  | 12.5 |  | 32 | 0 |  | 33 |  | - | -1613-1582 |  |  | 22.1 |  |  |  |  |  |  |  |
|  |  | 15.0 |  | 44 | -1 |  | 43 |  | 2 | - |  |  | 21.9 |  | 12 |  |  |  |  |  |
|  |  | 17.5 |  | 59 | -0 |  | 60 |  | 1 | -1513 |  |  | 21.9 |  |  |  |  |  |  |  |
|  |  | 2 cc ¢ |  | 74 | 5 |  | 74 |  |  | -1463 |  |  | 21.6 | 64 |  |  |  |  |  |  |
|  |  | 27.5 |  | 89 |  |  | 90 |  | 2 | -1388 <br> -1328 |  |  | 21.2 | 83 |  |  |  |  |  |  |
|  |  | 25.0 |  | 89 | -0 |  | ${ }^{1}$ |  | 2 |  |  |  | 20.9 | 82 |  |  |  |  |  |  |
|  |  | 27.5 |  | 97 | 0 |  | 83 |  |  | -1328-1248 |  |  | 20.6 |  |  |  |  |  |  |  |
|  |  | 3 c .0 |  | 83 | 4 |  | ${ }_{93}$ |  | 3 | -1248 |  |  | 20.4 | ¢9 |  |  |  |  |  |  |
|  |  | 37.5 |  | 80 | 1 |  | 80 |  | 0 | -1068 |  |  | 20.4 | 65 |  |  |  |  |  |  |
|  |  | 35.0 |  | 77 |  |  | ${ }_{8}^{8 .}$ |  | 0 |  |  |  | 20.3 | ¢ |  |  |  |  |  |  |
|  |  | 37.5 |  | 76 | 1 |  | 77 | - |  | -1010 |  |  | 20.2 | 59 |  |  |  |  |  |  |
|  |  | 46.0 |  | 78 | -0 |  | 77 | - |  | -965-925 |  |  | 19.9 | 62 |  |  |  |  |  |  |
|  |  | 430 |  | 76 | - |  | 76 74 | - |  | -925 |  |  | 19.8 | 59 |  |  |  |  |  |  |
|  |  | 41.5 |  | 75 | -2 |  | 73 | - |  | -853 |  |  | 19.7 | 5 |  |  |  |  |  |  |
|  |  | Sc.0 |  | 71 | -1 |  | 72 | -2 |  | -830 |  |  | 19.7 | 52 |  |  |  |  |  |  |

 uns yocthei heighten vortex averages
sucothed yortex averages

| :antus | vat | var | ver | vrr | d-values | tadj | vat2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 13 | 1 | 15 | 0 | -1648 | 22.1 | 444 |
| 7.5 | 24 | 3 | ? 1 | 2 | -1634 | 22.1 | 675 |
| 19.0 | 28 | 3 | 27 | 1 | -1611 | 22.1 | 901 |
| 12.5 | 34 | 0 | 34 | -0 | -1579 | 22.0 | 1282 |
| 15.6 | 45 | -0 | 45 | -1 | -1544 | 22.0 | 2225 |
| 17.5 | 60 | 1 | 60 | -0 | -1508 | 21.9 | 3988 |
| 20.0 | 77 | 4 | 75 | 2 | -1455 | 21.6 | 6309 |
| 27.5 | 96 | 2 | 86 | 1 | -1390 | 21.2 | 7807 |
| 25.0 | 83 | 0 | 89 | -0 | -1323 | 20.9 | 8026 |
| 27.5 | 86 | 1 | 87 | 0 | -1237 | 20.6 | 7682 |
| 3 c .0 | ${ }^{8}$ | 3 | 83 | 1 | -1140 | 20.4 | 7057 |
| $32 \cdot 3$ | PO | 1 | 8 8? | 0 | -1071 | 20.4 | 6580 |
| 35.0 | 78 | 1 | 8 ? | -0 | -1014 | 20.3 | 6162 |
| 37.5 | 77 | 0 | 18 | -0 | -967 | 20.1 | 60 n 2 |
| 40.6 | 77 | 0 | 77 | -1 | -930 | 19.9 | 6111 |
| 47.3 | 76 | -0 | 76 | -2 | -898 | 19.8 | 5912 |
| 45.0 | 75 | -2 | 14 | -4 | -858 | 19.8 | 5804 |
| 47.5 | 74 | -2 | 73 | -3 | -830 | 19.7 | 5689 |
| 51.6 | 72 | -1 | 72 | -3 | -809 | 19.7 | 5419 |



| Stcue | cate | RLVL PLVL | $\begin{aligned} & \text { TINE } \\ & \text { WTELVAL } \end{aligned}$ |  | 1-0 | lat | Lovg | $\begin{gathered} \text { STOPM } \\ \text { CIR SPO } \end{gathered}$ |  | TH | Qv | QSTM | ARL | 10 | ROR EYE ranius | CENT. PRES | vatx | 8 PWH | VRTX |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| cisia | st0909 | 4700 95, | 2110-2127 |  | 0 | 24 | 91 | 310 | $\bigcirc$ | 15 | N | 3 | 15 | 5512 | 21 wD | 949 | 111 | 17.5 | 104 |
| carla | -1070.1 | 47.00 457 | 222,-2240 |  | 0 | 24 | 91 | 310 | 8 | 100 | E | 5 | 100 | 513 | 21 L | 948 | 98 | 20.0 | 95 |
| carla | $6199 \%$ | 4170 -59 | 222,-2240 |  | 1 | 24 | 91 | 310 | 8 | . 60 | SW | 8 | 240 | 514 | 21 \% | 948 | 86 | 17.5 22.5 | 93 |
| canla | 610904 | 4740859 | $2052-2103$$2211-2726$ |  | 1 | 24 | 91 | 310 | 8 | 140 | NiN | 1 | 315 | 5 515 | 21 Ho | 948 | ioi | 17.5 | 100 |
|  |  |  | unsmcimed weighted vortex averages |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | racius | vat | var |  | vit | vR | RR |  | values |  | tadj |  | vatz |  |  |  |  |  |
| - |  | ¢.0 | 7 |  |  | ${ }^{7}$ |  | 2 |  | 1997 |  | 22.8 |  | 122 |  |  |  |  |  |
|  |  |  | 15323 | 32.2 |  | 15 |  | 1 |  | 1973 |  | 22.1 |  | 351 |  |  |  |  |  |
|  |  | 12.6 |  |  |  | 32 |  | 1 |  | 1935 |  | 22.4 |  | 1143 |  |  |  |  |  |
|  |  | 12.5 | 60 -1 |  |  | 60 |  |  |  | 1899 |  | 22.2 |  | 3728 |  |  |  |  |  |
|  |  | 15.17 |  |  |  | 8 |  | 1 |  | 1812 |  | 22.0 |  | 6827 |  |  |  |  |  |
|  |  | 17.5 | 32 <br> 92 <br> 2 |  |  | ? 2 |  | 3 |  | 1724 |  | 21.8 |  | 9780 |  |  |  |  |  |
|  |  | 2c. 0 | $\begin{array}{ll}92 & \\ 92 & -2\end{array}$ |  |  | 92 |  | -3 |  | 1611 |  | 21.5 |  | 8642 |  |  |  |  |  |
|  |  | 22.5 | $90-3$ |  |  | 90 | - | 4 |  | 1540 |  | 21.3 |  | 8251 |  |  |  |  |  |
|  |  | 23.0 | $\begin{array}{ll}70 \\ 84 & -3 \\ 84\end{array}$ |  |  | 94 | -1 |  |  | 1455 |  | 21.2 |  | 1195 |  |  |  |  |  |
|  |  | 27.9 | $\begin{array}{ll}84 & -9 \\ 83 & -10\end{array}$ |  |  | 82 | -1 |  |  | 1362 |  | 20.8 |  | 6948 |  |  |  |  |  |
|  |  | 3 C .6 | $\begin{array}{ll}03 & -10 \\ 73 & -12\end{array}$ |  |  | 78 | -1 |  |  | 1248 |  | 20.7 |  | 6243 |  |  |  |  |  |
|  |  | 32.5 | $\begin{array}{ll}78 & -12 \\ 74 & -8\end{array}$ |  |  | 74 | - |  |  | 1230 |  | 21.1 |  | 605 |  |  |  |  |  |
|  |  | 34.0 | $\begin{array}{lr}74 & -8 \\ 72 & -10\end{array}$ |  |  | 71 | -1 |  |  | 1194 |  | 21.0 |  | 5311 |  |  |  |  |  |
|  |  | 37.5 | $\begin{array}{ll}72 \\ 68 & -10 \\ -9\end{array}$ |  |  | 68 | -1 |  |  | 1179 |  | 21.0 |  | $48 \mathrm{B6}$ |  |  |  |  |  |
|  |  | 4 C .0 | $\begin{array}{ll}68 & -9 \\ 68 & -2\end{array}$ |  |  | 65 |  | 4 |  | 1120 |  | 20.9 |  | 4384 |  |  |  |  |  |
|  |  | 47.5 | $\begin{array}{ll}63 & -2 \\ 63 & -4\end{array}$ |  |  | 64 |  | 7 |  | 1101 |  | 20.8 |  | 32.9 |  |  |  |  |  |
|  |  | 45.0 | 64 -2 |  |  | 64 |  | 4 |  | 1087 |  | 20.6 |  | 4279 |  |  |  |  |  |
|  |  | 47.5 | 6.7 -2 |  |  | 67 |  | 5 |  | 1050 |  | 20.6 |  | 4681 |  |  |  |  |  |
|  |  | $5 \mathrm{c} . \mathrm{c}$ | $\begin{array}{ll}67 & -2 \\ 60\end{array}$ |  |  | 67 |  | 3 |  | 1034 |  | 20.6 |  | 4001 |  |  |  |  |  |

SMOOTHED VORTEX averages

| asolus | vat | var | vri | vre | d-values | tanj | vat2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 9 | 0 | 9 | 1 | -1989 | 22.8 | 198 |
| 7.9 | 18 | -1 | 18 | -0 | -1968 | 22.7 | 511 |
| 1 c .6 | 35 | -1 | 36 | -0 | -1931 | 22.4 | 1631 |
| 17.3 | 59 | -0 | 59 | 0 | -1880 | 22.2 | 3977 |
| 15.0 | 79 | 2 | 79 | 1 | -1807 | 22.0 | 6603 |
| 17.5 | 89 | 1 | 89 |  | -1717 | 21.8 | 8201 |
| 20.0 | 91 | -1 | 91 | -2 | -1620 | 21.6 | 8434 |
| $2 ? .5$ | R9 | -4 | 97 | -5 | -1539 | 21.3 | 8018 |
| 2.6 | 85 | -8 | 95 | -9 | -1452 | 21.1 | 7309 |
| ? 7.5 | 月2 | -10 | ¢2 | -11 | -1368 | 20.9 | 6862 |
| 3 c .9 | 73 | -11 | 73 | -11 | -1298 | ? 0.8 | 6238 |
| 37.5 | 74 | -9 | 74 | -10 | -1238 | 21.0 | 5690 |
| 34.9 | 72 | -10 | 11 | -11 | -1201 | 21.0 | 5300 |
| 37.5 | 69 | -9 | 67 | -10 | -1178 | 21.0 | 4975 |
| 4 c .0 | 4.5 | -3. | 35 | -6 | -1124 | 20.9 | 4438 |
| 42.5 | 63 | -3 | 64 | -6 | -1103 | 20.8 | 4343 |
| 45.0 | 65 | -2 | 65 | -5 | -1084 | 20.7 | 4395 |
| 47. | 66 | -2 | 60 | -4 | -1059 | 20.6 | 4590 |
| 5 c .0 | 60 | -2 | 66 | -4 | -1043 | 20.6 | 4597 |






|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2arius | vit | var | VRT | vRr | D-values | TADJ | Ramilis | vat | var | vRt | ver | d-valufs | IADJ | ratios | vat | var | vRT | var | o-values | 1ADJ |
| $\square .7$ | 15 | 5 | 10 | 4 | -1270 | 13.1 | 5.0 | 23 | 0 | 20 | 4 | -12n0 | 13.4 | 5.0 | 4 | $1{ }^{1}$ | 7 | -1 | -1200 | 13.5 |
| 7.5 | 22 | 11 | 15 | 10 | -1250 | 12.6 | 7.5 | 28 | -3 | 25 | 2 | $-1270$ | 17.8 | 7.5 | $1{ }^{7}$ | 11 | 12 | ? | -1190 -1190 | 12.8 11.8 |
| 10.0 | 30 | 7 | 21 | 5 | -1240 | 12.0 | 10.0 | 38 48 | -3 | 33 4,5 | 3 0 | -1250 -1180 | 11.9 14.7 | 10.0 | 189 | 10 | 24 3 | 5 | - -1190 | 11.9 |
| 12.5 | 40 59 | $\stackrel{7}{5}$ | 29 53 | 4 | -1230 -1190 | 10.4 8.6 | 12.5 15.0 | 47 55 | -6 | 4,5 56 | ? | -180 -1190 | 19.7 9.7 | 12.5 15.0 | 51 | 7 | 57 | 3 | -1150 | $0 \cdot 1$ |
| 17.0 17.5 | 59 0 0 | 115 | 53 73 | 10 | - -1170 | 8.6 7.6 | 17.5 | 80 | -3 | 79 | 4 | -1050 | 9.4 | 17.5 | 12 | 11 | 17 | 7 | -1040 | 8.4 |
| 20.5 | 94 | 6 | 97 | 4 | -1000 | 6.7 | 20.0 | 94 | -6 | 72 | ก | -п70 | 7.4 | 20.0 | 33 | 11 | 89 | 6 | -930 | 7.6 |
| 72.5 | $\bigcirc$ | 5 | 80 | 3 | -830 | 6.2 | 22.5 | 93 | -8 | $9 ?$ | -1 | -910 | 6.5 | 22.5 | 83 | 12 | 89 | 7 | -840 | 6.6 |
| 八.0 | 90 | 4 | 77 | 3 | -780 | 5.8 | 25.0 | 85 | -12 | ${ }^{33}$ | -6 | -850 | 5.9 | 25.0 | 78 | 10 | ${ }_{8}{ }_{8}$ | 5 | -760 |  |
| 27.5 | 93 | 6 | 74 | 4 | -710 | 5.6 | 27.5 | 90 | -14 | 79 | -7 | - 860 | 5.6 | 27.5 30.0 | 77 | 4 | ${ }_{78}^{82}$ | -1 | -760 -640 | 3.2 |
| 3 r .5 | ro | R | 71 | 7 | -670 | 6.0 | 30.0 | 78 | -14 | 76 | -9 | -750 | 5.2 5.2 | 30.0 32.5 | 74 6.3 | 4 | 78 74 | -1 | -640 -610 | 5.2 5.5 |
| 37.5 | ${ }^{7}$ | 日 | 70 | 6 | -620 | 6.1 | 32.5 | 76 | -12 | 72 | -5 |  | 5.2 | 32.5 35.0 7.5 | 6.7 | 6 | 72 | 0 | - 530 | 5.5 |
| ?,.0 | 77 | 12 | 67 | 11 | - 570 | 6.0 | 35.0 | 75 72 | $-12$ | 71 | -5 | -630 -570 | 5.1 | 37.5 | 65 | 10 | 69 | 4 | -4,90 | 5.6 |
| 31.9 | 74 | 11 | 65 | 10 | -530 | 6.0 | 37.5 40.0 4.5 | 72 | -11 | 68 | -6 | -510 | 5.1 | 40.0 | 63 | 10 | 67 | 4 | -450 | 5.4 |
| 42.0 | 70 | 11 9 | 62 58 | 10 | -5c0 | 5.7 5.2 | 40.0 | ${ }_{68}$ | -17 -12 | 86 | -5 | -500 | 5.6 | 42.5 | 58 | 7 | 65 | 1 | -570 | 5.3 |
| 450 | 67 | ? | 57 | 7 | -430 | 5.3 | 45.0 | 65 | -12 | 66 | -5 | $-430$ | 5.7 | 45.0 | $5{ }^{51}$ | 7 | 65 | 1 | -370 | 5.4 |
| 47.5 | 67 | 11 | 59 | 10 | -410 | 5.6 | 47.5 | 68 | $-17$ | 66 | -10 | -4c0 | 5.5 | 47.5 | 60 | ${ }^{7}$ | 65 | 1 | -360 -360 | 5.5 |
| 50.0 | 67 | 7 | 60 | 5 | -410 | 5.9 | 50.0 | 63 | -16 | 66 | -9 | -390 | 5.4 | 51.0 | 61 | 10 | 65 | 4 | -360 | 3.7 |



an:iss vat var vrt vir o-values tadju
5.0
7.5
17.0
12.5
15.0
2.5
20.5
22.5
24.0
27.4
37.6
32.5
15.6
37.5
20.5
49.5
45.6
47.3
30.0

VAR
-7
-6
-5
-6
-7
-7
-7
-7
-4
-14
-14
-19
-18
-15
-15
-13
-10
-12
-10



| Radius | vat | var | ver | vrr | d-values | 140 J | radius | vat | var | VRT | vRr | d-values | [41) 3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 13 | -8 | 20 | -5 | $-1200$ | 13.0 | 5.0 | 18 | 12 | 9 | 6 | -1290 | 13.4 |
| 7.5 | 13 | - | 20 | -5 | -1270 | 12.7 | 7.5 | 23 | 11 | 15 | 4 | -1270 | 13.0 |
| 10.0 | 14 | -7 | 27 | -5 | -1250 | 12.4 | 10.0 | 27 | 9 | 22 | 2 | -1250 | 12.6 |
| 12.5 | 22 | -7 | 29 | -5 | -1250 | 11.8 | 12.5 | 36 | ค | 30 | 2 | -1230 | 12.2 |
| 15.0 | 50 | -7 | 59 | -5 | -1220 | 10.4 | 15.0 | 60 | ${ }_{5}$ | 53. | -1 | -1190 | 10.6 |
| 17.5 | во | -? | 87 | 0 | -1160 | 8.6 | 17.5 | 88 | 5 | 78 | -2 | -1120 | 9.6 |
| 20.0 | 94 | 1 | 73 | 3 | -1090 | $7 . ?$ | 20.0 | 9s | -2 | 87 | -9 | -1020 | 7.0 |
| 22.5 | 79 | 4 | 96 | 6 | - 770 | 0.5 | 22.5 | 90 | -11 | 8.4 | $-17$ | -960 | 6.2 |
| 25.0 | 75 | 1 | 83 | 3 | -9c0 | $5 \cdot 3$ | 25.0 | 30 | -4 | 78 79 | -10 -9 | -870 -760 | 6.0 5.7 |
| 27.5 | 70 | -2 | 77 | ${ }^{\circ}$ | -830 -750 | 3.4 5.5 | 27.5 30.0 | 87 | -1 | 75 | -8 | -760 -670 | 5.7 6.0 |
| 30.0 32.0 | 65 63 | -1 -2 | 73 | 1 | -750 -700 | 5.5 | 30.0 32.5 | 69 68 | -1 | 69 67 | -88 | -670 -670 | 6.0 |
| 35.0 | 60 | -2 | 68 | 0 | -6,70 | 5.6 | 35.0 | 65 | -4 | 65 | -10 | -600 | 5.9 |
| 37.5 | 59 | -5 | 66 | -3 | -630 | 5.2 | 37.5 | 65 | -3 | t3 | -3 | -570 | 5.7 |
| 40.0 | 57 | -6 | t5 | -5 | -597 | 5.0 | 40.0 | 58 | -3 | \% 0 | -9 | -510 | 5.5 |
| 42.5 | 55 | -6 | 64 | -4 | -550 | 5.2 | 42.5 | ${ }_{6} 6$ | 0 | 60 | -7 | -500 | 5.8 |
| 45.0 | $5{ }_{5} 5$ | -6 -7 |  | -5 | -5co | 5.9 | 45.0 47.5 | 67 | 3 | 60 59 | -4 | -460 -420 | 5.5 5.5 |
| 47.5 | 57 | -7 -5 | 63 | -6 | -490 $-4,70$ | 6. 6.3 | 47.5 50.0 | 61 58 | ${ }_{3}^{1}$ | 57 57 | - -4 | -420 | 5.5 |


| Sicre | date | ztvL | PLVL | $\begin{aligned} & \text { THE } \\ & \text { MTESVAL } \end{aligned}$ |  | 1-0 | Lat | long |  | $\begin{aligned} & \text { STORM } \\ & \text { OIR SPD } \end{aligned}$ |  | TH | CN | QSTM | ARL | 10 | $\begin{aligned} & \text { ROR fyF } \\ & \text { RADIUE } \end{aligned}$ | $\underset{\text { PESES }}{\substack{\text { CENT }}}$ | vatx | R NH | vetx |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| carla | - 60.010 | 1anco | 615 | 204 |  | 1 | 27 | 94 |  | 300 | 8 | 215 | NE | 3 | 40 | C 494 |  | 940 | 94 | 20.0 | 87 |
| caria | 610910 | 13, ${ }^{\text {a }}$ | 618 | 133 | )02 | 0 | 27 | 94 |  | 300 | 8 | 102 | $\varepsilon$ | 5 | 102 | 2445 | 204 | 940 | 95 | 20.0 | 89 |
| carla | 016910 | 1 scc | ${ }^{1}$ ? | 215 |  | 1 | 27 | 94 |  | 300 | 8 | 304 | SE | 5 | 120 | - 4.0 | 20 a | 940 | 74 | 20.0 | 92 |
| carla | 616915 | 13060 | ${ }^{618}$ | 210 |  | n | 27 | 94 |  | 300 | 8 | 215 | SW | 7 | 215 | 5497 | 20 A | 940 | 84 | 20.0 | 93 |
| carla | 610910 | luben | 818 | 1315 |  | 1 | 27 | 94 |  | 300 | B | 100 | w | 8 | 270 | 498 | $20 \wedge$ | 940 | 83 | 20.0 | 89 |
| carla | 6.0 .310 | 13900 | 618 | 221 |  | 1 | 27 | 94 |  | 300 | 8 | 312 | Nw | 1 | 312 | 2499 | 20 A | 940 | 96 | 20.0 | 87 |
| - |  | rantig |  | uns\%octheo whighted vortex averages |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | vat | var |  | VRT | vRR |  | o-values |  |  | tadj |  | vatz |  |  |  |  |  |  |
|  |  | 5.0 |  | 15 |  |  | 13 |  |  | 1 | $-1258$ |  | 13.2 |  | 268 |  |  |  |  |  |  |
| 1.51.6 |  |  |  | ${ }_{26}^{17}$ |  |  | 1724 |  |  |  | -1245 |  |  | 13.5 |  | 425 |  |  |  |  |  |
|  |  |  |  |  | -1231 |  |  |  |  |  | 12.1 |  | 790 |  |  |  |  |  |
|  |  | 12.5 |  |  |  |  | 35 | 1 |  | 33 |  | 1 <br> 1 |  | -1209 |  |  | 12.5 |  | 1341 |  |  |  |  |  |
|  |  | 19.0 |  | 3 | -0 |  | 55 |  | -1178 |  |  |  |  | 9.7 |  | 3083 |  |  |  |  |  |
|  |  | 17.5 |  | 30 | 3 |  | 79 |  | ${ }_{3}$ |  | -1095 |  |  | 8.3 |  | 6478 |  |  |  |  |  |
|  |  | 2 c c |  | 90 | 0 |  | 89 |  | 30 |  | -100n |  |  | 7.2 |  | 8292 |  |  |  |  |  |
|  |  | 22.5 |  | 37 | -0 |  | 85 |  | - |  | -900 |  |  | 6.4 |  | 7618 |  |  |  |  |  |
|  |  | 29.9 |  | 81 | -1 |  | 80 |  | -0 |  | -822 |  |  | 5.9 |  | 6778 |  |  |  |  |  |
|  |  | 27.5 |  | 78 | -2 |  | 77 |  | -2 |  |  | -822 |  | 5.6 |  | 6190 |  |  |  |  |  |
|  |  | 3 c .6 |  | 74 | -1 |  | 74 |  | -2 |  | -698 |  |  | 5.6 |  | 5626 |  |  |  |  |  |
|  |  | 32.5 |  | 72 | -1 |  | 71 |  |  |  | $\begin{aligned} & -653 \\ & -606 \end{aligned}$ |  |  | 5.7 |  | 5371 |  |  |  |  |  |
|  |  | 35.0 |  | 70 | -1 |  | 69 |  | -1 |  |  |  |  | 5.5 |  | 5057 |  |  |  |  |  |
|  |  | 37.5 |  | 68 | -1 |  | 67 |  |  |  | $\begin{aligned} & -606 \\ & -562 \end{aligned}$ |  |  | 5.4 |  | 4722 |  |  |  |  |  |
|  |  | 40.6 |  | 65 | -1 |  | 65 |  | -1 |  | -514 |  |  | 5.3 |  | 4392 |  |  |  |  |  |
|  |  | 42.5 |  | ${ }_{6}$ | -1 |  | 63 |  | -1 |  | -501 |  |  | 5.4 |  | 4181 |  |  |  |  |  |
|  |  | 43.0 |  | 63 | -0 |  | 63 |  | -1 |  | -442 |  |  | 5.6 |  | 4143 |  |  |  |  |  |
|  |  | 47.5 |  | 6,4 | -2 |  | 63 |  |  |  | -442 |  |  | 5.8 |  | 4205 |  |  |  |  |  |
|  |  | 5 c .0 |  | 04 | -1 |  | 62 |  | -1 |  | -402 |  |  | 5.9 |  | 4163 |  |  |  |  |  |

## smcothfo virtex averages

| ramius | - vat | var | VRT | VRr | d-values | tads | vatz |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 16 | 1 | 15 | 2 | -1253 | 13.3 | 320 |
| 1.5 | 20 | 2 | 13 | 2 | -1243 | 13.1 | 430 |
| 10.0 | 27 |  | 25 | 1 | -1228 | 12.5 | 853 |
| 12.5 | 38 | 0 | 36 | 1 | -1206 | 11.8 | 1655 |
| 15.0 | 37 | 0 | 56 | 1 | -1164 | 9.9 | 3575 |
| 17.5 | 77 | 1 | 75 | 2 | -1099 | 8.4 | 6206 |
| 20.0 | 86 | 0 | 85 | 0 | -997 | 7.3 | 7602 |
| 22.5 | \% | -0 | 8.4 | -0 | -905 | 6.5 | 7392 |
| 25.0 | 81 | -1 | 80 | -1 | -829 | 6.0 | 6759 |
| 27.5 | 73 | -2 | 77 | -2 | -762 | 5.7 | 6191 |
| ic.i | 75 | -1 | 7 | -2 | -703 | 5.5 | 5703 |
| 37.5 | 72 | -1 | 71 | -1 | -654 | 5.6 | 5376 |
| 35.0 | 70 | -1 | 69 | -1 | -607 | 5.5 | 5053 |
| 37.5 | $\bullet 8$ | -1 | 67 | -1 | -561 | 5.4 | 4722 |
| 4. C ¢ | 65 | -1 | ${ }_{6} 5$ | -1 | -523 | 5.4 | 4422 |
| 42.5 | 64 | -1 | 64 | -1 | -492 | 5.4 | 4232 |
| 45.0 | 64 | -1 | 63 | -1 | -447 | 5.6 | 4181 |
| 47.5 | 64 | -1 | ${ }^{63}$ | -2 | -4.19 | 5.9 | 41 ng |
| r.c. 1 | 64 | -1 | 6 ? | -1 | -408 | 5.9 | 4172 |


level 7



| 26.01.35 | vat | van | Vit | var | d-values | tanj | radius | vat | var | vat | VRR | d-valufs | ind |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9.0 | 27 | 2 | 19 | -1 | -1190 | 10.6 | 5.0 | 16 | -4 | 21 | $?$ | -1240 | 11.3 |
| 7.5 | 45 | 4 | 36 | 0 | -1190 | 9.4 | 7.5 | 31 | -3 | 37 | 3 | -1190 | 11.2 |
| 10.0 | ${ }^{59}$ | 5 | 47 | 0 | -1150 | 8.1 | 10.0 | 49 | -6 | 57 | -1 | -1170 | 16.6 |
| 12.5 | $\bigcirc$ | 5 | 78 | 1 | -1030 | 7.0 | 12.5 | 70 | -5 | 79 | 0 | -1040 | . .2 |
| 15.0 | 103 | 11 | 96 | 7 | -970 | 6.2 | 15.0 | 77 | -5 | ${ }^{83}$ | 0 | -970 | 9.2 |
| 17.5 | 97 | 10 | 92 | 6 | -900 | 5.8 | 17.5 | 77 | -11 | 32 | -6 | -890 | 7.2 |
| 22.0 | 93 | 13 | R9 | 9 | -770 | 5.7 | 20.0 | 81 | -13 | 96 | -8 | -330 | 6.0 |
| 27.5 | 06 | 17 | 93 | 13 | -690 | 5.6 | 22.5 | 74 | -12 | во | -9 | -790 | 6.0 |
| 25.0 | ${ }^{2} 7$ | 15 | 81 | 11 | -670 | 5.8 | 25.0 | 70 | -15 | 77 | -11 | -760 | 6.4 |
| 27.5 | 92 | 13 | 78 | 9 | -hco | 5.8 | 27.5 | 65 | -17 | 72 | -13 | -710 | 6.6 |
| 16.0 | 93 | 12 | 77 | 9 | -580 | 5.4 | 30.0 | 63 | -14 | 72 | -9 | -650 | 6.3 |
| 32.9 | 95 | 10 | an | 6 | -520 | 4.9 | 32.5 | 62 | -13 | 70 | -9 | -600 | 3.1 |
| $3 \cdot 6$ | 95 | ? | 80 | 5 | -510 | 4.8 | 35.0 | 59 | -11 | 67 | -7 | -590 | 5.7 |
| 37.5 | 90 | 10 | 75 | 6 | -470 | 4.7 | 37.5 | 60 | -11 | 66 | -7 | -510 | 5.6 |
| 40.0 | \% | ? | 71 | 5 | -4.00 | 4.8 | 40.0 | 59 | -10 | 66 | -6 | $-4,0$ | 5.3 |
| 47.5 | 75 | 7 | 70 | 5 | -430 | 5.1 | 42.5 | 59 | -12 | 65 | -7 | $-4,30$ | 0.3 |
| 45.0 | 93 | 10 | 76 | 7 | -410 | 4.9 | 45.0 | 55 | -1\% | 63 | -10 | -410 | 5.6 |
| 47.5 | 83 | 17 | 75 | 8 | -390 | 4.5 | 47.5 | 54 | -14 | 60 | -10 | $-380$ | b. 1 |
| 50.0 | 80 | 11 | 76 | 7 | -360 | 4.6 | 50.0 | 54 | -15 | 61 | -11 | -360 | 6.2 |




| ratus | var | var | vit | vrr | d-values | tadj | radius | vat | var | vrt | ver | d-values | IAOJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 19 | -14 | 17 | -8 | -1260 | 11.0 | 5.0 | 20 | -15 | 25 | -8 | -i290 | 11.6 |
| 7.5 | 49 | $-17$ | 47 | $-9$ | - 1210 | 10.7 | 7.5 | 32 | 7 | 35 | 5 | -12?0 | 11.2 |
| 19.9 12, | 53 | -15 | 58 | -8 | -1070 | 10.0 | 10.0 | 44 | 5 | 48 | 1 | -1190 | 7.6 |
| 12.5 | 7 | -9 | 75 | 0 | -1000 | 3.5 | 12.5 | 66 | 4 | 71 | 0 | -1090 | 7.1 |
| $15.1 i$ | 11 | -i | 84 | 7 | -820 | 7.4 | 13.0 | 73 | 9 | 83 | 3 | -2070 | 0.7 |
| 17.5 | as | $-18$ | 05 | -11 | -780 | 6.4 | 17.5 | 79 | 17 | ¢ 4 | 12 | -8ro | 6.4 |
| 20.0 | P\% | $-2 ?$ | $\stackrel{9}{3}$ | $-14$ | -730 | 5.7 | 20.0 | 74 | 14 | 81 | 9 | -740 | 5.9 |
| 22.9 | 71 | $-18$ | 79 | -10 | -640 | 5.7 | 22.5 | 70 | 14 | 77 | 8 | -670 | 3.6 |
|  | 77 | -15 | 78 | -7 | -570 | 5.7 | 25.0 | n6 | 15 | 77 | ? | -6.20 | 5.4 |
| 27.9 | 19 | -11 | 17 | -4 | -520 | 5.8 | 27.5 | 65 | 15 | 76 | 9 | -h10 | 5.5 |
| 37.0 | 75 | $-12$ | 75 | -4 | -480 | 5.6 | 30.0 32.5 | 63 | 15 | 73 | 9 | -570 | 5.5 |
| 12.5 35.0 | 75 | $-10$ | 73 | -3 | -420 | 5.2 | 32.5 | 64 | 16 | 70 | 10 | -540 | 5.7 |
| 37.3 | 72 | -7 -7 | 72 | -2 | -410 -390 | 5.2 5.0 | 35.0 37.5 | 65 | 16 16 | 69 08 | 10 | -48 C -470 | S. ${ }^{5}$ |
| $4 \cdot 0$ | 73 | -5 | 5 | $?$ | -370 | 5.0 | 40.0 | 50 | 15 | 66 | 10 | -480 -460 | 5.5 3.2 |
| 42.5 | 69 | -4 | 66 | 4 | -300 | 5.0 | 42.5 | 59 | 14 | 64 | 7 | -450 | 5.7 |
| 45.0 | 6n | -4 | 63 | 4 | -230 | 4.6 | 45.0 | 58 | 14 | 63 | 8 | -430 | 5.2 |
| 47.3 | 65 | $-3$ | 62 | ' | -280 | 4.2 | 47.5 | 58 | 14 | 63 | 8 | -420 | 5.0 |
| brec | 65 |  |  | S |  | 4.3 | 50.0 | 55 | 14 | 63 | 7 | -390 | 4.9 |


| stcre | date | ztvi |  | $\begin{aligned} & \text { TiNE } \\ & \text { INERYAL } \end{aligned}$ | I-0 |  |  | ${ }_{\text {Stion }}^{\text {Sti }}$ |  | ¢H | ov | astm | art | 10 | RDR EME |  | vatx | ${ }^{\mu}{ }^{\text {m }}$ | rix |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | ${ }^{138 \mathrm{c}} \mathrm{C}$ | 6i3 |  | $!$ | ${ }_{78}^{28}$ | 46 | 340 340 | 8 | 210 130 | NF | ${ }_{5}^{2}$ | $\begin{array}{r} 30 \\ 130 \end{array}$ | 501 | - | 940 940 | ${ }_{91}^{02}$ | ${ }_{0}^{0}$ | 96 |
| ca | 610 | 13 sco | ${ }_{619}$ | 225 | 1 | 29 | 95 | 34.3 | 6 | 207 | SH | 6 | 207 | 502 | - | 940 | ${ }_{1}$ | . 0 | n, |
|  | 61091 | co | い 8 | 1470-1150 |  | 28 | 9 | 340 | - | 125 | NW |  | 295 | 503 | ก | 940 | 9 | 5 | R4 |



 (13,

| qarius | vat | var | VRT | RR | d-values | tanj | radius | vat | var | vRt | VRR | o-valufs | tadJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 20 | 12 | 30 | -1 | 999 | 999.0 | 5.0 | 11 | -2 | 17 | - ${ }^{5}$ | 977 | 979.0 |
| 7.5 | as | , | 76 | -3 | 999 | 999.0 | 7.5 | 60 | -4 | 66 99 | -5 | 999 -1665 | 993.0 21.0 |
| 10.0 | 99 | 13 | 109 | 0 | 999 | 18.5 | 10.0 | 33 | $-{ }^{-8}$ | $\stackrel{9}{9}$ | -5 -12 | -1570 | 21.0 |
| 12.5 | 87 | 15 | 97 | 2 | -2010 | 19.4 | 12.5 | 83 77 | -4 | 93 | -9 | -1710 | $1{ }_{1} .6$ |
| 15.0 | 8.5 | 12 | 95 | 0 | -1850 | 18.3 | 15.0 | 71 | -4 | 77 | -13 | - 1230 | 17.9 |
| 17.5 | 92 | 10 | 92 | -2 | -1150 | 16.9 | 20.0 | 79 | -7 | 94 | -13 | -1130 | 17.9 |
| $2^{\text {n. }} 0$ | 72 |  | 8 c | -4 | -1550 |  | 22.5 | 72 | -7 | 7 \% | $-13$ | -1500 | 16.5 |
| 22.5 | 70 |  | 80 | -4 | - 1445 | 17.1 | 25.0 | 69 | -4 | 15 | -10 | -1030 | 16.4 |
| 24.0 | 1,5 | 10 | 75 | -7 | -14450 | 16.7 | 27.5 | 55 | -9 | 71 | -15 | -950 | 10.4 |
| 27.9 | 71 | 6 | 91 | -7 -10 | - -1230 | 16.7 | 37.0 | 62 | -5 | 6 \% | -11 | -800 | 16.2 |
| 37.5 | 73 | 3 | 93 | -10 -14 |  | 16.2 | 32.5 | 61 | -3 | 67 | -10 | - 860 | 15.5 |
| 32.5 | 75 | -1 | 85 | -14 | -1150 | 16.5 | 33.0 | 61 | 2 | 67 | 5 | -170 | 15.4 |
| 35.9 | 72 |  | ${ }^{8} 2$ | - -5 |  |  | 37.5 | 61 | 12 | 67 | 5 | -160 | 15.5 |
| 37.5 | 65 | , | 75 | -5 | -1040 | 11.4 | 40.0 | 75 | 23 | 81 | 16 | -6,90 | 11.0 |
| 40.0 | 69 | \% | 78 | -7 | - -180 | 17.1 | 42.5 | 74 | 20 | 80 | 13 | -650 | 14.8 |
| 4.95 | 65 | 6 | 75 |  |  |  | 45.0 | 75 | 29 | 01 | 13 | -540 | 15.4 |
| 43.0 | 63 | 12 | 73 | -1 | -920 | 16.7 | 47.5 | 76 | 23 | 76 | 16 | -580 | $1 \mathrm{H.4}$ |
| 47.5 | 63 | 11 | 73 | -2 | -920 | 16.6 |  | 74 |  | 80 | 12 | -360 | 17.2 |
| 50.0 | 6.3 | 16 | 73 | 3 | -890 | 15.4 | 50.0 | 74 | 1. |  |  |  |  |




| racius | vat | VAR | VRT | vRr | o-values | 140J |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 42 | 11 | 1.5 | 2 | 999 | 999.0 |
| 7.5 | 65 | 7 | 68 | $?$ | 999 |  |
| 10.0 | 105 | -1 | 208 | -7 | 99.9 | 994.0 |
| 12.) | 100 | 0 | 107 | -7 | -1490 | 19.0 |
| 15.0 | 74 |  | 97 | -5 | -17no | 17.9 |
| 17.5 | 84 | -5 | 97 | -11 | -120, | 17.6 |
| 20.0 | 79 | -7 | A | $-15$ | -1110 | 16.2 |
| 22.5 | RO | -10 | 88 | -18 | - 1120 | 16.4 |
| 25.0 | 79 | -9 | 87 | $-19$ | -750 | 16.3 |
| 27.5 | 76 | - -5 | 78 | -16 | -850 | $1 \mathrm{it.a}$ |
| 37.0 32.5 | 75 75 | -5 -3 | 78 | -12 | -800 | 16.4 |
| 35.0 | 78 | 7 | 81 | -2 | -760 | 10.4 |
| 37.5 | 77 | 4 | 98 | -6 | -710 | 16.3 |
| 40.0 | 76 | 9 | 79 | 0 | -660 | 11.0 |
| 42.5 | 74 | 5 | 77 | -3 | -6.20 -570 | 15.7 15.9 |
| 45.0 47.5 | 71 | 3 | 74 | -3 | -530 | 16.4 |
|  | 7 | 7 | 70 | -1 | -5c0 | 16.7 |



|  | StOPR |  | Date |  | PRES ALT |  | $\begin{aligned} & \text { TTME } \\ & \text { UTERV } \end{aligned}$ | $\begin{gathered} \text { TM } \\ \text { gOUT/ } \end{gathered}$ |  | T/LONG/ TD / |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | STORA |  |  | $\begin{aligned} & \text { TRUE } \\ & \text { HOG } \end{aligned}$ | OCTANT AZMTH TN ROD CENT MAX WYNOS DADTUS TH/STA/ANGLE/EYERAD/ PRES/ACTUAL/REL/MAK WD/ |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1131 | : 1 | 12 | 7 | $\cdots 1$ | 11001 | $87 / 12.5$ | $3 / 245$ | 70 | 1 | 20 | ก1 | ¢ ī̃i | $\therefore 15.0$ |
| 2notus | vat | var | VPT | vRr | d-values | tad | radius | vat | var | vrt | VRK | o-values | tanj |
| $5: 0$ | 20 | -6 | 15 | 4 | 999 | -1.3 | 5.0 | 27 | 5 | 18 | -7 | -50 | -2.8 |
| 1.3 | 47 | -8 | 35 15 | -3 | -120 10 | -1.2 | 7.5 10.0 | 46 80 | 17 | 39 76 | -10 | -60 | -3.3 |
| 10.6 | 97 100 | -1 | 87 | -2 | 250 | -1.6 | 12.5 | 103 | 26 | 93 | 13 | 160 | -3.8 |
| 15.0 | 79 | 0 | 85 | -3 | 330 | -3.9 | 15.0 | 156 | 29 | 102 | 15 | 320 | -5,6 |
| 1.5 | 33 | -5 | 79 | -9 | 440 | -5.7 | 17.5 | 93 | 16 | 93 | \% | 4,40 | -i. ${ }^{\text {a }}$ |
| ?n.n | 97 | -? | 75 | -7 | 530 | -6.4 | 20.0 | 89 | 8 5 | 77 | -4 | 630 600 | -6.7 |
| 22.5 | $\bigcirc$ | 0 | 67 | -6 | 610 660 | -7.0 | 22.5 25.0 | 888 | ? | 77 | -4 | ${ }_{6} 90$ | -7.0 |
| 25.0 | 30 | -4 | 68 65 | -5 | 660 740 | -7.3 | 27.5 | 83 | -3 | 71 | -8 | 730 | -7.4 |
| 3 O .0 | 75 | -5 | 61 | -12 | 770 | -7.7 | 30.0 | 77 | -7 | 62 | -12 | 790 | -7.4 |
| $3{ }^{3}$ | ¢19\% | 9 9\% | 63 | 499 | 994 | -7.8 | 32.5 35 | 72 | -11 | 60 58 | -17 | ¢130 | -6. ${ }^{-1}$ |
| 34.8 | (17n | 779 | 979 | 999\% | 999 <br> 999 | 997.0 | 37.5 | 69 | -11 | 57 | -17 | 840 | -6.6 |
| 37.5 | con | 99\% | 999 | 999 | 999 | 999.0 | 40.0 | 71 | -2 | 54 | -9 | $\bigcirc 60$ | -7.0 |
| 42.5 | 379 | 993 | 999 | 999 | 499 | 999.0 | 42.5 | AO | - ${ }^{6}$ | 77 | -2 | 950 460 | -7.4 |
| 45.6 | 9 y | 29\% | 9n7 | 997 | 979 | 999.0 | 47.0 | 99 | -2 | 86 | - | 970 | -3.4 |
| 47 | 999 | 9\% | 979 | 999 | 999 | 999.0 | 50.0 | 97 | 997 | 86 | 999 | 950 | -8.7 |




LEVEL 2




| warius | vat | var | vRt | VRR | d－values | tad | radius | var | Var | VRT | VRr | d－values | tads | katius | vat | var | vRT | vRR | d－values | T40， |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.9 | 31 | －9 | 15 | －4 | －30 | －1．0 | 5.0 | 28 | 494 | 799 | 999 | 999 | 999.0 | 5.0 |  |  |  |  |  |  |
| 7.5 16.0 | 50 90 | －11 | 40 81 | －8， | 80 200 | -1.3 -2.2 | 7.5 10.0 | 40 64 | 15 | 50 73 | 3 | 997 160 | -3.3 -4.0 | 5.0 7.5 | 31 51 | -11 -11 | 15 35 | － | 999 | -1.1 -1.2 |
| 11.5 | 10 m | $-13$ | 94 | －11 | 380 | $-3.8$ | 12.5 | 87 | 30 | 87 | 15 | 260 | －4．3 | 10.0 | 83 | 0 | 76 | 0 | 50 | $-1.7$ |
| 15.9 |  | －？ | 94 | －19 | 430 | －4．6 | 15.0 | A7 | 32 | 85 | 18 | 410 | $-5.1$ | 12.5 | 108 | 8 | $9 / 4$ 9 | 3 | 240 380 | －3．5 |
| 17．3 | 10？ | －10 | 87 | －7 | 490 | －5．2 | 17.5 | 83 | 35 | 81 | 20 | 510 | $-5.7$ | 17.5 | 108 103 | $1{ }^{8}$ | 98 | 4 | 380 420 | -4.2 -6.0 |
| $2 \% .0$ | 91 | 1 | $7 \%$ | ？ | 590 | －5．4 | 20.0 | 79 | 31 | 76 | 17 | 590 | －5．9 | 20.0 | 97 | 1 | 92 | －4 | 55 | -6.0 -6.2 |
| 27．5 | 85 | 5 | 70 | 4 | 660 | －5．7 | 22.5 25.0 | 77 | 30 <br> 20 <br> 8 | 74 | 15 | 640 <br> 6， | -6.2 -6.1 | 27.5 | 88 | 5 | 75 | －1 | 550 650 | -6.2 -6.5 |
| 27.0 27.5 | ？2 | -5 -5 | 62 65 65 | －4 | 700 | -6.5 -6.6 | 25.0 27.5 | 74 64 | 29 29 29 | 70 64 | 15 | 730 | －h．1 $-h .0$ | 25.0 | 83 | 10 | 70 | 3 | 710 | －6．9 |
| 37.5 | 78 | －4 | 65 | －4 | 780 | －6．6 | 37.5 | 65 | 26 | 64 58 | $1{ }_{1 i}^{19}$ | 760 | $-6.3$ | 27.5 | 77 | 5 | 68 | －1 | 750 | －7．？ |
| 37．＇ | 77 | －4 | 62 | －3 | 8,00 | －7．0 | 32.5 | 65 | 26 | 61 | 11 | 780 | －6．5 | 30.0 32.5 | 78 78 | 5 | 68 64 | －2 | 790 810 | －7．5 |
| 34.0 | 76 | －2 | 60 | －？ | 830 | －7．0 | 35.0 | 63 | 26 | 59 | 12 | A10 | －6．6 | 35.0 | 16 | 6 | 64 | －1 | 88. | －7．57 |
| 37.5 | 73 | $?$ | 58 | $?$ | 840 | －7．2 | 37.5 | 60 | 15 | 56 | 1 | ¢4， | －6．5 | 37．9 | 74 | 7 | 62 | －1 | ค9\％ | －7．2 |
| 45.9 | 172 | $\stackrel{2}{7}$ | $5{ }_{50}^{58}$ | 1 | 860 930 | -7.1 -7.0 | 40.0 12.5 | ${ }_{6}^{64}$ | 18 20 | 68 58 | 4 | 920 900 | -6.5 -6.5 | 40.0 | 74 | 5 | 60 | －2 | 9 90 | －7．1 |
| 45.6 | 79 | 16 | 60 | 16 | 940 | －6．9 | 45.0 | 58 | 19 | 48 | 5 | 970 | －6．3 | 42.5 45.0 | 79 84 | 15 22 | 75 | ${ }^{8}$ | 970 970 | －6．${ }^{\text {Pr }}$ |
| 47.5 | 17 | 10 | 62 | 10 | 950 | －7．2 | 47.5 | ${ }_{68} 8$ | 22 | 64 | ${ }^{\text {A }}$ | ${ }^{470}$ | －6．5 | 47.5 | 83 | 20 | 74 69 | 15 | $\begin{array}{r}1020 \\ \hline 10\end{array}$ | -7.1 -7.2 |
| 40.3 | $6)$ | $1 ?$ | 54 | 12 | 960 | －7．5 | 50.0 | 73 | 25 | 72 | 11 | 10 en | －6．6 | 50.0 | 79 | 19 | 65 | 11 | 1010 | －7．3 |

／rspurs／，1001\％／20500／477／1635－1655／1／23／60／185／／ESTHER／610916／20500／477／1940－1949／1／183／60／187／1


| kablus | vat | vas | vrit | var | n－values | tadj | radius | vat | var | VRt | vrk | o－values | tads |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\because$ | 10 | －1 | 26 | －2 | 50 | －2．9 | 5.0 | 26 | 12 | 10 | －1 | 998 | 997.0 |
| 7.5 | 71 | －3 | 50 | －3 | \％0 | －3．4 | 7.5 | 52 | 5 | 50 | －1 | －40 | $-2.3$ |
| $1 \because 0$ | 55 | 4 | 66 | 4 | 210 | －4．4 | 10.0 | 83 | －1 | 85 | －5 | 40 | －4．0 |
| 12.5 | 71 | 11 | 96 | 11 | 300 | －5．3 | 12.5 | 104 | －16 | 99 | $-19$ | 190 | －4．2 |
| 14.9 | 74 | 13 | 94 | 13 | 400 | －6．0 | 15.0 | 95 | $-11$ | 75 | －13 | 350 | －5．4 |
| 17.9 | 70 | 16 | 85 | 18 | 50.0 | －6．6 | 17.5 | 92 | $-14$ | 67 | －15 | 470 | －5．9 |
| 25.0 | 62 | 4 | 76 | 7 | 600 | －6．9 | 20.0 | 87 | －8 | 67 | －11 | 560 | －6．4 |
| 17.5 | が | 0 | 75 | 5 | 680 | －7．2 | 27.5 | 80 | －7 | 64 | $-11$ | 630 | －7．9 |
| 25.0 | 10 | 1 | 75 | 7 | 790 | －7．2 | 25.0 | no | －10 | 68 | －13 | 650 | －7．4 |
| 27.5 | 56 | － | 11 | －3 | 830 | －7．5 | 27.5 | 79 | －3 | 63 | －7 | 690 | －7．4 |
| 3， 6 | 55 | －4 | 68 | 3 | 8 fo | －7．7 | 30.0 | 76 | －3 | 64 | －7 | 750 | －7．4 |
| 32.5 | 5 | －6 | 68 | －1 | ¢90 | －7．8 | 32.5 | 97） | 析 | 59 | $-3$ | 997 | －7．6 |
| 37.2 | 51 | 0 | 68 | 8 | 730 | －8．0 | 35.0 | 9．19 | 979 | 999 | 993 | 997 | 999.0 |
| 37．3 | 51 | －2 | 63 | －5 | 950 | －8．2 | 37.5 | 539 | 999 | 999 | 999 | 494 | 494.0 |
| 40.6 | 56 | ， | 75 | 9 | 960 | －7．9 | 40.0 | วา9 | 979 | 7า9 | 999 | 999 | 999.0 |
| 47.5 | 51 | 2 | 65 | 9 | 1000 | －7．6 | 42.5 | 999 | 999 | 999 | 999 | 999 | 999.0 |
| $4 \%$ | 43 | －5 | 58 | 2 | 1020 | －7．7 | 45.0 | 979 | 979 | 979 | 999 | 999 | 999.0 |
| 47.5 | 46 | －3 | 60 | 3 | 1030 | －8．1 | 47.5 | 949 | 499 | 999 | 999 | 499 | 994.0 |
| 46．0 | 47 | －4 | so | ， | 1030 | －8．3 | 50.0 | 997 | 970 | 999 | 499 | 979 | 999.0 |



STORM
GEVEL


 GPI/ DIR/ URG, ANOTH/CTM/ANGLE/FYERAD/ PRFS/ACTUAL/REL/MAX WD/



| partus | var | var | vet | VRr | d-values | tads | radius | vat | var | yrt | vRr | d-values | tads | pantus | vat | VAR | VRT | VRR | o-values | IADJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9.0 | 61 | -1! | 55 | -9 | 999 | 19.2 | 5.0 | 34 | -9 | 37 | -1 | 939 | 20.4 | 5.0 | 44 | -6 | 40 | -7 | -2200 | 14.1 |
| 7.9 |  | $-3$ | 8.7 | $-3$ | -1900 | 18.7 | 7.5 | 73 | -2 | 72 | 8 | -2120 | 14.2 | 7.5 | 34 | 0 | 77 | 0 | -2010 | 19.6 |
| 15.0 | $1: 2$ | 1 l | 100 | 5 | -1660 | 17.5 | 10.0 | 36. | $-9$ | 104 | -5 | -1830 | 17.6 | 10.0 | 94 | 1 | 90 | -2 | -1720 | 17.4 |
| 17.5 | 105 | $-9$ | 95 | -9 | -1510 | 16.0 | 17.5 | 85 | -11 | 93 | -n. | -1530 | 16.6 | 12.5 | 90 | 7 | 83 | 3 | -1470 | 16.7 |
| 15.0 | 25 95 | -1 | 86 | -3 | -1780 | 15.8 | 15.0 | 72 | -5 | ${ }_{7} 8$ | -2 | -1380 | 16.4 | 15.0 | 92 | 5 | 73 | 1 | -1310 | 16.5 |
| 17.5 | 85 | -5 | 77 | -6 | -1290 | 16.6 | 17.5 | 66 | -3 | 78 | 1 | -1260 | 16.0 | 17.5 | 71 | 6 | 66 | 1 | -1210 | 17.0 |
| 20.5 | \%\% | -3 | 75 | -5 -3 | -1200 -1120 -180 | 16.9 16.6 | 20.0 22.5 | 64 63 | 2 | 75 | 6 | -1160 | 16.6 | 20.0 | 72 | 8 | 64 | 3 | -1130 | 17.0 |
| is.c | 91 | ! | 80 | -1 | -1060 | 10.5 | 25.0 | 63 59 | $\stackrel{2}{4}$ | 71 | 8 | -1070 | 16.0 | 22.5 | 72 | ${ }^{6}$ | 65 | 1 | -1080 | 16.3 |
| 27.5 | 93 | i | 74 | -1 | -9\% | 16.4 | 27.5 | 60 | 0 | 71 | 2 | -9¢0 | 16.0 | 27.5 | 71 | 3 | 6 | -3 | -1040 | 15.7 |
| 20.0 | 94 | -i | 80 | -3 | -920 | 16.0 | 3 c .0 | 64 | -1 | 76 | 0 | - 810 | 1 O .1 | 30.0 | 91 | 6 | 72 | 1 | -9150 | 16.0 16.3 |
| 32.5 | 75 | 1 | 92 | 0 | -880 | 16.2 | 32.5 | 70 | -3 | 81 | -2 | -800 | 15.9 | 37.5 | 78 | 9 | 75 | 3 | -890 | 16.1 |
| 35.0 | 93 | -1 | 84 | 0 | -820 | 16.0 | 35.0 | 72 | -? | 81 | 2 | -760 | 15.3 | 35.0 | 97 | 11 | 77 | 5 | -790 | 15.9 |
| 37.5 | 3 | 5 | 85 | 1 | -790 | 15.6 | 37.5 | 70 | 4 | 82 | 5 | -690 | 15.2 | 37.5 | 83 | 15 | 999 | 10 | 9 99 | 15.6 |
| 41.0 | 2 | 4 | 85 | 2 | -730 | 15.3 | 40.0 | 73 | -5 | 85 | -4 | -6,30 | 14.3 | 40.0 | ควา | 999 | 979 | 799 | 979 | 999.0 |
| 42.5 | 1.3 | 6 | 83 | 4 | -7c0 | 15.4 | 42.5 | 75 | -6 | 83 | -4 | -610 | 14.8 | 42.5 | 399 | 999 | 999 | 49.9 | 999 | 999.0 |
| 45.0 | 3. | 10 | 83 | 7 | -6,50 | 15.6 | 45.0 | 60 | -6 | 8 c | -4 | -560 | 14.7 | 45.0 | $99 \%$ | 997 | 979 | 939 | 999 | 999.0 |
| 47.3 | 33 | 15 | 34 | 12 | -570 | 15.4 | 47.5 | 68 | -3 | 79 | -3 | -430 | 14.2 | 47.5 | 999 | 490 | 999 | 999 | 999 | 999.0 |
| b10.6 | n) | 0 | 9.5 | -? | -540 | 15.2 | 50.0 | 71 | -10 | \% 2 | -9 | -4.0.0 | 13.8 | 50.0 | 979 | 999 | 399 | 999 | 999 | 979.0 |



| 9.0 | 60 |
| :---: | :---: |
| ?.1) | ! |
| 1.0 | 99 |
| 12.5 | 77 |
| 15.0 | 73 |
| 17.9 | is |
| 20.0 | 63 |
| 2?.5 | ${ }_{6}$ |
| $\because$ | 72 |
| 27.5 | 76 |
| ?. ${ }^{1}$ | 74 |
| 32.5 | 74 |
| 35.0 | 74 |
| 37.5 | 76 |
| 47.0 | 75 |
| 4.5 | 77 |
| $45 . ?$ | 79 |
| 47.5 | 77 |




STORM 9
LEUEL 4


$$
\begin{aligned}
& \text { IESTHER / } 610917 \text { / } 6400 / 811 / 1648-1712 / 1124 / 65 / 2021
\end{aligned}
$$

| radius | vat | var | VRT | vRr | d-values | 1anJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 29 | -6 | 45 | -11 | -2240 | 19.8 |
| 7.5 | 73 | ค | 73 | 0 | -2110 | 18.8 |
| 10.0 | 38 | 18 | 92 | 9 | -1830 | 17.8 |
| 12.5 | 92 | 14 | 85 | 5 | -1570 | 17.4 |
| 15.0 | 75 | 11 | 77 | 2 | -1400 | 17.3 |
| 17.5 | 73 | 12 | 72 | 3 | -1300 | 18.0 |
| 20.0 | 66 | 15 | 67 | 5 | -1230 | 17.2 |
| 22.5 | 62 | 10 | 66 | 1 | -1140 | 16.2 |
| 25.0 | 67 | 7 | 70 | 3 | -1070 | 16.7 |
| 27.5 | 78 | я | 78 | 2 | -1010 | $16 . \mathrm{h}$ |
| 31.17 | 90 | 10 | 78 | 0 | -930 | 16.? |
| 32.5 | 77 | 6 | 76 | -3 | -890 | 15.9 |
| 35.0 | 74 | 4 | 74 | -5 | -780 | 16.4 |
| 37.5 | 71 | 4 | 72 | -6 | -740 | 16.9 |
| 40.0 | 65 | 3 | 69 | -7 | -7c0 | 16.8 |
| 42.5 | 68 | 2 | 67 | -7 | -6,70 | 16.4 |
| 45.0 | 65 | 2 | 65 | -8 | -620 | 15.8 |
| 47.5 | 66 | 5 | 65 | -5 | -590 | 15.3 |
| 50.0 | 61 | 10 | 64 | 0 | -570 | 15.3 |




| panius | urismocthfo meighten vortex averages |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | vat | var | vri | vrr | d-values | tanj | vatz |
| 5.6 | $3{ }^{3}$ | -6 | 44 | -5 | -2215 | 19.6 | 1572 |
| 7.9 | 79 | 2 | 74 |  | -2065 | 18.9 | 6192 |
| 10.0 | 93 | 9 | 95 | 6 | -1810 | 17.3 | 9704 |
| 12.9 | 92 | 7 | 99 | 3 | -1575 | 17.0 | 8564 |
| 15.0 | $8{ }^{\circ}$ | 7 | 81 | 2 | -1420 | 17.3 | 7517 |
| 1 \% ${ }^{\text {a }}$ | 80 | 11 | 76 | 2 | -1315 | 17.7 | 6536 |
| $2 \cdot .6$ | 76 | 7 | 77 | 1 | -1225 | 17.3 | 5876 |
| 22.5 | 74 | 5 | 72 | 0 | -1135 | 16.5 | 5706 |
| 27.0 | 80 | 5 | 76 | 2 | -1060 | 16.3 | 6662 |
| 27.6 | 34 | 6 | 80 | 2 | -1005 | 16.3 | 7092 |
| 30.0 | 86 |  | 91 | 0 | -925 | 16.0 | 1432 |
| 37.5 | $8 \cdot 9$ | 7 | P? | 2 | -870 | 15.8 | 9166 |
| 35.0 | 84 | 8 | 80 | 3 | -795 | 15.8 | 1250 |
| 37.5 | $\mathrm{R}_{1}$ | 3 | 78 | 3 | -740 | 16.0 | 6752 |
| 40.19 | 83 | 14 | 80 | 9 | -700 | 16.0 | 7213 |
| 42.5 | 84 |  | 19 | 3 | -660 | 15.5 | 7312 |
| 43.0 | 82 | 7 | 17 | 1 | -610 | 14.9 | 7013 |
| 47.3 | 91 | ${ }^{8}$ | 76 | 3 | -575 | 14.8 | 6882 |
| 50.0 | 74 | 11 | 73 | 5 | -545 | 15.0 | 5645 |

smcotmen vortex averages


STORM 9

5




| 4:0us | vit | var | VRT | vrr | n-values | tad |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 20 | -5 | 27 | 1 | -2390 | 999.0 |
| 7.5 | ? 1 | -? | 73 | 3 | -2100 | 19.2 |
| :1.0 | '5 | -21 | 102 | -17 | -1960 | 18.0 |
| 12.5 | 85 | $-75$ | 99 | - 32 | -1840 | 17.2 |
| 1\%.9 | 7 | -20 | 90 | -17 | -1570 | 16.6 |
| 17.5 | 71 | -17 | 94 | -14 | -1430 | 17.1 |
| 20.0 | 69 | -15. | 19 | -17 ? | -1360 | 17.3 |
| 22.5 | (1) | -15 | 80 | -12 | -1210 | 16.9 |
| 2:00 | 72 | -16 | 82 | $-13$ | -1219 | 16.6 |
| 27.5 | 75 | -15 | 92 | -11 | -1150 | 16.6 |
| 3 SO | 7 | -15 | 85 | -12 | -1080 | 16.6 |
| 32.5 | $?$ | $-19$ | 09 | $-16$ | -990 | 16.2 |
| 35.0 | 7 | -27 | 89 | -20 | -710 | 15.3 |
| 37.5 | 74 | -19 | 85 | -15 | -920 | 15.8 |
| 40.0 | 70 | -17 | 82 | -1/2 | -380 | 15.7 |
| 42.5 | 72 | -15 | 81 | -12 | -850 | 15.4 |
|  | 74 | -15 | 85 | -11 | -770 | 15.0 |
| 47.5 | 76 | -16 | 86 | -12 | -740 | 14.5 |
| 20.0 | . 74 | -15 | 85 | -12 | -700 | 14.2 |


| radius | vai | vis | vet | ver | n-values | tanj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 45 | 0 | 42 | -6. | -2:300 | 19.4 |
| 7.5 | 90 | 4 | 79 | -3. | -2130 | 17.9 |
| 10.0 | 103 | 7 | 194 | $\frac{1}{1}$ | -1800 | 17.9 |
| 12.5 | ค9 | 9 | 95 | 2 | -1500 | 16.9 |
| 15.0 | 87 | 11 | 78 | 4 | -1410 | 16.5 |
| 17.5 | 81 | 15 | 73 | $\stackrel{8}{9}$ | -1340 | 16.7 |
| 20.0 | 72 | 12 | 70 | 5 | -1290 | 16.2 |
| 22.5 | 75 | 14 | 73 | 7 | -1230 | 16.3 |
| 25.0 | 89 | 17 | 83 | 5 | -1150 | 15.0 |
| 27.5 | 93 | 19 | 87 | 12 | -1090 | 15.3 |
| 30.0 | ${ }^{39}$ | 19 | 83 | 13 | -1090 | 15.? |
| 32.5 | 86 | 19 | 82. | 13 | -950 | 15.6 |
| 35.0 | 88 | 16 | ${ }^{\text {R1 }}$ | 9 | -1900 | 16.0 |
| 37.5 | 85 | 14 | 78 | 7 | - P 40 | 17.8 |
| 40.6 | ${ }^{\text {ct }}$ | 16 | 76 | 9 | -790 | 17.0 |
| 42.5 | ${ }^{80}$ | 18 | 75 | 12 | -730 | 16.5 |
| 45.0 | 78 | 15 | 72 | 9 | -690 | 15.8 |
| 47.5 | 76. | 15 | 71 | 8 | -660 | 15.3 |
| 50.0 | $75^{\circ}$ | 18 | 76 | 12 | -590 | 15.0 |




| 2.n) ${ }^{\text {a }}$ | vat | var | vrt | vRr | o-values | tadj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 36 | -2 | 46 | -i2 | -2240 | 17.6 |
| 7.5 | 33 | 3 | 84 | -6 | -2090 | 19.4 |
| 10.0 | 109 | is | 101 | 6 | -1840 | 18.2 |
| 12.5 | 16 | 1 | 93 | 4 | -1630 | 17.0 |
| 15.0 | 94 | 11 | 83 | 2 | -1440 | 16.8 |
| 11.5 | 20 | 11 | 74 | 2 | -1350 | 16.4 |
| 20.0 | $\stackrel{9}{9}$ | 15 | 72 | 6 | -1260 | 17.3 |
| 22.5 | 79 | $1 /$ | 70 | 6 | -1170 | 16.6 |
| 23.0 | 91 | 15 | 76 | 6 | -1100 | 16.4 |
| $\cdots \cdot .5$ | $\bigcirc$ | $2 \cdot$ | 92 | 16 | -1030 | 16.1 |
| いい | 97 | 3 n | 85 | 22 | -2020 | 15.3 |
| 32.5 | 8 ? | 24 | 83 | 16 | -870 | 15.5 |
| 35.0 | $8!$ | $22-$ | 78 | 14 | -830 | 15.4 |
| 37.5 | in | 20 | 14 | 12 | -770 | 15.4 |
| $4 \mathrm{n} . \mathrm{i}$ | 75 | 21 | 73 | 15 | -730 | 15.3 |
| 4.25 | 77 | 29 | 73 | 21 | -710 | 15.3 |
| 43.0 | 72 | 31 | 74 | 23 | -670 | 15.2 |
| 47.3 | 32 | 37 | 79 | 29 | -610 | 15.1 |
| $5 \mathrm{n} . \mathrm{c}$ | 94 | 31 | 81 | 23 | -560 | 15.1 |


 level 1




STORM TRUE OCTANT AZMTH TN RDH CEMT MAX WINDS RADTUS GPI/ חIR / HDG /NOTH/STM/ANGLE/EYERAD/ DPES/ACTUAL/REL /MAX WD/




swogtheo vortex averages

| rashis | vat | var | vrt | vre | d-values | tadj | vat? |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5 . \%$ | 3 | -3 | 12 | -1 | -660 | 7.6 | 97 |
| 7.9 | 3 | -1 | 7 | -1 | -610 | 7.4 | 111 |
| 10.0 | 9 | -3 | 7 | -1 | -599 | 7.5 | 126 |
| 12.5 | 13 | -2 | 12 | -0 | -600 | 7.6 | 237 |
| 15.0 | 15 | -1 | 15 | 0 | -599 | 7.6 | 329 |
| $17 \cdot 3$ | 18 | -3 | 17 | -0 | -590 | 7.3 | 433 |
| 2 co | 21 | -4 | 20 | -2 | -585 | 5.3 | 586 |
| 22.5 | 27 | -7 | 25 | -4 | -5.54 | 5.1 | 837 |
| $2 \%$ | 32 | -7 | 30 | -4 | -529 | 4.7 | 1110 |
| 27.5 | 36 | -7 | 35 | -4 | -505 | 4.0 | 1368 |
| $3 \mathrm{c} . \mathrm{c}$ | 39 | -6 | 40 | -3 | -478 | 3.7 | 1610 |
| 32.5 | 45 | -6 | 45 | -3 | -450 | 3.6 | 2257 |
| $35.0{ }^{-}$ | 50 | -6 | 56 | -3 | -42? | 3.4 | 3319 |
| 37.5 | 60 | -10 | 59 | -7 | -397 | 3.1 | 3922 |
| -c.e | 62 | -13 | 61 | -10 | -352 | 2.8 | 4088 |
| 42.5 | ${ }^{3}$ | -i5 | 62 | -:2 | -327 | 2.4 | 4216 |
| 45.0 | 62 | -14 | 62 | -11 | -304 | 1.9 | 4121 |
| 47.5 | 60 | -12 | 61 | $-10$ | -276 | 1.6 | 3865 |
| $5 \mathrm{C}, \mathrm{\%}$ | 60 | -11 | 60 | -9 | -258 | 1.5 | 3746 |

# PRES AIT <br> TtME <br> IN <br> STOPM / DATF, /FFFT, Ma., TATFDVAL /OUT/LAT/LONG! TD, / STORM I STORM TRUE OCTANT ATMTH TN PNR CENT MAX WYNDS RADTUS LEVEL 1 <br> LEVEL 1 

 SPD/ DIR/ HOG/NOTH/STM/ANGLE/EYERAO/ PRES/ACTUAL/REL /MAX WD/---


| atrius | vat | vas | VRt | vRR | d-values | tadj | madius | V.AT | var | VRT | vrr | 1)-values | TADJ | ranius | vat | VAR | VRT | VRR | d-values | tanj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9.9 | 15 | 310 | 19 | 9 999 | -910 | 18.2 | 5.0 | 999 | 997 | 999 | 999 | 999 | 16.4 | 5.0 | 25 | 999 | 20 | 999 | -860 | 17.4 |
| 7.5 | 77 | 479 | 31 | 999 | -890 | 17.9 | 7.5 | 999 | 949 | 999 | 999 | 999 | 1 N .4 | 7.5 | 30 | 999 | 25 | 999 | -820 | 17.1 |
| 15.0 | 44 | 999 | 48 | 999 | -820 | 16.9 | 10.0 | 994 | 10 | 999 | 999 | -640 | 16.1 | 10.0 | 46 | 999 | 41 | 999 | -720 | 16.8 |
| 12.5 15.0 | 59 67 | 799 799 | 62 71 | 999 997 | -740 -600 | 16.4 15.5 | 12.5 | 990 | 7 | 999 | 999 | -650 | 15.1 | 12.5 | $5{ }_{5} 5$ | 999 | 49 | 997 | -660 | 16.4 |
| 17.5 | 77 | ¢ 79 | 76 | ด9า | -660 $-5 \% 0$ | 16.5 14.9 | 15.0 17.5 | 65 65 | -6 | 73 73 | 499 997 | -630 -600 | 14.9 14.9 | 15.0 | 57 | 997 | 52 | 999 | -590 | 16.3 |
| 25.0 | 72 | 939 | 76 | 999 | -5.50 | 14.7 | 20.0 | 72 | 3 | 30 | 997 | -550 | 14.4 | 17.5 20.0 | 61 56 | 979 | $5{ }^{56}$ | 999 999 | -510 -450 | 15.3 15.1 |
| 22.5 | 71 | วา | 75 | 997 | -460 | 14.6 | 22.5 | 71 | -11 | 79 | 999 | -490 | 14.4 | 22.5 | 55 | 979 | 50 | 997 | -390 | 14.3 |
| 23.7 | 03 | 970 | 72 | 997 | -410 | 14.2 | 25.0 | 70 | $-13$ | 78 | 999 | -450 | 14.5 | 25.0 | 54 | 909 | 49 | 999 | -330 | 14.2 |
| 21.5 | \$5 | 717 | 70 | 999 | -350 | 14.0 | 27.5 | 70 | -18 | 78 | 999 | -3n0 | 14.8 | 27.5 | 54 | 999 | 49 | 999 | -290 | 14.1 |
| 30.0 | 55 | +99\% | 69 | 999 | - 310 | 13.5 | 30.0 | 70 | -9 -5 | 78 | 999 | -350 | 14.9 | 30.0 | 54 | 999 999 | 49 | 799 | -250 | 13.8 |
| 32.5 | ns | 129\% | 70 | 993 | $-280$ | 13.4 | 32.5 | 70 | -5 | 78 | 979 | - 310 | 14.5 | 32.5 | 52 | 999 | 4 | 999 | -220 | 13.2 |
| 35.0 37.5 | 64 | 4978 | 68 66 | 994 499 | -240 -220 | 13.1 13.0 | 35.0 37.5 | 70 69 | -2 | 78 | 949 | - 280 | 14.0 | 35.0 | 53 | 997 | 48 | 997 | -2c0 | 12.7 |
| 40.0 | 80 |  | 64 | 999 | -220 | 12.6 | 37.5 40.0 | 69 | - -1 | 77 | 9997 | -250 -220 | 13.6 13.4 | 37.5 40.0 | 54 56 56 | 999 999 | 49 51 | 999 999 | -180 -150 | 12.5 |
| 42.5 | 5.3 | คา | +2. | 9คง | -170 | 12.6 | 42.5 | 63 | -3 | 76 | 999 | -190 | 13.0 | 42.5 | 57 | 999 | 52 | 999 | -140 | 13.1 |
| 45.9 | 55 | 774 | 59 | 999 | -140 | 12.7 | 45.0 | 66 | 1 | 74 | 949 | -170 | 13.0 | 45.0 | 57 | 979 | 52 | 999 | -130 | 12.8 |
| 47.5 50.0 | 53 51 | 799 | 57 58 | 999 999 | -110 -90 | 12.9 | 47.5 50.0 | 64 | ? | 72 60 | 979 | -140 -130 | 12.8 | 47.5 | 55 | 979 | 50 | 999 | -130 | 12.8 |
|  |  |  |  |  | -90 | 13.1 | 50.0 | 61 | 6 | 69 | 997 | -130 | 13.1 | 50.0 | 52 | 999 | 47 |  | -120 | 12.6 |

/REULAH/630923/E40 / 811/2030-2045/0/21/59/421//8EULAH/630923/6400/811/2105-2130/0/21/59/423/


| ratios | var | var | VRT | VRR | n-values | inoj | ranius | vat | var | VRT | var | d-values | tadj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 17 | 799 | 21 | 99.4 | -9co | 17.4 | 5.0 | 16 | 999 | 9 | 949 | -910 | 19.4 |
| 7.5 | ? ${ }^{\text {a }}$ | 497 | 33 | 9.99 | -880 | 17.1 | 7.5 | 26 | 98 | 19 | 499 | -880 | 17.5 |
| 10.0 | 42 | 970 | 46 | 9 9 | -870 | 16.8 | 10.0 | 17 | 499 | 30 | 999 | -8.40 | 19.6 |
| 17.5 | 63 | จวา | 67 | 997 | -8co | 16.4 | 12.5 | 43 | 999 | 36 | 199 | -74n | 19.6 |
| : 1.0 | 71 | 4.7 | 75 | 999 | -740 | 16.3 | 15.0 | 47 | 499 | 40 | 993 | -670 | 13.9 |
| 1\% | 8.2 | 190 | 86 | 909 | -h20 | 15.3 | 17.5 | 58 | 397 | 51 | 499 | -570 | 14.2 |
| 23.6 | 90 | 797 | 94 | 959 | -540 | 15.1 | 20.0 | 59 | 73 | 52 | 993 | -490 | 17.5 |
| $\therefore 2.5$ | 75 | 4.7 | 82 | 999 | -470 | 14.3 | 22.5 | 57 | 999 | 50 | 499 | -440 | 16.5 |
| 25.0 | 73 | 494 | 82 | 949 | $-410$ | 14.2 | 25.0 | 54 | 999 | 47 | 99 | $-410$ | 15.9 |
| 27.5 | 76 | 2x | no | 499 | -370 | 14.1 | 27.5 | 52 | 999 | 45 | 949 | -370 | 15.1 |
| 31.0 | ${ }^{1 / 4}$ | บฯง | 13 | 499 | -320 | 13.9 | 30.0 | 51 | 979 | 44 | 397 | -340 | 14.7 |
| 32.5 | 71 | 479 | 75 | 999 | -280 | 13.2 | 32.5 | 48 | 999 | 41 | 999 | -300 | 14.4 |
| 3 Tr 0 | 76 | +37 | 74 | 999 | -240 | 12.7 | 35.0 | 47 | 97 | 40 | 999 | -270 | 14.2 |
| 3.5 | 68 | - | 72 | 999 | -210 | 12.5 | 37.5 | 40 | 999 | 39 | 994 | -230 | 14.0 |
| 41.0 | so | 379 | 70 | 990 | -170 | 12.8 | 40.0 | 44 | 990 | 37 | 497 | -210 | 13.9 |
| 42.5 | 6.3 | 99.9 | 67 | 999 | -180 | 13.1 | 42.5 | 999. | 999 | 990 | 997 | -190 | 11.7 |
| 45.0 | 6 9? | 499 | 66 | 999 | -170 | 12.8 | 45.0 | 999 | 999 | 999 | 999 | -170 | 13.6 |
| 47.5 | 0 | 9:97 | 67 | 999 | -140 | 12.9 | 47.5 | 999 | ч99 | 999 | 999 | -150 | 13.8 |
| 50.0 | 6.4 | 999 | 68 | 999 | -120 | 12.6 | 50.0 | 999 | 999 | 999 | 999 | -140 | 14.0 |


| stcre | pate | てLV | PvL |  |  | 1-0 | lat | เovg | ${ }_{\text {Stor }}^{\text {Stor }}$ | SPo | ${ }^{1} 1$ | on | astm | ARL | 10 | ROR FYE |  |  | ${ }_{R} N_{N}$ | vRTx |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| biclar | 620923 | 8400 | ${ }_{11}$ | 2045 |  | ! | 21 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 630923 630292 | +4500 | R:1 | $\xrightarrow{2030} 1920$ | 2045 | - | 21 | 5 | 340 |  | 35 | NE | ${ }_{2}^{2}$ | 35 | 421 | 14309 1300 | ${ }_{962}^{967}$ | 872 | 17.5 | 76 84 |
| bevint | 630929 |  | я11 | 2105 | 2130 |  | 21 |  |  |  | 250 | ¢ | + | 100 |  |  | ${ }^{762}$ | 72 | 20.0 | ${ }^{20}$ |
| bellat | 63023 | 0.40 c | ヵ, | 2010 | 2030 | 1 | 21 | 59 | 340 | ${ }_{8}$ | 170 | W | i | 320 | ${ }_{424}^{42}$ | ${ }_{13}^{13}$ | 962 | ${ }_{61}^{59}$ | 20.0 | [520 |
|  |  |  |  | insmortheo weighten vortex averages |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | qastus |  | Vat | var |  | VRt | vRr | o-values |  |  | tad |  | vatr |  |  |  |  |  |  |
|  |  | ${ }_{7}^{5.7}$ |  | 17 | 979 979 989 |  | 15 | 999 |  | -897 |  |  | 17.8 |  | $3 ?$ |  |  |  |  |  |
|  |  | 10.0 |  | ${ }_{40}$ | 10 |  | - 38 | $\stackrel{999}{999}$ |  | -758-704 |  |  |  |  |  |  |  |  |  |  |
|  |  | 12.5 |  | St | \% |  | 50 | 999 |  |  |  |  | 17.3 | ${ }_{28}^{189}$ | 90 |  |  |  |  |  |
|  |  | 15.0 |  | ${ }_{5}^{58}$ | -6 |  | 58 | 999 |  | -704-649-649 |  |  | 16.5 | 35 |  |  |  |  |  |  |
|  |  | 17.5 |  | 54 | -4 |  | 64 | 999 | -54,-514-510 |  |  |  | 16.0 | 422 |  |  |  |  |  |  |
|  |  | $\stackrel{2 r .0}{2}$ |  | 65 | - ${ }^{3}$ |  | \% | 979 |  |  |  | -510 <br> -450 <br> -450 |  |  |  | 15.6 | 4.42 |  |  |  |  |  |  |
|  |  | 237.3 |  | ${ }^{64}$ | -11 -13 |  |  | 797 998 |  |  |  |  |  |  |  | 15.0 | 422 |  |  |  |  |  |  |
|  |  | 27.5 |  | ${ }_{61}^{68}$ |  |  | 62 61 68 | ${ }_{999} 99$ | -406 <br> -758 |  |  |  | 14.8 14.6 | ${ }_{4}^{40}$ |  |  |  |  |  |  |
|  |  | xaso |  | 61 | $-9$ |  | 61 | 999 | - 358 <br> -320 |  |  |  | 14.3 | 381 |  |  |  |  |  |  |
|  |  | 38 |  | $\stackrel{59}{59}$ | -5 -2 |  | $\stackrel{51}{59}$ | $\xrightarrow{999}$ | -320-283-253 |  |  |  | 14.0 | ${ }^{366}$ |  |  |  |  |  |  |
|  |  | $3 \cdot 5$ |  |  | -9 |  |  | 999 | -253-223 |  |  |  | ${ }_{13.3}$ | 346 |  |  |  |  |  |  |
|  |  | 4.0 |  | 57 | $-4$ |  | 57 | 979 | -223-197 |  |  |  | 13.3 | 342 |  |  |  |  |  |  |
|  |  | 42.5 4.0 |  | 62 60 | -3 |  | 64 68 6 | 999 | -177-159 |  |  |  | 13.2 | 3872 |  |  |  |  |  |  |
|  |  | 457.5 |  | ${ }_{59}$ | 1 |  |  | ¢99 |  |  |  |  | $\xrightarrow{13.1}$ | 3725 <br> 352 <br> 20 |  |  |  |  |  |  |
|  |  | ¢.. |  | 56 | 6 |  | 58 | 999 | -138-125 |  |  |  | 13.2 | 324 |  |  |  |  |  |  |

 level 2

/4FULAH/630924/6400/811/1700-1720/1/24/59/450//BEULAH/630824/6400/811/1345-1408/0/24/59/445/



|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| aatius | vat | var | ver | Vre | D-values | TADJ | rablus | vat | VAR | vR ${ }^{\text {r }}$ | VRr | o-values | tadJ | radius | vat | var | VRt | VRR | d-values | TADJ |
| 5.0 | 15 | 16 | 4 | 18 | -970 | 18.2 | 5.0 |  |  | 34 | 9 | -990 | 20.1 | 5.0 | 18 | -3 |  |  |  |  |
| 7.5 | 27 | $: 5$ | 21 | 16 | -910 | 18.0 | 7.5 | 45 | 10 | 50 | 14 | -1000 | 20.1 | 7:5 | 31 | -3 5 | 37 | 9 | -480 -950 | 21.4 |
| 10.3 12.5 | 3, 3 | $\begin{array}{r}13 \\ 8 \\ \hline\end{array}$ | 39 | 14 | -950 | 17.6 | 10.0 | 48 | -5 | 48 | -1 | - -980 | 14.9 | 10.0 | 49 | 7 | 56 | 11 | -970 | 24.8 |
| $\begin{aligned} & 12.5 \\ & 15.0 \end{aligned}$ | 8 | 8 | 46 51 | 8 | -960 -340 | 16.1 | 12.5 | 49 | -3 | 40 | 3 | -840 | 19.5 | 12.5 | 58 | 9 | 65 | 13 | -900 | 23.7 |
| 17.5 | 73 | 1 | 85 | 1 | -340 -770 | 16.7 16.5 | 15.0 17.5 | 55 | -19 -8 | 54 | -5 | - 760 | 18.8 | 25.0 | 62 | 4 | 67 | 7 | -830 | 22.4 |
| 20.0 | P4 | 7 | 81 | 10 | -710 | 16.0 | 20.0 | 74. | -88 | 73 | -2 -4 | -700 -640 | 10.2 17.6 | 17.5 20.0 | 64 70 | 10 -2 | 68 | 13 | -760 | 21.4 |
| 22.5 | 91 |  | 87 | 7 | -640 | 15.4 | 22.5 | 72 | $-8$ | 73 | -2 | -520 | 17.3 | 22.5 | 70 | -2 | 76 76 | - 1 | -710 -630 | 20.6 |
| 25.0 | 91 | 4 | 87 | 5 | -550 | 14.9 | 25.0 | 73 | -8 | 72 | -3 | -510 | 17.2 | 25.0 | 68 | $-9$ | 76 69 | -3 | -630 -550 | 19.4 |
| 27.5 310.0 | 98 | $-6$ | 91 | -6 | -4\%0 | 14.3 | 27.5 | 72 | -13 | 70 | -9 | -4,90 | 16.6 | 27.5 | 65 | -10 | 66 | -9 | -490 | 18.5 17.8 |
| 32.5 |  | -10 | 82 | -7 -9 | -440 -390 | 14.2 14.3 | 30.0 32.5 | 67 68 | -24 -19 | 67 64 | -19 -14 | -440 -390 | 17.0 17.2 | 30.0 32.5 | 62 60 | -11 | 66 | -8 | -450 | 17.8 |
| 15.0 | 94 | -9 | 83 | -7 | -250 | 14.3 | 35.0 | 9n9 | 999 | 999 | 999 | $\bigcirc 99$ |  | 32.5 35.0 | 60 58 | -10 | 63 59 | -8 | -400 | 17.0 |
| 37.5 | $?$ | $-3$ | 75 | -3 | -230 | 14.3 | 37.5 | ¢99 | 999 | 999 | 999 | 999 | 999.0 | 35.0 37.5 | 58 55 5 | -9 | 59 60 | -7 -3 | -350 -320 | 16.4 |
| 40.6 | $7{ }^{7}$ | -7 | 73 | -6 | -290 | 14.1 | 47.0 | 499 | 479 | 999 | 999 | 929 | 999.0 | 40.0 | 50 | -4 | 55 | -7 -2 | -290 | 15.9 <br> 15.3 <br> 1.9 |
| 42.5 4.0 | 76 | -24 -20 -20 | 70 | -23 -18 | -260 | 13.7 | 42.5 | 999 | 999 | 999 | 999 | 999 | 999.0 | 42.5 | 47 | -5 | 48 | -3 | -250 | 15.3 14.8 |
| 47.5 | 73 | $-10$ | 6\% | -18 | -220 -180 | 13.4 13.3 | 45.0 47.5 | 997 999 | 799 | 997 999 | 999 999 | 999 | 999.0 | 45.0 | 979 909 | 999 | 979 | 999 | 979 | 597.0 |
| 57.6 | $7 ?$ | $-13$ | A3 | -16 | -150 | 13.4 | 50.0 | 979 | 979 | 999 | 999 | 999 | 999.0 | 50.0 | 999 | 1999 | 999 | 999 | 999 999 | 999.0 499.0 |




| parius | vat | var | VRT | ver | d-values | tadj | radius | vat | vas | VRT | VRR | D-values | tans | rautus | vat | va | VRT | VRR | d-values | TAOJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 13 | 3 | 8 | 4 | -1000 | 18.8 | 5.0 | 39 | 23 | 35 | 30 | -960 | 19.5 | 5.0 | 6 | -10 | 2 | -11 |  |  |
| 7.5 | 19 | 9 | 13 | 3 | -1030 | 17.2 | 7.5 | 4.7 | 26 | 42 | 31 | -9co | 19.5 | 7.5 | 11 | -6 | 12 | $-11$ | -1070 -1050 | 18.4 |
| 13.0 | 32 | 7 | 27 | 7 | -1020 | 17.8 | 10.0 | 5 | 11 | 42 | 15 | -960 | 19.5 | 10.0 | 19 | -6 | 12 24 | -7 | -1050 -1010 | 12.3 |
| $\cdots$ | 47 | -3 -5 | 42 56 | -4 | -980 -880 | 17.8 | 12.5 | ${ }_{5} 5$ | 1 | 54 | 6 | -720 | 20.3 | 12.5 | 2.9 | -10 | 24 3 | -11 | - -970 | 17.5 |
| 11.5 | 75 | 4 | 71 | ? | $-780$ | 17.2 | 15.0 | 58 | -4 | 62 69 | 8 | -640 | 2 c .5 | 15.0 | 45 | -6 | 47 | -7 | -950 | 19.6 |
| 20.0 | 33 | 3 | 83 | 2 | -720 | 16.4 | 20.0 | 62 | -17 | 63 | $-12$ | -550 $-5 c 0$ | 17.9 | 17.5 20.0 | 72 | 1 | 74 | ? | -920 | 19.3 |
| 22.5 | 91 |  | 86 | 0 | -660 | 16.1 | 22.5 | 62 | -16 | 65 | $-11$ | - 450 | 16.9 | 22.5 | 12 | -3 | 77 | -4 | -870 | 17.8 15.9 |
| 37.5 | ${ }_{72}$ | -8 | 89 89 | -68 | -590 -490 | 15.4 15.2 | 25.0 | 61 | -17 | 60 | -15 | -400 | 15.9 | 25.0 | 71 | a | 78 | 4 | -660 | 15.4 |
| 32.0 | 0.9 | -3 | $8 \%$ | -5 | -450 | 14.8 | 27.5 30.0 | 60 59 5 | -20 -18 | 58 60 | -16 -14 | -310 -340 | 15.0 | 27.5 30.0 | ${ }_{6} 6$ | 11 | 75 | 9 | -560 | 15.1 |
| 32.5 35.0 37.5 | 3 87 | -6 | 87 | -3 | -390 | 14.7 | 32.5 | 59 | -18 | 57 | -14 -16 | -340 -300 | 15.6 16.3 | 332.5 | 62 60 | 110 | 66 84 | 10 | -470 -420 | 14.9 14.6 |
| 35.0 37.5 | 37 8.4 | -8 | 97 79 | -10 | -330 | 14.4 | 35.0 | 52 | $\cdots$ | 5 | -i3 | -290 | 10.0́ | 35.0 | 60 | 10 | 05 | 10 | - 310 | 14.4 |
| 4 C .0 | PO | -8, | 76 | -10 | -210 | 14.3 | 37.5 | 51 | -31 | 50 | $-18$ | -260 | 16.4 | 37.5 | 57 | 11 | 59 | 8 | -340 | 14.4 |
| 42.5 | 75 | -5 | 70 | -7 | -130 | 13.9 | 42.5 | 49 | -22 -21 | 47 | -18 | -740 -220 | 16.1 15.8 | 40.0 42.5 | 54 52 52 | 13 | 54 | 12 | -300 | 14.3 |
| 45.0 | 80 | -? | 75 | -4 | -1.90 | 13.4 | 45.0 | 46 | -19 | 45 | -16 | -200 | 15.5 | 45.0 | 52 | 17 | 5 | 16 | -260 | 14.1 14.0 |
| 47.5 50.0 | 95 98 | - ${ }^{\frac{1}{2}}$ | $\stackrel{8}{77}$ | -1 | -180 | 13.8 | 47.5 | 44 | -19 | 44 | $-15$ | -100 | 15.1 | 47.5 | 51 | 17 | 54 | 18 | -200 | 14.1 |
|  |  |  |  |  |  |  | 50.0 | 43 | -16 | 46 | -12 | -150 | 14.9 | 50.0 | 49 | 18 | 51 | 17 | -170 | 14.2 |



STORM 11
level


LEUEA 3



SOR TRUE OTTANT ATMTH TN POR PDES ACTUAL OFI MAX WD


LEVEL 3

THEMLAH / 630324 / 18280/320/1015-1040 i i i 24 ; 59 i 459

| kastus | vat | var | VRT | vRr | D-values | radj | radius | vat | var | VRT | yrr | d-valufs | iand | ratius | vat | var | VRT | vrr | d-values | tad |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | -7 |  | -2 | leo | 4.0 | 5.0 | ${ }^{8}$ | 999 | 999 | 999 | 90 | 999.0 | 5.0 | 11 | 16. | 5 | 16 | 50 | 4.5 |
| 4 | 5 | -6, | 52 | -4 | 190 | 4.7 | 7.5 | 11 | 949 | ${ }_{7}$ | 17 | $\begin{array}{r}120 \\ 170 \\ \hline\end{array}$ | 4.1 5.7 | 7.5 | 18 | 10 | 19 | 7 | 50 | 4.1 |
| 10.0 | 50 | 3 | 52 | 4 | 190 | 4.8 | 10.0 | 20 | ${ }_{-3}$ | $5{ }^{7}$ | -3 | 170 150 | 5.7 | 10.0 | 36 | $-3$ | 38 | -4 | 50 | 3.4 |
| 17.5 | 51 | -11 -12 | 52 35 | -7 | 270 300 | 3.8 2.0 | 15.0 | 38 | - 5 | 54 | 7 | 270 | 3.9 | 12.5 | 57 71 | -7 | 62 76 | -8 -9 | 70 | 2. 2.4 |
| 15.9 17.5 | 52 57 | -12 | 35 50 | - $\begin{array}{r}-8 \\ -24\end{array}$ | 300 320 | 2.0 .2 | 17.5 | 41 | 3 | 61 | 2 | 270 | 3.2 | 15.0 | 96 | -8 | 76 96 | -9 | 110 | 2.0. |
| 26.0 | ${ }_{56}$ | -33 | 56 | $-29$ | 350 | -. 3 | 27.0 | 41 | - ${ }_{-1}^{1}$ | 55 | -14 | 310 350 | 2.3 2.0 | 20.0 | 108 | ? | 109 | -6 | 150 | 6.4 |
| 22.5 | 55 | -25 | 54 | -23 | 480 | -. 5 | 22.5 25.0 | ${ }_{5}^{4} 4$ | -10 | 38 | -7 | 390 | 3.10 | 22.5 | 72 | ${ }_{6}^{8}$ | 86 | 9 | $\begin{array}{r}210 \\ 280 \\ \hline\end{array}$ | 3.6 |
| 25.0 | 55 45 | -25 | 57 <br> 4 <br> 18 | -23 -21 | 480 530 | --.8 | 27.0 27.5 | 81 | -17 | 47 | -13 | 340 | 2.0 | 27.5 | 70 | 10 | 70 | \% | 300 | 2.4 |
| 83 | 45 <br> 50 | -26 -30 | 16 51 51 | -25 -25 | 530 | -1.6 | 30.0 | 58 | -25 | 46 | -21 | 450 | $\stackrel{.}{ }$ | 30.0 | 67 | 10 | 74 | 0 | 320 | 1.4 |
| 32.5 | 53 | $-31$ | 55 | $-23$ | 550 | $-2.2$ | 32.5 35.0 | 54 | -28 -18 | 54 48 | -17 -14 | 48.8 520 | $\because$ | 32.5 | 65 | ${ }^{2}$ | 70 | 1 | 370 | -. 2 |
| 35.6 | 48 | -27 | 51 | -22 <br> -25 <br> -72 | 550 550 550 | -2.9 -3.3 | 37.5 | 45 | -10 | 41 | -6 | 570 | .4 | 35.0 37.5 | 62 60 | $\stackrel{4}{9}$ | 68 67 | 4 | 440 470 | -.8 -1.5 |
| 17.5 40.0 | 47 | -30 -27 | 4.4 | $\bigcirc$ | 550 | -3.4 | 40.0 | 40 | -17 | 41 | -13 | bco | -1 | 40.0 | 55 | 8 | 65 | 7 | 500 | -2.8 |
| 42.5 | 43 | -24 | 44 | -20 | 570 | -3.5 | 42.5 | 33 | -22 | 40 | -17 -15 | 690 | --.4 | 42.5 | 5 ? | 7 | 56 | 5 | 570 | -3.6 |
| 45.0 | 42 | -17 | 45 | -14 | 670 | -3.7 | 45.0 | 4 | -19 -24 | 37 4 | -15 -19 | ${ }_{6} 90$ | $-1.5$ | 45.0 | 52 | 11 | ${ }_{5}^{55}$ | 10 | 540 590 580 | -4.0 -4.2 |
| 47.5 | 43 | -14 | 43 39 | -15 -22 | 610 8.20 | -3.4 -3.0 | 47.5 50.0 | 42 4 4 | -23 | 40 | -16 | 620 | -2.0 | 47.5 50.0 | 52 52 | 10 | 58 | 4 | 590 570 | $-4.3$ |




| 7 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |


| Raidus | Y4T | y.is | vat | VRR | d-values | TAD J | ramius | vat | var | vR t | VRR | d-values | tanj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 12 | -7 | 15 | -4 | 250 | 3.6 | 5.0 | 1 | -10 | 7 | - | 160 | -1.0 |
| P. 5 | $3{ }^{3}$ | -1 | 35 | 1 | 310 | 3.4 | 7.5 | 11 | $-7$ | 17 | $-3$ | 180 210 | $-1.1$ |
| 10.e | ${ }^{7}$ | -10 | 46 | -9 | 320 | 3.4 | 10.0 | 10 4 4 | -4 | 54 | -8 | 210 | -1.1 |
| 12.5 | 32 | -6 | 58 | -6 | 310 | 4.0 | 12.5 | 49 | -3 | 73 | -1 | 290 | . ${ }^{\text {¢ }}$ |
| :5.3 | $3{ }^{3}$ | -1 | 6,5 73 | ${ }^{8}$ | 460 460 | 4.9 5.5 | 17.5 | 49 63 | 1 | 75 | 5 | 320 | 3.0 |
| 17.5 -2.0 | 4.4 | -6 | 54 | -5 | 570 | 6.3 | 20.0 | 60 | 3 | 64 | 5 | 350 | 10 |
| 22.5 | 50 | -13 | 49 | -11 | 660 | 5.3 | 22.9 | 57 | 17 | 83 | 24 | $\begin{array}{r}350 \\ 300 \\ \hline\end{array}$ | 3.7 3.0 |
| 25.0 | 51 | -5 | 52 | -14 | 670 | 5.3 | 25.0 27.5 | 50 40 | 11 | 44 | ${ }^{14}$ | 450 | 2.2 |
| 27.5 | ${ }^{4} 4$ | 6 | 55 | 8 5 | 670 700 | 4.3 | 38.0 | 18 | : | 33 |  | 4.90 | $1 \cdot 7$ |
| 37.0 32.9 | 4.4 | $?$ | 4 | -1 | 710 | 2, | 32.5 | 37 | -1 | 46 | - | 520 | 1.6 |
| 34.3 | 43 | -5 | $4{ }^{2}$ | -3 | 780 | 2.1 | 35.0 | 42 | -3 | 52 54 54 | - | 5540 | $\stackrel{.8}{9}$ |
| 17.7 | vy | 199 | 999 | 999 | 999 | 999.0 | 37.5 40.0 | $4{ }_{4}^{48}$ | -7 | 54 | -5 | 570 | . 1 |
| 47.0 | 479 | 499 | 777 | 997 | 999 | 999.0 | 40.0 | 47 | -3 | 49 | 1 | 590 | .1 |
| 42.5 | 937 020 | 399 409 | 799 909 | 999 | 999 | 999.0 | 45.0 | 44 | -8 | 45 | -5 | 610 | 0.0 |
| 470 | ¢99 | 929 | 399 | 999 | 949 | 999.0 | 47.5 | 44 | -8 | 49 | $-6$ | 640 | . 2 |
| 5.0 | ตาง | 770 | 199 | 999 | 999 | 999.0 | 50.0 | 43 | -5 | 50 | -3 | 610 | -. 5 |




STORM 12
Lever 1
STORM, DATE, FEET, MLR, TNTEPVAL /OUT/IAT/ONG/ IN,

STOPM TRUE OCTANT ATMTH TN RDR CENT MAX WTNOC RAOTUS



| anotus | vat | var | vkt | VRQ | o-values | tanj | raidus | vat | var | vRT | vRr | o-values | tanj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 57 | -5 | 41 | 3 | 999 | 12.6 | 5.0 | 46 | -7 | 39 | 1 | -1370 | 14.0 |
| 7.5 | 79 | $-20$ | 41 | $-12$ | -1100 | 11.7 | 7.5 | 120 | -14 | 120 | -6 | -12c0 | 12.4 |
| 12.0 | 103 | -3! | 96 | -23 | -850 | 10.7 | 10.0 | 119 | -14 | 118 | -6 | - -4.60 | 14.5 |
| 12.5 | 35 | -26 | 97 | $-18$ | -570 | 9.7 | 12.5 | 110 | -17 | 10.3 | -29 | - 2000 | 13.8 |
| 15.01 | 89 | - 26 | 85 80 | -19 -15 | -250 | 9.3 | 17.5 | 88. | -29 | 90 | -21 | -150 | n.0 |
| 17.5 20.6 | 92 | -22 | 74 | -14 | -8.0 | 9.3 | 20.0 | 80 | -22 | 78 | $-14$ | -70 | 3.2 |
| 22.5 | 78 | -21 | 79 | -13 | -10 | 8.4 | 22.5 | $\bigcirc$ | -21 | 73 | -13 | -30 | 9.0 |
| 25.0 | 75 | $-70$ | 72 | -12 -15 | 50 | 6.9 | 25.0 27.5 | 78 | -19 | 17 | -10 | so | 6.8 |
| 37.5 30.6 | 72 4.7 | -22 | 688 6 | -12 | $1 \geqslant 0$ | 8.7 | 30.0 | 75 | -18 | 73 | -10 | 110 | 6.9 |
| 32, | 64 | -13 | 62 | -6 | 160 | 6.7 | 32.5 | 69 | -20 | 70 | -12 | 140 | 8.9 |
| 34.0 | 6 \% | -13 | 62 | -5 | 999 | 6.7 | 35.0 370.0 | 67 | -17 | 64 63 | -6 | 220 | h. 6 |
| 47.5 | +80 | -59 | $\begin{array}{r}59 \\ \hline 999\end{array}$ | $9_{99}{ }^{2}$ | 999 999 | 999.0 | 47.5 | 6,1 | -17 | 60 | -9 | 9 9\% | $99^{\text {9. }} 0$ |
| 40.5 | 9\%o | 9 9\% | 909 | 999 | 999 | 999.0 | 42.5 | 58 | 997 | 54 | 999 | 999 | 999.0 |
| 45.0 | 909 | 977 | 909 | 999 | 999 | 999.0 | 45.0 | 979 | 997 | 999 | 997 | 999 | 999.0 |
| 47.5 | 909 | 399 | 799 | 999 | 999 | 999.0 | 47.5 50.0 | 979 | 99.9 | 999 | 999 | 999 | 999.0 |
| 31.0 | 37 | 479 | 999 |  |  |  |  |  |  |  |  |  |  |

 /7/330/290/SE/4/125/8/1936/120/125/10.0


| qarius | vat | var | VR T | VRr | d-values. | tanj | ranius | vat | var | vrt | vre | d-values | tad |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | -11 | 30 | -3 | -1490 | 13.9 | 5.0 | 36 | -1 | 40 | -4 | -1260 | 13.7 |
| 5.0 | 107 | -10 | 110 | -2 | -1200 | 12.6 | 7.5 | 73 | -6 | P0 | $-4$ | - 1150 | 12.6 |
| 12.0 | 120 | $-19$ | 125 | -11 | -850 | 11.2 | 10.0 | 73 | 15 | 78 | 11 |  | 11.4 |
| 12.5 | 109 | $\rightarrow 0$ | 102 | -13 | -530 | 9.9 | 12.5 | 90 | 30 | 95 | 26 | -650 | 12.6 |
| 15.0 | 98 | $-14$ | 97 | -9 | -350 | 9.2 | 15.0 | ${ }_{85}^{93}$ | 30 25 | 99 90 | 26 21 | -4,0 | 8.8 |
| 17.5 | 9 | $-18$ | 85 | -11 | -230 | 9.0 | 17.5 | 78 | 25 | 82 | 20 | -180 | 9.0 |
| 23.0 | 75 | $-12$ | 72 | -4 | -140 | 9.2 | 20.0 27.5 | 78 | 27 | 84 | 22 | -110 | 8.3 |
| 22.5 | 74 73 | 997 797 | 999 909 | 9999 | -80 | 7.7 | 25.0 | 68 | 29 | 74 | 24 | -40 | 4.2 |
| 27.5 | 73 | 9าว | 999 | 999 | 0 | 8.0 | 27.5 | 65 | 23 | ${ }^{68}$ | 17 | 10 |  |
| 33.0 | 72 | - | 70 | ${ }^{2}$ | 50 | 7.4 | 37.0 32.5 | 64 64 | 20 | 73 72 | 14 | 90 | $\xrightarrow{8.0}$ |
| 32.5 | 12 | -4 | 75 | 3 | 100 | 7.2 | 32.5 35.0 |  | 24 | 67 | 18 | 130 | 7.R |
| 3i.a | 0 | $\cdots$ | 55 | -9 | 140 | 7.8 | 37.0 37.5 | 53 | 13 | 60 | 8 | 1 to | 7.3 |
| 37.5 |  | -17 -9 | 61 56 | -2 | 999 | 999.0 | 40.0 | 46 | 11 | 51 | 5 | 250 | 7.0 |
| 42.5 | 749 | 999 | 999 | 999 | 999 | 999.0 | 42.5 | 40 | 10 | 44 | 4 | 230 | 7.9 |
| 45.0 | 979 | 397 | 997 | 979 | 999 | 999.0 | 45.0 | 40 | 1 | 45 43 | ${ }^{\text {a }}$ | 270 | 6.8 |
| 47.5 | 9898 | 990 | 999 999 | 997 999 | 999 <br> 999 | 9999.0 | 50 | 41 | 1 | 42 | 3 | 280 | 6.9 |

STORM TOUE OCTANT NTMTH TN PND CENT MAX WTNDS．RADIUS




| sarius | vait | var | vrt | var | o－values | taju | ralifus | var | var | VRT | VRR | o－values | tanj | ractus | vat | var | VRT | ver | o－values | ramj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ¢．\％ | 24 | －5 | 36 | －6 | $-1630$ | 13.4 | 5.0 | 20 | 2 | 40 | 1 | －1400 | 997.0 | 5.0 | 40 | 4 | 50 | －1 | －1290 | 15.6 |
| 7.5 | rio | 12 | 55 | 10 | －1400 | 12.8 | 7.5 | 3 | 949 | 55 | 999 | －1180 | 12.0 | 7．3 | 70 | 1.6 | 80 | 10 | －1120 | 14.3 |
| 13.0 | 102 | 29 | 114 | 26 | －1050 | 11.0 | 10.0 | 50 | 979 | 62 | 999 | －250 | 10.4 | 10.0 | 91 | คว | 93. | 999 | － 8 ¢0 | 11.0 |
| 12.3 | $9 ?$ | 35 | 100 | 3 | －130 | 9.5 | 12.5 | 75 | 999 | 90 | 999 | －610 | 9.3 | 12.5 | 103 | 993 | 108 | 999 | －6ro | 10.2 |
| 15.0 | 25 | 40 | 91 | 30 | －5．30 | 9.6 | 15.0 | 80 | 1.4 | 94 | 38 | －400 | \％． 3 | 15.0 | 95 | 999 | 103 | 999 | －390 | 9.7 |
| 17.3 | 72 | 3 i | 92 | 26 | －410 | 9.9 | 17.5 | 74 | 38 | 8 B | 32 | －280 | 9.2 | 17.5 | 8 | $2{ }^{2 n}$ | 90 | 13 | －240 | 9.6 |
| 21.3 | ${ }^{55}$ | ？ | 72 | 24 | －310 | 10.6 | 20.0 | 67 | 47 | 14 | 40 | $-190$ | 8.6 | 20.0 | 97 | 24 | 70 | 18 | －150 | 9.6 |
| $2 \cdot .5$ | 5 | ${ }^{28}$ | 62 | 27 | －210 | 10.9 | 22.5 | 91 | 40 | 82 | 34 | －110 | 7.7 | 22.5 | 90 | 27 | B8 | 20 | － 80 | B．${ }^{\text {a }}$ |
| 25.0 | 47 | 21 | 54 | 16 | $-150$ | 10.1 | 25.0 | 69 | 36 | 68 | 30 | －70 | 7.2 | 25.0 | 77 | 19 | 76 | 12 | －20 | r． 2 |
| 17.5 | 57 | 31 | 57 | 25 | －90 | 9.4 | 27.5 | 60 | 44 | 65 | 37 | －40 | 7.3 | 27.5 | 70 | 19 | 76 | 11 | 10 | 8.1 |
| 350 | 53 | 30 | 60 | 23 | －40 | 9.9 | 30.0 | 67 | 46 | 72 | 40 | 0 | 7.1 | 30.0 | 65 | 18 | 69 | 11 | Ro | 7.8 |
| 32.5 | 81 | 33 16 | 71 | 27 | 10 | 8.2 | 32.5 | 67 | 38 | 69 | 32 | 40 | 7.4 | 32.5 | 57 | 17 | 68 | 10 | 120 | 7.7 |
| 35.0 | ${ }_{5} 5$ | $1 /$ | 63 | $\stackrel{7}{7}$ | 60 | 7.6 | 35.0 | 61 | 23 | 70 | 26 | 70 | 7.7 | 35.0 | 56 | 10 | 60 | 3 | 150 | 7.4 |
|  | 45 | 11 | 55 | 5 | 90 | 7.1 | 37.5 | 57 | $3{ }^{39}$ | 64 | 32 | 110 | 7.3 | 37.5 | 47 | A | 53 | 1 | 180 | 7.2 |
| $40 . ?$ | 41 | ？ | 45 | 2 | 130 | 6.9 | 40.0 | 39 | 34 | 45 | 27 | 160 | 6.7 | 40.0 | 47 | B | 50 | 1 | 200 | 7.2 |
| $4 ? .5$ | 5.3 | 4 | 48 | $-1$ | 150 | 7.1 | 42.5 | 45 | 16 | 42 | 10 | 180 | 6.7 | 42.5 | 48 | 7 | 47 | 0 | 210 | 7.0 |
| 45.8 | io | 4 | 42 | －3 | 170 | 7.1 | 45.0 | 40 | 18 | 42 | 11 | 1 lb | 6.9 | 45.0 | 46 | 7 | 50 | 0 | 240 | $0 \cdot 9$ |
| 47.5 |  | ？ | 35 | $-7$ | 220 | 6.7 | 47.5 | 37 | 11 | 46 | 5 | 200 | 7.1 | 47.5 | 45 | 8 | 48 | 1 | 260 | 6.9 |
| 2：10 | 29 | ？ | 35 | －5 | 210 | 6.4 | 50.0 | 37 | 9 | 40 | 3 | 220 | 7.0 | 50.0 | 42 | 6 | 46 | －1 | 280 | 6.8 |



| 20：105 | vat | var | vit | vre | o－values | TADJ | radius | vat | var | vet | VRR | d－values | ［ADJ | kanius | vat | var | VRT | vrr | d－values | ianj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9.9 | it | 1 | 40 | $-3$ | －1390 | 13.2 | 5.0 | 41 | 1 | 50 | －3 | －17co | 11.4 |  |  |  |  |  |  |  |
| $\because \cdot 3$ | 73 | 17 | 10 | 13 | －-1180 | 11.2 | 7.5 | ${ }^{6} 5$ |  | 77 | $-3$ | － 1190 | 13.6 | 3.0 7.5 |  | ${ }_{12}^{8}$ | 78 | 7 | -1260 -1140 | 13.5 13.0 13.0 |
| 1： 12 | 36 | －${ }^{4}$ | 104 100 | －13 | -840 -560 | 10.6 9.2 | 10.0 12.5 | 70 25 | ${ }_{21}^{10}$ | 80 83 | 12 | -950 -700 | 19.4 10.4 10.0 | 7.5 10.0 | 72 92 | 12 10 | 70 | 7 | -1140 -810 | 13.0 |
| $1 \cdot \mathrm{O}$ | 0 | －？ | 104 | 1 | －410 | 9.5 | 15.0 | 45 | 32 | 93 | 26 | －4， 0 | 1.02 | 12.5 | 85 | $s$ | 91. | 1 | －520 | 9.4 |
| 1.5 | 14 | 24 | 9 i | 18 | －290 | 9.4 | 17.5 | 35 | 36 | 9 | 30 | －3＜0 | 4.0 | 14.0 | 92 | 5 | 87 | －1 | －360 | 7.3 |
| 23.0 | 7\％ | 17 | n？ | 11 | －170 | 9.2 | 20.0 | 93 | 41 | 93 | 34 | －250 | 9.7 | 17.5 | 78 | 5 | 82 | $-1$ | －220 | 9.4 |
| $\cdots$ | 71 | 17 | 72 | 17 | －100 | 9.3 | 22.5 | 82 | 39 | 90 | 32 |  | 8.2 | 20.0 22.5 | 77 |  | 77 | －1 | -140 -70 | 9.2 8.8 |
| ？$\because 2$ | 73 | 24 | 90 | 17 | －40 | 8.9 | 25.0 27.5 | 75 63 | 33 | 80 | 23 | －110 | 3.0 | 22.5 25.0 | 73 | 13 18 | 78 78 | 11 | -70 -20 | 8.8 3.5 |
| 30 | 6. | 16 $>0$ | －70 | 14 | 10 60 | 8.2 7.6 | 27.5 30.0 | 63 67 | 30 32 | 74 71 | 22 25 | －60 | 8.0 7.9 | 27.5 | 75 | 22 | 78 | 15 | － 30 | 8.3 |
| 23.5 | 6： | 17 | 84 | ！ | 9 | 7 | 32.5 | ¢3 | 29 | 54 | 11 | 50 | 7.9 | 37.0 | 74 | is | 76 | 10 | （10） | н．${ }^{\text {\％}}$ |
| 34.0 | 55 | 10 | 61 | 3 | 120 | 7.5 | 35.0 | 57 | 2.2 | 55 | 15 | 90 | 7.2 | 32.5 | s6 | 20 | 68 | 13 | 120 | 7.8 |
| 37.5 | 53 | 13 | 56 | 6 | 160 | 7.6 | 77.5 | 55 | 24 | 60 | 17 | 110 | 7.2 | 35.0 | $\mathrm{hr}_{5}$ | 14 | 59 | ？ | 150 | 7.5 |
| 40 | 44 | 4 | 51 | ？ | 190 | 7.5 | 40.0 | 51 | 29 | 55 | 20 | 130 | 7.2 | 37.5 | 57 | 12 | 57 | 5 | 170 | 7.7 |
| 4.5 | $4{ }_{4}^{4}$ | 17 | 51 50 | 3 | 170 220 | 7.1 | 42.5 | 49 | 21 | 47 | 13 | 170 | 8.9 | 40.0 42.5 | 52 49 49 | 12 | 57 59 | 5 | 170 240 | 7.1 |
| 47.5 | 45 | 4 | 49 | －3 | 2ヶ0 | 7.3 | 45.0 47.5 | 47 45 | 23 19 | 47 47 | 13 12 | 1 | 6.7 6.9 | 45.0 | 48 | 4 | 53 | －3 | 250 | 7.2 |
| 50.0 | 43 | 3 | 49 | －4 | 250 | 7.2 | 50.0 | 44 | 13 | 47 | 6 | 220 | 7.0 | 47.5 | 4.7 | 1 | 51 | －6 | 270 270 | 7.0 6.9 |





| Dinnis | vat | var | - vrt | vRQ | D-values | iADJ | ratius | var | vau | vrt | VRr | o-values | TADJ | Qaelus | vat | var | vRt | vRQ | d-values | rails |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | in | -15 | 56 | -7 | -970 | 9.4 | 5.0 | 47 | -5 | 52 | $?$ | -1070 | 11.4 | 5.0 | 43 | -29 | 53 | -21 | -1100 | 10.0 |
| \%.9 | 24 | -17 | 36 | -7 | -790 | 8.6 | 7.5 | 95 | -23 | 1 nb | -16 | -R00 | 10.3 | 1.5 | 97 | -24 | 112 | -16 | -960 | 8.9 |
| 10.0 | :11\% | -14 | 101 | -11 | -570 | 8.0 | 10.0 | $1{ }^{19}$ | -21 | 117 | -13 | -500 | 9.4 | $1 \%$ | 110 | $-19$ | 110 | -10 | -700 | 7.8 |
| 17.5 | 1~2 | -25 | 97 | -18 | -360 | 7.2 | 12.5 | 113 | -27 | 98 | -19 | -320 | 7.8 | 12.5 | 109 | -37 | 106 | -28 | -440 | 6.6 |
| : 10 | 36 | -20 | 97 | -13 | -210 | 5.6 | 15.0 | 95 | -25 | คо | -17 | -120 | 6.6 | 15.0 | a? | -34 | 95 | -26 | -270 | 5.8 |
| :7.5 | 96 | -32 | 76 | -14 | -80 | 4.8 | 17.5 | 83 | -18 | 71 | -10 | -10 | 5.4 | 17.5 | 23 | $-22$ | 79 | -15 | - 20 | 5.1 |
| 20.0 | 71 | -26 | ¢9 | -19 | 10 | 5.0 | 20.0 | 73 | -21 | 63 | -13 | 70 | 5.2 | $2{ }^{2 \times} \cdot$ | 86 | -28 -16 | 74 | -19 | 20 | 4.8 |
| 22.5 | $?$ | -25 | 64 | -19 | no | 5.4 | 22.5 | 66 | -6 | 57 | ? | 110 | 5.4 | $\xrightarrow{22.5}$ | 79 | -16 -74 | 71 | -9 -16 | 90 160 | 4.9 |
| $\therefore 2$ | 71 | -19 | 75 | $-12$ | 140 | 4.6 | 25.0 | 67 | -3 | 72 | - ${ }^{4}$ | 140 | 5.0 4.0 | 27.0 27.5 | 77 | -74 -30 | 71 73 | -16 -22 | 140 190 | 4.5 |
| 27.3 | 75 71 | -1\% | 70 68 | -8 | 190 250 | 3.1 2.6 | 27.5 30.0 | 70 68 | -31 -27 | 64 62 | -23 | 220 260 | 4.0 | 27.5 30.0 | 76 75 | -30 -24 | 73 72 | -22 | 190 230 | 3.0 2.4 |
| 2 O .5 | 67 | -i - | 64 | -10 | 290 | 2.6 | 32.5 | 68 | -27 | 61 | -19 | 300 | 2.4 | 32.5 | 72 | -21 | 64 | -13 | 270 | 2.3 |
| 35.0 | 64 | -19 | 59 | -11 | 300 | 2.5 | 35.0 | 67 | -26 | 54 | -18 | 340 | 2.5 | 35.0 | 63 | -20 | 55 | -12 | 300 | 2.4 |
| 3', | 1.2 | -1\% | 56 | -6 | 320 | 2.6 | 77.5 | 65 | -2? | 57 | -14 | 370 | 2.3 | 37.5 | 65 | -13 | 54 | -5 | 370 | 2.6 |
| $4 \%$ | ¢ | -15 | 59 | -7 | 350 | 2.7 | 40.0 | 61 | -2? | 52 | -15 | 370 | 2.1 | 4 n .0 | 5 , | -17 | 56 | -9 | 360 | 2.7 |
| $4 \cdot .5$ | 59 | - ${ }^{2}$ | 5.4 | -6 | 380 | 3.1 | 42.5 | 59 | -23 | 53 | -15 | 410 | 1.9 | 47.5 | 54 | -15 | 51 | -7 | 370 | 3.2 |
| 4).0 | \% | -1) | 55 | -2 | 999 | 994.0 | 45.0 | 57 | -21 | 51 | -13 | 420 | 1.9 | 44.0 | 4.6 | -16 | 58 | -r | 390 | 999.0 |
| 47.5 | ¢ 9 | 94\% | 399 | 999 | 949 | 999.0 | 47.5 | 53 | -25 | 47 | -17 | 430 | 2.1 | 67.5 |  | 999 | yon | 999 | 999 | 999.0 |
| 59.0 | 971 | +17 | 899 | 997 | 999 | 9 9.0 | 50.0 | 53 | -15 | 45 | -7 | 450 | 2.2 | 5 5 .9 | 909 | 99 | 999 | 999 | 979 | 997.0 |



| 2atas | vat | var | VRT | vRr | o-values | tad | rajtus | vat | var | vot | ver. | o-values | tads | Rantus | vat | var | vrt | vRr | o-values | tanj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4.0 | :0 | -11 | 49 | - | -1190 | 11.0 | 5.0 | 49 | - | 54 | 1 | -1370 | 10.2 | 5.0 | 46 | -n | 46 | 2 | -1240 | 8.5 |
| 7.3 | 172 | $-1 / 4$ | :21 | -5 | -1000 | 9.4 | 7.5 | 117 | -15 | 115 | -7 | -1210 | 7.2 | 7.5 | 103 | -3 | 115 | 0 | -1100 | 7.8 |
| 15 | $1: 5$ | -1 | 109 | 7 | -590 | 8.2 | 10.0 | 121 | -27 | 120 | -19 | -9.90 | 8.0 | $1 \mathrm{~A} \cdot 3$ | $1: 7$ | $-3$ | 122 | 5 | -840 | 6.6 |
| 17.5 | 173 | -9 | 98 | -1 | -400 | 7.6 | 12.5 | 109 | $-29$ | 107 | $-20$ | -560 | 7.1 | 12.5 | 111 | -4 | 107 |  | -510 | 5.4 |
| 13.0 | 938 | -20 | 20 83 | -12 | -240 | 6.4 | 15.0 | 76 83 | -27 -23 | 73 87 | -18 -15 | -310 -170 | R.0 3 3.2 | 15.9 | 129 | -13 | 91 | -4 | - 300 | 4.9 |
| 17.3 | 96 | -10 | 83 78 | -2 | -0 | 5.2 5.5 | 17.5 20.0 | 83 86 | -23 -15 | 83 79 | -15 -6 | -170 -5.7 | 5.2 | 17.5 $? 3.10$ | 89 0 0 | - ${ }^{-1}$ | 86 79 | $\stackrel{\square}{8}$ | -150 -30 | 4.6 |
| 22.5 | 71 | -14 | 73 | -7 | 140 | 5.8 | 22.5 | 33 | -14 | $9 ?$ | -6 | 40 | 5.8 | 27.5 | $\bigcirc$ | -10 | 65 | -2 | 40 | 4.5 |
| 2ヶ.0 | 74 | -2. | 72 | -14 | 190 | 4.7 | 25.0 | 80 | -14 | 76 | -6 | 110 | 5.4 | 25.0 | 77 | $-19$ | 69 | -10 | 100 | 4.4 |
| 27.5 | $?$ | $-20$ | ${ }^{6}$ | -12 | 240 | 3.3 | 27.5 | 9 | -17 | 77 | -9 | 150 | 4.0 | 27.5 | 75 | -? | 73 | 0 | 150 | 4.0 |
| $3 \cdot 8$ | $\cdots$ | - 20 | $6_{5}$ | - 12 | 200 3 | 2.8 | 30.0 | 77 | -10 | 75 65 | -1! | 180 | $3 \cdot 2$ | 30.0 | $?$ | -12 | 68 | - -6 | 210 | 3.6 |
| 32.5 15.0 | 86 | -22 -19 | ${ }_{53} 5$ | -14 -12 | 320 340 | 2.8 2.9 | 32.5 35.0 | 71 67 | -11 -10 | 65 64 | -3 | 210 250 | 3.3 3.3 | 32.5 35.0 | - ${ }_{3}$ | -1/4 | 63 53 | -6 | 250 270 | 3.4 3.3 3.3 |
| 37.5 | 63 | -17 | 54 | -10 | $3 \%$ | 2.7 | 37.5 | 61 | $\rightarrow 7$ | 58 | 2 | 300 | 3.4 | 37.6 | 61 | -12 | 59 | -4 | 230 | 3.1 |
| 40.9 | 57 | -11 | 56 | $-3$ | 410 | 2.3 | 40.0 | 56 | -9 | 56 | 0 | 340 | 997.0 | 49.0 | 57 | -6 | 54 | 2 | 310 | 3.2 |
| 42.3 | 96 | $-13$ | 53 | -5 | 4 CO | 2.2 | 42.5 | 379 | 999 | 999 | 999 | 999 | 977.0 | 42.5 | 994 | 999 | 997 | 999 | 999 | 999.0 |
| 45.0 | 56 56 | -12 | 47 | -5 | 380 <br> 380 <br> 180 | 2.5 2.7 | 45.0 | 999 | 999 | 999 <br> 000 <br> 09 | 999 | 999 | 999.0 799.0 | 45.0 | 997 | $\begin{array}{r}499 \\ 982 \\ \hline 98\end{array}$ | 999 | 999 999 | 979 | 999.0 |
| 41.5 50.0 | $4{ }_{4}$ | -16 -15 | 47 | -8 | 380 370 | 2.8 | 30.0 | 970 | 999 | 999 | 999 | 999 | 999.0 | 50.0 | 979 | 999 | 999 | 999 | 999 | 999.0 |



| radius | vat | var | vRt | ver | n-values | taj | gentus | vat | var | vat | VRr | o-values | tad | radius | vat | var | vRT | vrr | n-values | tand |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 35 | 4 | 43 | 7 | $-1240$ | 9.0 | 5.6 | 26 | 1 | 49 | -4 | -1130 | 9.7 | 5.0 | 45 | 0 | 90 | -3 | -1040 | 11.2 |
| 7.5 | 120 | 17 | 125 | 15 | -10.50 | 7.3 | 7.5 | 76 | 0 | 76 | -6 | -840 | 8.4 | 7.5 | 78 | 7 | 65 | 3 | -9990 | 9.0 |
| 10.0 | 104 | 31 | 107 | 27 | -750 | $6 \cdot 0$ | 12.0 | 154. | -1 | 105 | -8 | -550 | 6.0 | 10.0 | no | 14 | 80 | 9 | -6.90 | 7.6 |
| 12.5 | 90 | 3 | 92 | 0 | -390 | 4.4 | 12.5 | 93 | 5 | 32 | -2 | -310 | 5.0 | 17.5 | 39 | 23 | 93 | 16 | $-4.60$ | 6.1 |
| 15.0 | 77 |  | 81 | 0 | -230 | 5.6 | 12.3 | 79 | , | 78 | 2 | $-190$ | 5.0 | 15.0 | 89 | 26 | 92 | 19 | -270 | $3 \cdot 1$ |
| 17.3 | 68 | 15 | 73 | 3 | -110 | 5.4 | 17.5 | 70 | 11 | 72 | 3 | -70 | 4.7 | 17.5 | 91 | 21 | 83 | 13 | -130 | 5.3 |
| 20.0 | 65 | 19 | 67 | 13 | -30 | 5.2 | 29.0 | 65 | 14 | 67 | 7 | 30 | 4.5 | 20.0 | 75 | 28 | 78 | no | -20 | 1.8 |
| 27.5 | 64 | 20 | 67 | 14 | 40 | 5.5 | 22.5 | H | 21 | oc | 14 | 100 | 4.3 | 22.5 | 76 | 27 | ${ }^{9} 2$ | 20 | +0 | 4.3 |
| 25.0 | $0 \cdot 5$ | 18 | ${ }_{67}$ | 17 | 1 100 | 5.6 | 25.0 | ${ }^{60}$ | 13 | 54 | 11 | 160 | 4.2 | 25.0 | 70 | 21 | 70 | 14 | 110 | 4.1 |
| 27.5 | 64 | 27 | 64 | 20 | 150 | 4.6 | 27.5 | fo | $2{ }^{2}$ | 64 | 17 | 200 | 4.3 | 27.5 | 71 | 27 | 75 | 19 | 180 | 4.0 |
| 30.0 | 63 | 21 | 64 | 14 | 200 | 4.1 | 3.80 | 53 | 23 | $5{ }^{5}$ | 16 | 230 | 4.2 | 30.0 | 6, | 2.7 | 68 | 20 | 220 | 3.9 |
| 32.5 | 59 | 19 | 60 | 12 | 240 | 4.2 | 32.5 | 53 | 24 | 52 | 17 | 240 | 4.1 | 32.5 | 64 | 24 | 67 | 16 | 270 | 3.7 |
| 35.0 | 55 | 23 | 57 | 15 | 270 | 3.9 | 35.0 | 62 | 23 | 69 | 16, | 250 | 3.8 | 35.0 | 59 | 19 | 58 | 11 | 290 | 3.4 |
| 31.5 | 43 | 13 | 51 | 6 | 310 | 3.5 | 37.5 | 61 | 23 | 55 | 16 | 290 | 3.2 | 37.5 | $5 ?$ | 17 | 49 | 10 | 310 | 3.0 |
| 40.0 | $4{ }^{4}$ | 9 | 56 | 1 | 340 | 3.5 | 4.96 | $5{ }^{5}$ | 19 | 55 | 12 | 330 | 3.1 | 40.0 | 50 | 17 | 49 | 10 | 340 | <.. |
| 42.5 | 46 | -1 | 52 | -9 | 350 | 3.9 | 43.5 | $4{ }^{\text {s }}$ | 15 | 60 | 8 | 360 | 3.2 | 42.5 | 49 | 16 | 45 | я | 170 | $2 \cdot 4$ |
| 43.0 | 39 | 4 | 45 | -3 | 959 | 990.0 | 45.0 | 51 | 17 | 48 | 5 | 400 | 3.1 | 45.0 | 50 | 17 | 45 | 4 | 390 | 2.7 |
| 47.5 50.0 | 39 42 | 3 | 48 | -3 | 9999 | 999.0 99.0 | 47.5 50 | 48 | ? | 4.4 | ${ }_{2}^{2}$ | 430 | 2.9 2.7 | 47.5 50.0 | 50 46 | 11 | 49 48 | - ${ }^{3}$ | 410 | 2.7 |



\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline radius \& vat \& var \& VRI \& vRS \& b-values \& IADS \& ratios \& var \& var \& VR T \& vRr \& o-values \& tad J \& ranius \& vat \& var \& ver \& vre \& d-values \& Tan) <br>
\hline 5.0 \& 32 \& 5 \& 48 \& $-1$ \& -1330 \& 9.3 \& 5.8 \& 13 \& $\bigcirc$ \& 56 \& ${ }^{3}$ \& -1070 \& 12.0 \& 5.0 \& 34 \& 9 \& 48 \& 0 \& -1110 \& 11.9 <br>
\hline 7.5 \& 90 \& 479 \& 95 \& 949 \& -1000 \& 3.5 \& 7.5 \& 73 \& 989 \& ${ }^{80}$ \& 999 \& -860 \& 11.6 \& 7.5 \& 70 \& 994 \& $3{ }^{30}$ \& 997 \& -970 \& 4.6 <br>
\hline 10.0 \& 95 \& 397 \& 9 \& 997 \& -630 \& 1.4 \& 10.0 \& 92
86 \& 939 \& 101 \& 999 \& -580 \& 9.1 \& 10.0 \& 97

78 \& 977 \& 101 \& 997 \& -560 \& 9.0 <br>
\hline 12.5 \& 15 \& 999 \& 80 \& 997 \& -350 \& 5.0 \& 12.5 \& 96 \& 981 \& 95 \& 999 \& -310 \& 6.8 \& 12.5 \& ก98 \& $99 \%$ \& 95 \& 499 \& -390 \& 4.7 <br>
\hline 15.0 \& 61 \& 6 \& 71 \& $\bigcirc$ \& $-1 p 0$ \& 5.0 \& 15.0 \& 80 \& 1 \& 35 \& -5 \& -230 \& 6.0 \& 15.0 \& 72 \& 12 \& 82 \& 5 \& -140 \& 5.0 <br>
\hline 17.5
20.0 \& 60
50 \& 4 \& 65
59
59 \& -2
-2 \& -60 \& 5.6
$h .1$ \& 17.5
20.0 \& 73
75 \& [15 \& 90
77 \& 12 \& -110
-30 \& 6.2
.8 .8 \& 17.5
20.0 \& 72
6.7 \& 16
20 \& 76 \& 10 \& -70 \& 4.9 <br>
\hline 22.5 \& 52 \& 10 \& 58 \& 3 \& 50 \& 6.0 \& 27.3 \& ¢7 \& 17 \& 67 \& 11 \& 30 \& 5.2 \& 22.5 \& 5 ¢ \& 26 \& 83 \& 19 \& 140 \& 4.7 <br>
\hline 25.2 \& 52 \& 9 \& 53 \& 2 \& 90 \& 9.0 \& $2 \cdots 0$ \& 63 \& 24 \& 66 \& 13 \& 90 \& 5.0 \& 25.0 \& 59 \& ${ }^{24}$ \& 64 \& 17 \& 170 \& 4.4 <br>
\hline 27.5 \& 54 \& 17 \& 61 \& 10 \& 140 \& 4.5 \& 27.5 \& 52 \& $1{ }^{1 / 4}$ \& 63 \& 9 \& 170 \& 4.9 \& 27.5 \& 91 \& 28 \& 61 \& 21 \& 260 \& 3.7 <br>
\hline 30.0 \& 52 \& 19 \& ${ }^{3} 8$ \& 12 \& 190 \& $\bigcirc$ \& 30.9
3.5 \& 5 \& 5 \& 62
56 \& -2 \& 220 \& 4.7 \& 30.0 \& $\begin{array}{r}37 \\ \hline 50\end{array}$ \& 29 \& 60
54 \& 27 \& 250 \& 3.8 <br>
\hline 32.5
35.0 \& 47
44 \& 10 \& ${ }_{58}^{62}$ \& - ${ }^{3}$ \& 230
200 \& 5.0
5.2 \& 32.5
37.0 \& 54
$5 ?$
5 \& ${ }_{16}{ }^{7}$ \& 56
56 \& 9 \& 240
270 \& 4.5

4.3 \& | 32.5 |
| :--- |
| 35.0 |
| 8.0 | \& 50 \& 261 \& 54

59
59 \& 14 \& $\begin{array}{r}240 \\ 300 \\ \hline\end{array}$ \& 3.3
3.3 <br>
\hline 37.5 \& 47 \& 2 \& 51 \& -5 \& 290 \& 5.0 \& 37.4 \& 53 \& 17 \& 49 \& 12 \& 300 \& 4.1 \& 37.5 \& 45 \& 20 \& 53 \& 13. \& 370 \& 3.3 <br>
\hline 40.0 \& $4{ }_{4}$ \& 2 \& 49 \& -5 \& 340 \& 4.0 \& 40.0 \& 51 \& 11 \& 45 \& 4 \& 330 \& 3.9 \& 40.0 \& 40 \& 21 \& 52 \& 14 \& 410 \& 3.2 <br>
\hline 42.5 \& 37 \& 11 \& 4.8 \& 4 \& 340 \& 3.6 \& 42.5 \& 45 \& 16 \& 46 \& , \& $3 \times 0$ \& 3.8 \& 42.5 \& 35 \& 13 \& 52 \& 6 \& 430 \& $3 \cdot 2$ <br>
\hline 45.0 \& 34 \& 14 \& 41 \& 6 \& 350
360 \& 3.0 \& 45.5
47.5 \& 4.4 \& $10^{7}$ \& 49
4
4 \& $\frac{1}{3}$ \& 380
400 \& 3.6
3.3
3.3 \& 45.0
47.5 \& 32
30
30 \& 17 \& 44
30
30 \& $\stackrel{5}{8}$ \& 430
440 \& 3.1 <br>
\hline \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& <br>
\hline
\end{tabular}






|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| raitus | V^t | var | VRT | VRR | d-values | TanJ | rapius | var | var | vRt | VRR | D-values | tadj | radius | vat | VAR | vRi | VRR | 0-values | IADJ |
| 5.0 | 979 | 397 | 999 | 393 | 999 | 999.0 | 5.0 | -11 | -5 | 17 | 2 | -620 | 12.0 | 5.0 | -4 | $-13$ | 22 | $\bigcirc$ | -540 |  |
| 7.5 | 979 | 999 | . 979 | 999 | 9,93 | 399.0 | 7.5 | -7 | $-2.9$. | 3 c | -1 | -610 | 11.4 | 7.5 | -4 | -15 -15 | 23 | 8 | -540 -550 | 11.3 |
| 10.0 | , | -19 | - 32 | -6 | -610 | 15.8 | 10.0 | -2 | -12 | 27 | - | -620 | 11.9 | 10.0 | 5 | -19 | 23 | $\stackrel{8}{5}$ | -540 | 11.4 |
| 12.5 | 19 | -11 | 35 | - | -6n0 | 15.3 | 12.5 | 2 | -10 | 30 | 2 | -610 | 9.3 | 12.5 | 9 | -15 | 26 | 9 | -5? | 11.9 |
| 19.0 | 110 | -16 | 37 | -3 | -590 | 16.2 | 17.5 17.5 | 12 | -15 -14 | 35 40 | -4 | -610 -600 | $\underset{12.1}{12.7}$ | 15.0 17.5 | 6 | -7 -2 | 28 34 3 | 5 | -520 <br> -440 | 11.5 |
| 211.0 | 23 | -16 | 49 | - | - 5no | 14.3 | 20.0 | 15 | -12 | 44 | -1 | -590 | 13.7 | 20.0 | 7 | -1 | 36 | 1 | -460 | 10.0 |
| 22.5 | 33 | $-12$ | 59 | 3 | -570 | 10.6 | 22.5 | 14 | -9 | 43 | 0 | -560 | 12.4 | 22.5 | 6 | 7 | 36 | 7 | -420 | 10.0 |
| 25.0 | 59 | -10 | 85 | 5 | -470 | 9.9 | 20.0 | 14 | -11 | 44 | -4 | -550 | 10.7 | 25.0 | 11 | 15 | 41 | 12 | -410 | 9.5 |
| 27.5 | 55 | -25 -33 | ${ }^{82}$ | -17 | -460 | 9.9 | 27.5 | 14 | 2 | 44 | 7 | -530 | 10.5 | 27.5 | 18 | 16 | 47 | 17 | -180 | 3.9 |
| 30.0 | 36 43 | -33) | 63 68 68 | -17 -16 | -450 -430 | 8.3 8.4 | 3.0 32.5 | 40 | -17 ${ }^{6}$ | 70 | -11 | -470 | 3.7 | 30.0 | 19 | 16 | 48 | $1 ?$ | - 7 90 | \%. ${ }^{\text {a }}$ |
| 35.0 | 45 | -26 | 78 | -10 -10 | -430 -420 | 8.4 9.0 | 32.5 35.0 | 47 | -17 -21 | 77 61 | -11 -14 | -400 -400 | 8.9 | 32.5 35 | 21 | 13 | 50 | 10 | $-340$ | 9.5 |
| 37.5 | 4,5 | -2.4 | 70 | -8 | -380 | я. 0 | 37.5 | 33 | -22 | $6 ?$ | -15 | -3:90 | 8.5 | 37.5 | 12 | 7 | 4 | $\stackrel{9}{9}$ | -320 -310 | 9.8 |
| 40.0 | 43 | -21 | 88 | -5 | -370 | 7.9 | 46.0 | $2 \cdot$ | -2.5 | 58 | -17 | $-390$ | 9.5 | 40.0 | 13 | -4 | 42 | 7 | -310 -320 | 8.6 9.5 |
| 42.3 | 44 | -19 | 69 | -1 | -350 | 7.9 | 42.5 | 29 | -75 | 57 | -16 | -360 | 11.8 | 42.5 | $99 \%$ | 999 | 999 | 997 | - 909 | 997.0 |
| 45.0 47.5 | 40 | -14 | 64 65 | 2 | -340 -720 | 7.8 | 45.0 | 20 | -17 | 57 | -9 | $-340$ | 11.3 | 45.0 | 99.9 | 999 | 999 | 999 | 499 | 997.0 |
| 47.5 50.0 | 41 | -12 | 65 57 | 4 | $-730$ | 7.8 8.0 | 47.5 | 25 | -20 | 53 | -10 | -330 | 10.6 | 47.5 | 979 | 999 | 997 | 997 | 797 | 999.7 |
| 50.0 |  |  |  | 2 | -2.0) | 8.0 | 53.0 | 26 | -20 | 55 | -9 | -280. | 10.3 | 50.0 | 979 | 979 | 999 | 999 | 999 | 997.0 |



ranius


| vat | var | VRT | vrr | D-values | inds |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 38 | -33 | 12 | -3 | -540 | 11.1 |
| $3:$ | $-31$ | 14 | -? | -620 | 12.4 |
| 27 | -27 | 16 | 0 | -6.40 | 12.9 |
| 27 | -27 | 20 | -? | -6,30 | 14.1 |
| 23 | -22 | 24 | 2 | -630 | 14.4 |
| 21 | -19 | 35 | 1 | -6,40 | 13.6 |
| 22 | -17 | 4 | -2 | -630 | 13.7 |
| 14 | -10 | 38 | ? | -610 | 12.7 |
| 16 | $-13$ | 38 | -2 | -670 | 13.5 |
| 15 | -12 | 18 | 0 | -5,0 | 16.4 |
| 20 | -15 | 41 | -3 | -560 | 14.8 |
| 36 | $-36$ | 52 | $-14$ | -540 | 15.2 |
| 3.9 | -25 | 53 | -13 | -5.30 | 12.3 |
| 43 | -20 | 65 | -7 | -500 | 11.8 |
| 4 | 14 | 75 | : | 4 | 'i.? |
| 40 | -11 | 70 | 3 | -430 | 10.2 |
| 45 | -14 | 70 | 0 | $-3.90$ | 10.8 |
| 46 | -19 | 70 | $-4$ | - 370 | 11.5 |
| 46 | -23 | 70 | -9 | -340 | 9.7 |


| patius | vat | VAR | VRT | VRr | o-values | [AID J | radius | vat | var | vat | vre | e-valufs | ramj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | on | จดา | 999 | 999 | 997 | 999.0 | 5.0 | 27 | $-19$ | 1 | 1 | -570 | 12.0 |
| 7.5 | 979 | 993 | 999 | 999 | 999 | 999.0 | 7.5 | 24 | -19 | 13 | ${ }_{0}$ | -580 | 12.0 |
| 10.0 | 8 | $-17$ | 34 | -2 | -6co | 15.4 | 10.0 | 19 | -17 | 15 | 1 | -570 | 12.7 |
| 17.5 | 13 | -19 | 38 | -2 | -570 | 15.4 | 12.5 | 19 | -17 | 19 | 0 | -570 | 13.4 |
| 15.0 | 11 | -19 | 37 | -1 | -580 | 14.4 | 15.0 | 22 | -21 | 21 | -5 | -570 | 13.3 |
| 17.5 | 16 | -? | 33 | 7 | -570 | 13.8 | 17.5 | 23 | $-72$ | 29 | -6 | -b70 | 13.6 |
| 20.0 | 17 | $-23$ | 46 | -7 | -550 | 12.4 | 2 n .0 | 23 | -15 | 41 | 0 | -570 | 11.3 |
| 22.5 | 79 | -24 | 57 | -12 | -510 | 10.4 | 22.5 | 22 | -17 | 35 | -1 | -511) | 11.0 |
| 25.0 | 41 | -40 | 69 | -28 | -4.90 | 8.0 | 25.0 | 20 | -17 | 40 | -1 | -5.70 | 11.4 |
| 27.5 | 35 | -45 | 65 | - 35 | -480 | 8.9 | 27.5 | 26 | -11 | 46 | 4 | -5,50 | 11.9 |
| 33.3 | 51 | $-2.3$ | 80 | $-20$ | -480 | 8.4 | 30.0 | 38 | $-17$ | 56 | -3 | -560 | $14 \cdot n$ |
| 32.5 | 45 | -22 | 74 | $-14$ | $-430$ | 8.4 | 32.5 | 41 | $-17$ |  | -1 | -530 | 14.0 |
| 35.6 | 47 | -17 | 77 | -9 | -400 | 8.4 | 35.0 | 999 | 997 | 999 | 994 | 499 | 99.90 |
| 37.5 | 44 | $-12$ | 74 | -4 | -390 | 8.1 | 37.5 | 979 | 9\% | 999 | จ9\% | 979 | 47\%.0 |
| 40.5 | 4 | -i; | 13 | - | -350 | 8.0 | 410.0 | $9 \% 9$ | 999 | 999 | 997 | 994 | 997.0 |
| 42.5 | 40 | -6 | 68 | $?$ | -340 | 7.9 | 42.5 | 999 | วาง | 979 | 9 ¢า | 999 | 997.0 |
| 45.0 | 37 | -4 | ${ }_{5}^{66}$ | 4 | -330 | 7.4 | 45.0 | 997 | 999 | 999 | 393 | 993 | 494.0 |
| 47.3 | 30 | -4 | ${ }^{58}$ | 5 | -370 | 7.2 | 47.5 | 749 | $79 \%$ | 799 | 497 | 797 | 979.0 |
| 50.3 | 31 | -4 | 80 | 5 | -310 | 6.9 | 50.0 | 979 | 999 | 999 | 999 | 999 | $99 \% 0$ |


level
 SPD／DIP／HOG／NOTH／GTM／ANGIF／EYERAQ／PQFS／ACTUAL／RFL．MMAX WO／



| 2AツUS | vat | VAr | vRit | VRr | o－values | IADJ | radius | var | VAR | VRT | vRr | d－values | TADJ | aades | vit | vas | vRr | vRr | n－values | rads |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | － | 14 | 14 | $-14$ | －410 | 10.1 | 5.0 | 997 | 999 | 999 | 997 | 979 | 997.0 | 5.0 | 24 | 20 | 12 | －8 | －430 | 7.3 |
| 7.5 | 15 | 10 | 19 | $-19$ | $-400$ | 9.5 | 7.5 | 949 | 994 | 999 | 994 | 999 | 994.0 | $1 \cdot 3$ | 29 | 13 | 12 | －1i | －400 | $7 \cdot 7$ |
| 1\％ | 20 | 10 | 21 | －19 | －320 | 7.4 | 10.0 | 11 | 10 | 19 | $-15$ | $-520$ | 7.6 | 10.0 | 25 | 13 | 15 | $-9$. | －460 | 7.3 |
| 12.5 | 72 | 6 | 24 | －23 | $-350$ | 6.4 | 12.5 | 23 | 16 | 16 | －12 | －520 | $\pi .7$ | 12.5 | 38 | 11 | 15 | $-7$ | －450 | 7.3 |
| 15\％ | 32 | ？ | 29 | －20 | －350 | 6.5 | 15.0 | 35 | $? 1$ | 18 |  | －510 | 7.9 | $14 . \%$ | 41 |  | 26 | －11 | －467 | $\cdot 7.5$ |
| 17.5 | 32 | 6 | 29 | －22 | －350 | 6.1 | 17.5 | 39 | 20 | 24 | －4 | －5c0 | 7.2 | 17.5 | ${ }^{13}$ | 9 | 17 | －5 | －430 | 7.4 |
| $\cdots$ | 40 | $1:$ | 32 | －19 | －340 | 6.0 | 20.0 | 40 | 17 | 24 | －7 | $-4.90$ | 7.8 | $2 \mathrm{c} \cdot 0$ | 47 | 7 | 2.1 | －5 | －420 | 6.4 |
| 27.5 | 4 | 18 | 32 | －- | －310 | 6.3 | 22.5 | 44 | 18 | 24 | －5 | －690 | 7.8 | 22.5 | 55 | 10 | 25 | －1 | －410 | 0.5 |
| 5．c | 54 | 21 | 35 | －5 | －300 | 6.5 | 25.0 | 51 | 18 | 32 | －4 | -490 -460 | 7.7 | 25.0 | 15 75 | 11 | 37 | －3 | －4c0 | 6.0 |
| 27.5 | 4？ | 27 | 38 | 1 | －-2.0 | 6.4 | 27.5 | 59 | 24 | 39 44 40 | 3 | -460 -440 | 7.3 | 27 | 75 |  | 37 50 | 1 | -360 -350 -300 | 5.3 4.9 |
| 30， | 57 76 | 25 2.9 | 43 59 | -1 4 4 | -770 -250 | 6.1 | 36.0 32.5 | 57 65 | 23 | 44 | 1 | －410 | 7.3 | 32.5 | 93 | 12 | 54 | 2 | － 310 | 4.9 |
| 3.0 | 70 | 28 | 50 | 7 | －240 | 5.3 | 35.0 | 66 | 19 | 45 | 1 | －34n | 6.8 | 3．0） | 81 | 21 | r，4 | 12 | －300 | 4.7 |
| 17.5 |  | 32 | 40 | 6 | －220 | 4.1 | 37.5 | 69 | 23 | 48 | 4 | － 340 | 5.7 | 37.5 | 9 | 17 | 58 | 7 | －280 | 4.5 |
| $1 \% .9$ | 72 | 35 | 50 | 10 | －210 | 5.0 | 40.0 | 89 | 17 | 68 | －2 | － 300 | 5.3 | 40 | 97 | 17 | 60 |  | －720 | 4.5 |
| 42.5 | 96 | 34 | 66 | 9 | －2c0 | 5.6 | 42.5 | 72 | 16 | 71 | －2 | －280 | 4.3 | 4.7 .5 | 20 | 16 | $\stackrel{4}{4}$ | ； | －210 | ． 3.7 |
| mor | 95 | $3{ }^{3}$ | 65 | 11 | －130 | 5.6 | 45.0 | 34 | 20 | 63 | ${ }^{2}$ | －260 | $4 \cdot 1$ | 45.2 | 8 | 11 | 63 | 0 | －260 | 3.7 |
| 47.5 | $\because$ | 25 | 69 | 0 | －130 | 4.9 | 47.5 | 82 | 27 | ${ }_{6}$ | 10 | －220 | 4.2 | 47.3 | 9 | 12 | h？ | 1 | －180 | 3.8 |
| 30.0 | $\bigcirc$ | $2 i$ | 61 | －3 | －100 | 4.4 | 50.0 | 77 | 999 | 53 | 999 | －190 | 999.0 | 50.0 | 07 | 11 | b2 | －1 | －130 | 3.6 |

 125／50／190／E／2／00／25／768／60／80／40．0 $125 / 50 / 1351, \varepsilon / 2 / 105 / 25,1969,98,69,1,0.0$ $125 / 5) / 105 / \mathrm{E} / 3 / 120 / 25$

| 2astus | vat | vas | VRT | vrr | d－values | tans | racius | vat | var | vrt | vrr | d－values | tan．j | qamius | var | var | vit | vrr | c－values | iad |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ¢or | ：0 | 16 | 20 | －12 | －450 | 8.4 | 5.0 | 979 | 979 | 979 | 947 | 499 | 949.0 | ¢．0 | qu9 | 21 | 497 | 2 | 999 | 9.5 |
| ． 5 | io | is | 23 | －10 | －450 | 9.0 | 7.5 | 779 | 979 | 975 | 993 | 997 | 997.0 | 7.5 | 33 | 29 | 20 | 1 | －400 | 9.0 |
| 10， 0 | 12 | ： 4 | 24 | －11 | －450 | R． 5 | 10.0 | 33 | －29 | 5 | －1 | $-460$ | $\cdots$ ？ | 12.9 | $4 ?$ | 25 | ？ | －1 | －480 | 0.6 |
| 12.5 | 10 | 10 | 30 | $-13$ | －440 | 6.9 | 12.5 | 46 | $-14$ | 20 | －？ | －4．80 | 9.7 | 12.5 | 43 | 19 | 27 | －4 | $-470$ | 9.3 |
| 10.2 | \％ | 12 | 37 | － 11 | $\cdots$ | 5.8 | 15.0 | 52 | －4 | 25 | 3 | －4？0 | 9．3 | 150 | 50 | 12 | 31 | －7 | －430 | 7.7 |
| ：－5 | 20 | 13 | 40 | －9 | －400 | 5.5 | 17.5 | 51 | 4 | 20 | 8 | －400 | 9.4 | 17.5 | 5 | \％ | 32 | －10 | －420 | H． 5 |
| $\cdots$ | 3 | 15 | 53 | －7 | －3．90 | 5.8 | 20.0 | 44 | 3 | 16 | 6 | －360 | 8.5 | 2 Co | 58 | 9 | 36 | －7 | －420 | 6.4 |
| 22.5 | 30 | 19 | 54 | －4 | －370 | 6.4 | 27.5 | 48 | 4 | 20 | 5 | －370 | 8.0 | 27.5 | 61 | ${ }^{\circ}$ | 36 | －6 | －320 | 6.5 |
| 2 n .0 | 3 B | 17 | 59 | －3 | －390 | 6.6 | 25.0 | 60 | 4 | 33 | 4 | －350 | 7.0 | 25.9 | 69 | 12 | 44 | －1 | －360 | 6.5 |
| 21．3 | 40 | $<1$ | $0 \cdot$ | $\bigcirc$ | －390 | 0.3 | 27.5 | $7{ }^{7}$ | $?$ | \％is | 1 | － 30 | 0.3 | 29 | 93 | 12 | 40 | 0 | －340 | 6.7 |
| 31.0 | 4.4 | 25 | 74 | 4 | －310 | 6.3 | 30.0 | 77 | 5 | 48 | ${ }^{3}$ | －330 | 6.5 | 3.9 | 70 | 15 | 50 | 3 | －320 | 6.2 |
| 3.5 | 49 | 31 | 77 | 1 | －290 | 6.0 | 37.5 | 80 | 4 | 52 | 0 | －300 | 6.5 | 32.7 | 70 | 9 | $5 \pi$ | －5 | － 300 | 4.9 |
| $35 . ?$ | 90 | 19 | 79 | －3 | －250 | 5.7 | 35.0 | 95 | 11 | 5 | 4 | － 310 | 6.1 | 35．\％ | 17 | 10 | 53 | －3 | －2n0 | 5.0 |
| 37．5 | 4 | ： | $8 \cdot$ | －2 | －230 | 5.4 | 37.5 | 20 | 15 | 62 | 10 | －290 | 5.9 | 37.5 | 71 | 5 | 69 | －8 | －260 | 4.9 |
| －0； | 60 | 16 | 80 | －4 | －． 230 | 5.6 | 40.0 | 98 | $1{ }^{\circ}$ | 69 | 12 | －240 | 4.4 | 黾。 | 9 | 4 | 66 | －9 | －250 | 4.7 |
| 42.5 | 50 | 19 | 10 | －1 | －220 | 4.9 | 42.5 | 74 | 13 | 64 | 7 | －22n | 3.8 | 42.5 | 89 | 11 | 65 | －1 | －240 | 4.0 |
| 45.3 | $4 \%$ | 27 | 12 | 7 | －210 | 4.1 | 45.0 | 92 | 15 | 63 | $\stackrel{\text { an }}{5}$ | －170 | 4.0 | 45.5 | 36 | 1 | 3 | －1 | －220 | 3.8 |
| 47.5 | － 48 | ， 30 | － 9 979 |  | － 180 -99 | 4.4 999.0 | 47.5 50.0 | 91 96 | 12 | 61 59 | 5 | -170 -120 | 4.0 | 47.5 50.0 | R 81 | 1 | 61 57 | -12 -5 | -170 -160 | 4.45 |



SPO/ DIR / HDG /NOTH/GTM/ANGIF/FYFRAN/ DPES/ACTUAL/REL /MAX WD/



| raitius | vat | var | vri | v2R | d-valufs | tad J | naries | vat | VAR | VRT | VRR | d-values | tanJ | kanius | vat | va | VRT | VRr | n-valufs | TAJJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 993 | 993 | 999 | 993 | 979 | 999.0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7.5 | 997 | -33 | 999 | -5 | 979 | 9.1 | 7.5 | ? | $\xrightarrow{990}$ | 9 | 999 | 999 | 999.0 | 5.0 | 994 | 23 | 999 | 2 | 994 | 4.4 |
| 10.0 12.5 | 42 | -18 | 12 | $-2$ | -370 | 7.9 | 10.0 | 5 | 5 | 22 | -1? | 939 -530 | 399.0 9.6 | 7.5 10.0 | 13 13 |  | 16 | 7 | -510 -510 | 9.2 |
| 12.3 15.0 | 5 | -11 $-1 ?$ | 17 26 | $-7$ | -370 -370 | 7.4 | 17.5 | 4 | 0 | 22 | -6 | -520 | 9.3 | 12.5 | 13 6 | -1 | 16 22 | 6 | -510 -510 | 9.7 |
| 17.5 | 65 | -15 | 35 | -12 | -320 | 6.7 | 13.5 | 3 | - | 21 | -1 | -510 | 9.0 | 15.0 | 6 | -4 | 2.3 | 2 | -520 | 9.h |
| 27.0 | 6. | -9 | 36 | - | -310 | 7.2 | 17.5 | 7 | -2 -7 | 24 | -1 | -5c0 | 9.4 | 17.5 | 11 | -11 | 20 | -5 | -480 | 9.4 |
| 22.5 | 70 | -3 | 40 | -4 | -780 | 6.5 | 22.5 | 9 | -4 | 36 | -5 | -490 -490 | 9.5 | 20.0 | 15 | $-13$ | 34 | ? | -5c0 | 10.2 |
| 25.0 | 30 | -1 | 51 | -3 | -300 | 6.0 | 25.9 | 3 | $n$ | 29 | 3 | $-400$ | 9.6 | 25.5 | 10 | - | 34 <br> 35 | -1 | -460 | 10.a |
| 27.5 30.0 | R0 | ${ }_{8}^{4}$ | 51 | 0 | -270 | 5.3 | 27.5 | 3 | -? | 13 | 2 | -470 | 9.7 | 27.5 | 21 | -5 | 595 | -1 -2 | -450 -450 | 11.2 |
| 32.5 | 81 | 10 | 50 | 4 | -240 | S.1 | 30.0 | ${ }^{6}$ | 4 | 31 | 9 | -470 | 9.8 | 30.0 | 32 | -14 | 57 | -11 | -4A0 | 12.0 |
| 35.0 | 85 | 16 | 55 | 9 | -230 | 4.9 | 32.0 |  | - 2 | 26 25 | 10 | -440 -430 | 9.4 | 37.5 | 32 | -11 | 54 | -7 | -4,30 | 7.6 |
| 37.5 | 15 | $1{ }^{18}$ | 55 | 11 | -190 | 5.0 | 37.5 | $\stackrel{8}{8}$ | -8 | 27 | - | -430 -420 | 10.6 10.5 | 35.0 37.5 | 27 | -9 | 54 | -6 | -370 | 7.7 |
| 40.0 | 37 | 19 | 57 | 10 | -180 | 4.8 | $4{ }^{10} 0$ | 17 | -13 | 37 | -5 | -420 |  | 4 4 .0 | ? | -4 | 54 | -4 | -350 -320 | 7.3 |
| 42.5 | 97 97 | 15 15 | 62 68 | ? | -140 -150 | 5.0 | 4, | 17 | $-$ | 55 | 4 | -400 | 6.4 | 42.5 | 17 | -3 | 44 | - | -306 | 7.3 |
| 47.5 | 98 | 13 | 71 | 5 | -120 | 4.6 | 47.5 | 37 | 5 | 69 64 | 14 | -310 -300 | 5.9 | 45.0 | 14 | 5 | 41 | ${ }^{\text {® }}$ | -290 | 4.8 |
| 30.0 | 101 | 10 | 75 | 2 | - 20 | 4.2 | 56.0 | 33 | 5 | 59 | 15 | -300 | 5.5 | 47.5 | 14 37 | 14 | 52 | 17 | -230 | 4.9 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ramius | vat | var | vpi | VKP. | o-values | Tnos | ramius | vat | var | vat | VRR | o-values. | tadJ | ramius | vat | var | VRT | vrr | n-values | In 1 |
| 5.0 | 9, | 999 | 999 | \%9\% | 929 | 999.0 | 5.6 | 999 | 999 |  |  |  |  |  |  |  |  |  |  |  |
| 7.5 | 907 | -36 -37 | 999 | -8 | 979 | 9.1 | 7.5 | (1) | $8 \rightarrow 7$ | 979 | 9979 | 979 | 994.0 999.0 | 5.0 7.5 | . 10 | 14 | 20 | -14 | $-4,10$ | 10.1 |
| 10.0 17.5 | 37 | -37 -32 | 10 | -7 | -4.20 -4.40 | 7.8 | 10.0 | 30 | $\rightarrow 7$ | $\bigcirc$ | $\xrightarrow{\text { ? }}$ | 999 -500 | 999.0 | 7.5 10.0 | ${ }_{9}^{8}$ | 10 10 | 21 | -19 | -430 | 9.5 |
| 15.0 | 26 | -25 | 15 | -2 | $-4,9$ -4.50 | 7.6 | 12.5 15.0 | $3{ }_{31}$ | $-2 n$ -31 | 10 | 1 | -4,0 | 9.7 | 12.5 | 4 | 6 | 23 | - 73 | -450 | 7.3 |
| 17.5 | 35 | $-24$ | 22 | 4 | -430 | 10.4 | 17.5 | 29 | - 29 | 35 | -5 | -480 -470 | 9.6 | 15.0 | ? |  | 30 | -20 | -410 | 6.7 |
| 20.0 | 27 | -23 | 29 | 5 | $-340$ | 10.7 | 20.0 | 37 | -28 | 30 | -4 | -480 | 10.1 | 17.5 20.0 | 4 | ${ }^{6}$ | 33 | -23 | -430 | 6.1 |
| 22.5 25.0 | 32 <br> 37 <br> 7 | -27 | $\begin{array}{r}36 \\ 38 \\ \hline\end{array}$ | - | -400 -390 | 11.5 | 27.5 | 32 | -28 | 38 | - 5 | -440 -480 | 11.1 | 20.0 22.3 | $\stackrel{4}{9}$ | 18 | 33 36 | -18 -7 | -420 -300 | 0.0 |
| 27.5 | 37 | -23 | 46 | 3 | -360 | 10.8 | 5.0 37.5 | 33 3 3 | -29 -98 | 39 | -5 | -420 | 11.2 | 25.0 | 18 | 20 | 37 | -5 | -310 | 6.5 |
| 35.0 | 40 | -25 | 48 | $\checkmark$ | -150 | 10.4 | 3 3 .0 | 3 | -26 | 31 | -5 | -410 -400 | 11.5 | 27.5 | 22 | $\begin{array}{r}27 \\ \hline 25\end{array}$ | 45 | c | -370 | 6.4 |
| 32.5 | 43 | -31 | 47 | -6 | -340 | 10.5 | 32.5 | 29 | - 27 | 33 | -7 | -400 | 11.6 | 37.0 32.5 | 17 | 25 29 | 37 34 | -1 | -350 | 6.1 |
| 35.0 37.5 | 42 35 | -30 | 47 | -6 | -310 -240 | 12.3 | 35.0 | 21 | -22 | 32 | -3 | -4c0 | 11.3 11.3 | 35.0 | 21 | 29 | $4{ }_{4}$ | ? | -340 -340 | 6.0 |
| 40.0 | 35 | -23 | 46 | 0 | -270 | 11.8 | ${ }_{4}{ }^{2} \cdot 0$ | 27 <br> 24 | - 218 | 41 <br> 25 | - ${ }_{-1}$ | -390 -330 | 12.2 | 37.5 | 55 | 32 | 78 | 6 | - 2 ¢0 | 4.7 |
| 4.2 .5 | 4. | $-29$ | 50 | -6 | -290 | 10.9 | 4 i 9 | 31 | -73 | 37 | -5 | -330 | 12.5 10.1 | 40.0 42.5 | 49 <br> 39 <br> 10 | 35 34 | 71 50 | 10 | 1250 -240 | 5.0 |
| 45.0 47.5 | 52 47 | -30 -30 | 59 65 | -8 | -260 -230 |  | 49.0 | 45 48 5 | $-72$ | 50 | -4 | -350 | 9.0 | 42.5 45.0 | 38 | 34 | 5989 | 11 | -240 -180 -180 | 5.6 |
| 50.0 | 49 | -29 | 61 | -7 | -210 | 9.9 | 47.5 $b 0.0$ | 58 45 | -21 -28 | 63 60 | -10 | -270 | 7.0 | 47.5 | 39 | 25 | 58 | 0 | - ino | 4.8 |
|  |  |  |  |  |  |  |  |  |  |  |  | -220 | 4.0 | 50.0 | 3 ? | 21 | 58 | -3 | -170 | 4.5 |

STRRM, DATE/ FEET/, MB, / TMTFQVAL /OUT/ LAT/IONG/ ID






 SPI/ NIR / HOG /AOTH/GTM/ANGIF/FYFRAR/ DPES/ACTUAL/REL MMAX WO/

-...---......

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2aTtus | vis | vas | vit | vRa | D-values | tand | radius | vat | vas | vet | vkr | d-values | tads | pantus | vat | var | vet | vRr | o-valufs | TADJ |
| 5.6 | 9 | 17 | 87 | 3 | -950 | 17.7 | 5.0 | 87 | 33 | 93 | 20 | -790 | 12.0 | 5.0 | 102 | 33 | 94 | 20 | -950 | 17.9 |
| 7.5 | 101 | n | 110 | -5 | -4,50 | 15.6 | 1.5 | 34 | 45 | 78 | 32 | -430 | 11.9 | 7.5 | 103 | 5 | 95 | - | -520 | 11.0 |
| 12.9 | 33 | 12 | 95 | -2 | -280 | 12.8 | 10.0 | 78 | 35 | 75 | 22 | -220 | 11.6 | 10.0 | 89 | 4 | 86 | -9 | -2:0 | 10.3 |
| 12.5 | 70 | 14 | 75 | 1 | -160 | 10.9 | 12.5 | ${ }_{6}^{66}$ | 27 | 6.7 | 14 | -110 | 11.3 | 12.5 | no 67 | 11 | 73 | -2 | -90 | 10.7 |
| is.0 | 86 5 5 | 13 | 64 57 | $-9$ | -50 30 | 10.5 10.8 | 15.0 17.5 | 61 51 | 18 | 60 54 | 5 | -30 30 | 11.4 11.0 | 15.0 17.5 | 67 56 | 11 16 | 62 5 | -3 3 | -10 | 10.9 |
| 20.6 | 54 | 18 | 52 | 5 | 70 | 10.9 | 20.0 | 58 | 7 | 55 | 14 | no | 10.5 | 20.0 | 57 | 23 | 50 | 10 | 100 | 10.2 |
| 27.5 | 5) | 12 | 48 | -1 | 100 | 10.6 | 22.5 | ${ }^{6}$ | 32 | 56 | 21 | 1:0 | 10.3 | 22.5 | 49 | 16 | 49 | 2 | 150 | 10.0 |
| 25.0 | 54 | 15 | 4.9 | 4 | 140 | 10.2 | 25.0 | 45 | 14 | 49 | 1 | 170 | ic. 2 | $2{ }^{25} 0$ | 55 | 25 | 49 | 11 | 180 | 4.7 |
| ?7.\% | S3 | 15 | 5 | 1 | 170 | 10.0 | 27.5 | 52 | 19 | 45 | 5 | 200 | 7.9 | 27.5 | 51 | 19 | 50 | . 5 | 220 250 | 9.7 |
| 38 | 35 | 21 | 5,2 44 | -8 | 210 230 | 9.9 9.5 | 30.0 32.5 | 46 4 | 19 | 45 | 4 | 230 260 | 9.6 | 30.0 3 | 56 45 | 17 22 | 4.48 | 9 | 250 270 | 4.6 7.5 |
| 35.2 | 4.5 | 1 n | 40 | -3 | 270 | 9.1 | 35.0 | 43 | \& | 40 | -h | 240 | 8.8 | 35.0 | 47 | 18 | 41 | 4 | 280 | 4.4 |
| 37.5 | 39 | , | 37 | -6 | 280 | 4.1 | 37.5 | 40 | 5 | 39 | -8 | 360 | 9.6 | 37.5 | 37 | 16 | 38 | 2 | 300 | 4.3 |
| 4 | 42 | ${ }^{6}$ | 37 | -7 | 300 | 8.7 | 40.0 | 37 | 3 | 36 | -11 | 310 | $0 \cdot 5$ | 49.0 | 35 | 13 | 36 | -1 | 370 | 9.1 |
| $4 \cdots$ | 317 | 3 | 3 3 | $-13$ | 310 | 8.6 | 42.5 | 39 | $?$ | 36 | -12 | 330 340 | 2.6 | 42.5 | 37 35 | 11 | 35 | - -5 | 330 350 | 8.9 <br> 8.7 |
| 44.8 | 37 | 3 | 38 39 | -11 -10 | 330 350 | 8.3 8.3 | 45.0 47.5 | 40 | 9 | 36 3 3 | -7 | 340 <br> 350 | R. 8.7 8.7 | 45.0 47.5 | 35 32 | 10 2 | 33 32 | -5 -13 | 350 360 | R. <br> B .7 <br> .7 |
| si.c | 41 | ${ }^{\prime}$ | 41 | -8 | 360 | 8.4 | 50.0 | 33 | , | 31 | -6 | 3\%,0 | 3.0 | 50.0 | 33 | 1 | 32 | -13 | 370 | H. 7 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Qari:s | vat | vak | vRt | VRR | d-valufs | тand | radius | vat | var | VRI | vRr | o-values | raids |
| 5.6 | 6.9 | 15 | 73 | ${ }^{2}$ | -970 | 16.7 | 5.0 | 63 | 10 | 61 | $-1$ | -1120 | 15.4 |
| 7.3 | 3 | 17 | $\bigcirc 0$ | 13 | -700 | 14.7 | 7.5 | 118 | 999 | 113 | 949 | -750 | 14.9 |
| 17.6 | 23 | 15 | 24 | 1 | -480 | 12.5 | 10.0 | 100 | 977 | 35 | 997 | -4CO | 12.8 |
| 12.5 | 37 | 7 | 87 | -7 | -160 | 11.2 | 12.5 | 07 | 997 | ${ }_{7}^{82}$ | 999 | -290 | 11.0 |
| 15.0 | 72 | 20 | 71 | - | -40 | 10.5 | 15.0 | 77 | 13 | 73 | - 0 | -150 | 10.7 |
| 17.6 | 4 | 12 | 62 | -2 | 20 | 10.8 | 17.5 | 1,4 56 | 3 | 61 54 58 | -13 | -60 | 10.0 10.5 |
| 2.25 | 5.9 | 34 | 59 | 9 | 140 | 10.0 | 22.5 | 59 | 10 | 52 | -3 | 60 | 10.8 |
| 25.0 | 56 | 15 | 54 | 1 | 180 | 9.6 | 25.0 | 57 | 16 | 50 | 3 | 10 | 10.7 |
| 27.5 | 50 | 1.7 | 53 | 4 | 210 | 9.8 | 27.5 | 53 | ${ }^{\text {B }}$ | 49 | -4 | 130 | 10.1 |
| 3 | 53 | 20 | 52 | 6 | 230 | 9.9 | 30.0 | 55 | 10 | 50 | -2 | 160 | 7.4 |
| :1.) | 50 | * | 45 | -5 | 250 | 7.5 | 32.5 | 5 | $1{ }^{1}$ | 48 | -1 | 170 | 9.3 |
| 35.0 | 42 | , | 43 | -9 | 280 | 9.0 | 35.0 | 50 | 10 | 46 | -2 | 220 | 9.2 |
| 37.5 | 9 | ${ }^{6}$ | 36 | -9 | 300 | 8.9 | 37.5 | 46 | 0 | 44 | -13 | 240 | ${ }_{8}^{8.8}$ |
| 46 | 30 | 12 | 31 | $-2$ | 320 | 8.9 | 40.0 42.5 | 47 | 2 | 43 | -10 | 260 290 | 月.4 |
| 4,5.5 | 37 | ${ }_{6}$ | $3{ }_{3}$ | -9 | 350 | 8.7 | 45.0 | 41 | 4 | 30 | - | 290 | H. 1 |
| 417.5 | 36 |  | 35 34 | - ${ }_{-6}$ | 360 370 | 8.3 | 47.5 50.0 | 46 | 12 | 41 | -4 | 300 300 | 8.2 8.3 |
| 30.0 | 35 | 9 | 34 | -6 | 370 | B. 3 | 50.0 | 47 | 12 | 42 | -1 | 300 | 9.3 |



> PRFG ALT TTMF
> STORM, DATE / FEET, MB. / TNTERVAL /OUT/ IAT/LONG/ TD,
STOQM TPUE OCTANT ATMTH TN POR CENT/ MAX WTNGI IMAX WD/




| zan ${ }^{\text {a }}$ | vat | vas | vRt | vRr | n-values | tand |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | ${ }^{1} 1$ | 24 | -780 | 11.7 |
| 4.0 | ${ }_{125}$ | 1 | 123 | 33 | -4,0 | 10.8 |
| 10.0 | 119 | 11 | 116 | 35 | -290 70 | 7.0 7.6 |
| 12.5 | 70 | 1 | 91 | 15 5 | 30 | 7.1 |
| $15 . \%$ | 4. 38 | $\stackrel{-17}{?}$ | 79 | 16 | 130 | 6.9 |
| 17.5 | 37 |  | 79 | 2 | 210 | 6.2 |
| 20.0 | 91 | -17 | 76 | 7 | 2 H0 | 6.0 |
| 22.5 |  | -18 | 71 | 2 | 290 | 5.8 |
| 25.5 | 72 | - -1 | 68 | 6 | 310 | 5.7 |
| 27.5 30.0 | 6 | -12 | 65 | 3 | 340 380 | 5.5 5.3 |
| 32.5 | 65 | -13 | ${ }_{5}^{6.3}$ | -6 | 4 | 5.2 |
| 35.9 | 4.5 | -21 | 51 | -10 | 430 | 5.0 |
| 37.3 | 5 | -21) | 51 | -6 | 4.0 | 5.3 4.9 |
| 42.5 | 55 | -11 | 51 | -3 | 460 | 4.7 |
| 45.0 | 57 | -1? | 52 5 5 | 12 | 470 | 4.7 |
| 47.5 | 49 | -2 | 50 | 3 | 480 | 5.4 |
| 37.0 | 51 | -11 |  |  |  |  |


| hatius | vit | var | vri | vRr | o-values | tand |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | -93 | 69 | -12 | 99 | 12.2 |
| 7.0 | 116 | $-40$ | 121 | -28 | -5.0 | $11 . ?$ |
| 10.0 | 48 | -31 | 102 | -16 | -200 | 4.0 7.0 |
| 12.5 | 84 | -31 | $\stackrel{95}{76}$ | - -1 | 80 | 6.2 |
| 15.0 | 72 | -1 | 75 | -1 | 150 | 5.2 |
| 170.0 | P0 | -1 | :7 | 16 | 220 | 4.4 |
| 22.5 | 91 | 5 | 84 | 19 | 310 | 4.7 |
| 21.0 | 73 | 4 | 70 | 16 | 340 | 4.5 |
| 27.5 | ${ }_{56}$ | - | 59 |  | 370 | 4.2 |
| 37.5 | 5,4 | -12 | 53 55 | 3 5 | 4,00 | 4.1 |
| 35.0 | 56 | -9 -13 | 53 53 | 1 | 4.30 | 4.4 |
| 37.5 40.0 | 50 | -12 | 47 | 2 | 440 | 4.4 |
| 42.5 | 51 | -7 | 47 090 | 999 | 999 | 999.0 |
| 45.0 | 9 | 497 | 999 | 949 | 999 | 999.0 |
| 50.0 | ท9 | 979 | 999 | 979 | 999 | ¢9\%* |




| -4:1us | var |
| :---: | :---: |
| 5.0 | 97 |
| 7.5 | 121 |
| 10.9 | 19 |
| 12.7 |  |
| 15.0 | 74 |
| 12.5 | 7 |
| 27.3 |  |
| 27.0 | 4 |
| 27.5 3.0 | 8 |
| 37.5 |  |
| 32.0 | , |
| 37.5 |  |
| 42.5 |  |
| 49.9 47.5 |  |

112751
RADIUS
5.0
7.5
10.0
12.5
15.0
17.5
20.0
22.5
25.0
27.5
30.0
32.5
35.0
37.5
40.0
42.5
45.0
47.5
50.0

| $v a t$ | var | VRT | vore | d-values | tajs |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 90 | 0 | 93 | 13 | - m 2 C | ค.я |
| 121 | -10 | 120 | 3 | -5c0 | 7.5 |
| 104 | -10 | 104 | 3 | -250 -130 | 5.9 |
| 97 | -4 |  | 9 | -130 | 5.7 |
| P4 | -4 | 97 81 | 11 | 90 | 5.8 |
| 17 73 | -2 | 76 | 11 | 140 | 5.4 |
| 72 | -9 | 72 | 4 | 210 | 4.4 |
| 71 | -6 | ${ }_{68}$ | 5 | 250 | 4.6 |
| 65 61 | - | 65 | 15 | 280 | 4.4 |
| 59 | 0 | ${ }_{6} 2$ | 13 | 310 | 4.4 |
| ¢ 58 | -6 -10 | 62 63 | 3 | 360 | 4.9 |
| 58 | -10 | ${ }_{5}^{61}$ | 4 | 380 370 | 3.5 |
| 56 | -7 | 59 | $\stackrel{8}{\text { a }}$ | 400 | 6.0 |
| 55 | -5 | 58 | 11 | 410 | 6. 2 |
| 53 | -2 | 56 | 11 | 420 | b.3 |


| rastus | vat | var | VRT | vre | ()-values | TADJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 77 | -15 | 9.5 | -4 | -790 | 12.4 |
| 5.0 | 112 | - -15 | 117 | -8 | $-400$ | 11.4 |
| 10.0 | 10 \% | -19 | 105 | -5 | -220 | 7.8 8.2 |
| 12.5 | ¢ | $-17$ | 22 | 0 | -1c0 | 7.5 |
| 15.0 | ¢1. | $-11$ | 85 | ${ }_{5}^{2}$ | ${ }^{10}$ | 7.2 |
| 17.5 : | 56 | -78 | \%888 | -14 | 140 | 0.8 |
| 29.0 | 70 | - 21 |  | -5 | $1 ? 0$ | 6.4 |
| 22.5 | 70 | -19 | 71 | 0 | 200 | 5.2 |
| 27.0 | H2 5 59 | -15 | 65 | -2 | 240 | 4.4 |
| $3.20^{\circ}$ | 53 | -15 | 67 | -3 | 240 | 4.1 |
| 32.5 | 63 | -21 | 66 | - | $\begin{array}{r}320 \\ \hline 200\end{array}$ | 4.2 |
| 15.0 | 45 | -72 -19 | 66 63 | -4 | 340 | 4.1 |
| 37.5 | ${ }_{5} 8$ | -16 | 61 | -3 | 350 | 4.7 |
| $4 \mathrm{C}$. | 59 50 | -13 | 58 | 1 | 370 | 5.0 |
| 42.0 | 4.7 | -13 | 56 | 0 | 190 410 | 5.4 |
| 47.5 | 53 | -4. | 58 | 5 | 399 | 6.4 |
| 50.0 | 53 | -8 | 999 |  |  |  |

112. 






| ratius | vat | vir | vrt | VRa | o-values | tadj | zactus | vat | vab | VRT | VRR | d-values | tadj | raotus | var | var | vR $\mathrm{T}^{\text {d }}$ | vRr | d-values | tan |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 92 | -19 | ${ }^{5}$ | -5 | -900 | 8.4 | 5.0 | 71 | 977 | 76 | 997 | -810 | 10.0 | 5.0 | 35 | 30 | 84 | 16 | -690 | 12.1 |
| 7.5 | 125 | $-21$ | 176 | -7 | -630 | 1.3 | 7.3 | 76 | 879 | 101 | 999 | -540 | 8.4 | 7.5 | 107 | 46 | 105 | 32 | -380 | 10.4 |
| 10.0 | 107 | -22 | 113 | -9 | -320 | 6.6 | 10.0 | P7 | 979 | 92 | 999 | -280 | 7.7 | 10.0 | 82 | 4.5 | 94 | 31 | -170 | T. 6 |
| 12.5 | 97 | $-18$ | 97 | -4 | -110 | 6.4 | 12.5 | 7: | 47 | RO | 34 | -40 | 7.6 | 12.5 | 67 | 32 | 72 | 18 | -20 | 7.4 |
| 14.0 | 30 | $-70$ | 34 | -7 | 40 | 6.6 | 15.5 | 54 | 34 | 63 | 20 | 90 | 7.4 | 15.0 | 55 | 19 | 57 | 5 | 70 | 7.3 |
| 17.5 | 74 | $-19$ | 79 | -4 | 120 | 6.6 | 17.3 | 6 | 24 | 53 | 10 | 100 | 7.0 | 17.5 | 46 | 8 | 45 | -6 | 120 | 7.1 |
| 23.0 | 6. | $-17$ | 75 | $\bigcirc$ | 170 | 6. 3 | 20.0 | 43 | 21 | 45 | 7 | 200 | 6.5 | 20.0 | 40 | 9 | 41 | -6 | 160 | 7.2 |
| 22.5 | 69 | $-10$ | 73 | 3 | 220 | 5.7 | 22.5 | 36 | 32 | 40 | 18 | 250 | 6.3 | 22.5 | 45 | 9 | 43 | -6 | 210 | 7.0 |
| 25.0 | 67 | -11 | 72 | 2 | 260 | 4.6 | 25.0 | 21 | 29 | 38 | 14 | 300 | 6.5 | 25.0 | 47 | 18 | 46 | 4 | 250 | 7.0 |
| 27. ${ }^{\text {S }}$ | $? 2$ | $-14$ | 71 | 0 | 300 | 4.8 | 27.3 | 41 | 24 | 41 | 10 | 330 | 6.7 | 27.5 | 46 | h | 45 | - | 200 | 6.7 |
| 31.0 | R5 | $-17$ | 67 | -4 | 330 | 4.5 | 30.0 | 410 | $<2$ | 43 | ${ }_{5}$ | 370 |  | 30.0 | 40 | $-1$ | 4 ? | 15 | 320 | 6.2 |
| 32.5 | 57 | $-14$ | 60 | - | 340 | 4.4 | 32.5 | 32 | $1{ }^{19}$ | $4{ }_{4}$ | 4 | 400 | 6.1 | 32.5 | 39 | 0 | 41 | -1/ | 350 | 5.5 |
| 35.0 | 50 | -11 | 56 | 2 | 360 | 4.5 | 35.9 | 10 | 21 | $4 ?$ | 7 | 410 | 6.0 | 35.0 | 40 | -1 | 42 | -15 | 370 | 5.0 |
| 37.5 | 60 | -13 | 58 | 1 | 320 | 4.4 | 37.5 | ${ }^{36}$ |  | 42 | -10 | 420 | 5.7 | 37.5 | 40 | -1. | 40 | -15 | 390 | 4.6 |
| 40.0 | 53 | -9 | 56 | 5 | 400 | 4.7 | 40.0 | 40 | ? | 40 | -6 | 420 | 5.3 | 40.0 | 36 | ? | 37 | $-12$ | 450 | 4.2 |
| 42.5 | 48 | -9 | 51 |  | 410 | $4 \cdot 9$ | 42.5 | 31 | 6 | 35 | -8 | 440 | 5.0 | 42.5 | 35 | 5 | 37 | -9 | 420 | 3.8 |
| 45.0 | 999 | 999 | 499 | 999 | 994 | 99.0 | 45.5 | 31 | 7 | 35 | -7 | 460 | 4.9 | 45.0 | 29 | -2 | 38 | $-16$ | 420 | 4.0 |
| 47.5 50.0 | 999 999 | 999 999 | 999 999 | 999 999 | 799 999 | 997.0 997.0 | 47.5 50.0 | 32 30 | 3 | 35 | -11 -10 | 490 480 | 5.0 4.9 | 47.5 50.0 | 34 3 | 7 | 35 34 | -14 -7 | 420 490 | 4.2 |
|  | - | 9 | ¢ | ¢ | ) | - |  |  |  |  |  |  |  |  |  |  |  |  |  |  |







| varlus | vat | var | vRt | vrr | d-values | tadj | kadius | vat | var | vit | vre | d-values | tadj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 「.") | 44 | 3 | 36 | -? | -910 | 15.7 | 5.0 | 24 | -6 | 27 | 3 | -960 | 16.4 |
| 7.5 | 64 | 7 | 56 | 4 | -940 | 15.0 | 7.5 | 37 | -11 | 45 | -? | -930 | 15.4 |
| $10: 10$ | 7 | 13 | 6 ? | 3 | -780 | 14.5 | 10.0 | 54 | $-7$ | 55 | ? | -roo | 14.6 |
| 17.5 | 77 | $1{ }^{1 / 4}$ | 68 | 10 | -700 | 13.8 | 12.5 | +2 | -14 | 60 | -4 | -8no | 14.2 |
| 15.0 | 75 | 11 | 65 | 6 | -610 | 17.9 | 15.0 | 62 | -4 | 55 | 6 | -700 | 14.2 |
| 17.5 | 75 | 15 | 65 | 10 | -550 | 12.8 | 17.5 | 6? | -10 | 51 | 0 | -6,30 | 14.3 |
| 20.0 | 5 | 13 | 67 | B | -5c0 | 12.1 | 20.0 | 59 | - | 55 | 1 | -5, 0 | 14.4 |
| 22.5 | 9 | 17 | 71 | 12 | -450 | 12.3 | 22.5 | 60 | -15 | 62 | -5 | -530 | 14.1 |
| ¢5.0 | 98 | 17. | 77 | 12 | -400 | 12.3 | 25.0 | 69 | - | 67 | 1 | -460 | 13.9 |
| 27.5 | 17 | 3 | 88 | 11 | -370 | 11.5 | 27.5 | 79 | 18 | 78 | -9 | -420 | 14.2 |
| 30.0 | 24 | 13 | 87 | 8 | -2.70 | 11.0 | 30.0 | 75 | -17 | 74 | 8 | -390 | 13.4 |
| 23.5 | 3 | 15 | 85 | 10 | -260 | 10.5 | 32.5 | 75 | $-16$ | 74 | -7 | -380 | 12.2 |
| 35.0 | $\bigcirc 7$ | 10 | 77 | 5 | -2.10 | 10.3 | 35.0 | 76 | -21 | 75 | $-12$ | -370 | 11.4 |
| 17.6 | ${ }^{\circ} 7$ | 11 | 75 | 7 | -170 | 10.1 | 37.5 | 76 | -3 | 74 | 7 | -270 | 11.1 |
| 4). 0 | 94 | 7 | 73 | 2 | -120 | 9.9 | 40.0 | 73 | -4 | 70. | 0 | -230 | 11.0 |
| 42.5 | 77 | 16 | 69 | 11 | -130 | 9.6 | 42.5 | 66 | -7 | 69 | 1 | -230 | 11.2 |
| 45.0 | 73 | 24 | 67 | 24 | -60 | 9.2 | 45.0 | 6 ? | -7 | 67 | 3 | -180 | 11.4 |
| 47.5 | 77 | 15 | 71 | 10 | -10 | 9.0 | 47.5 | 6.5 | -8 | 70 | 1 | -150 | 11.6 |
| 50.9 | วาก | 939 | 980 | 999 | 999 | 999.0 | 50.0 | 6.7 | -8 | 68 | 2 | -1 10 | 11.8 |




| k4intis | vat | vas | vqi | vrg | d-values | tadj | radius | vat | var | vRI | vRr | d-values | TADJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 4.2 | 1 | 32 | -1 | -950 | 15.0 | 5.0 | 28 | -6 | 31 | 3 | -3\%0 | 1ヶ.9 |
| 7.) | ${ }_{5} 6$ | 3 | 49 | 0 | -890 | 14.2 | 7.5 | 59 | 0 | 47 | 1 | -910 | 15.2 |
| 10.0 | 91 | 8 | 58 | 6 | -810 | 14.0 | 10.0 | 66 | 3 | 54 | 5 | -830 | 14.7 |
| :2.5 | Sh | 6 | $\therefore 0$ | 4 | -740 | 13.5 | 12.5 | 76 | 6 | 63 | 9 | -760 | 14.1 |
| 15.\% | 69 | в | 60 | 5 | -680 | 12.7 | 15.0 | 74 | -1 | 66 | 3 | -6.70 | 13.5 |
| 17.\% | 6.7 | 6 | 59 | 3 | -6,10 | 17.7 | 17.5 | 74 | 0 | 65 | 4 | -620 | 13.0 |
| 23.0 | st, | 4 | 60 | 2 | -570 | 12.6 | 20.0 | 71 | -3 | 63 | 1 | -570 | 13.6 |
| 22.5 | 67 | 1 | 64 | -2 | -510 | 12.3 | 22.5 | 72 | -6 | 64 | -2 | -520 | 13.2 |
| 2h.0 | 90 | 16 | 71 | 14 | -430 | 12.4 | 25.0 | 77 | 0 | ${ }_{6} 7$ | 5 | -470 | 12.6 |
| 8.7 .5 | - | 21 | 79 | 18 | -4.30 | 12.2 | 27.5 | 80 | 1 | 70 | 6 | -470 | 12.2 |
| 7\%.9 | 83 | n | 79 | -4 | -390 | 11.6 | 30.0 | 74 | 2 | 66 | 7 | -370 | 11.3 |
| 32.5 | 73 | -4 | 71 | -8 | -330 | 11.3 | 32.5 | 70 | 1 | 64 | , | -330 | 10.4 |
| 35.0 | 72 | -3 | 74 | -8 | -280 | 11.2 | 35.0 | 67 | -1 | 63 | 4 | -280 | 10.7 |
| 1.6 | \% | , | 14 | 4 | -cto | 16.8 | 37.5 | 7. | , | 62 | , | -250 | ir.s |
| 4 CO | 9 | 2 | 72 | -3 | -240 | 10.5 | 40.0 | ${ }^{66}$ | -7 | ${ }_{60}$ | -2 | -270 | 10.8 |
| 42.5 | 79 | -3 | - 72 | -8 | -210 | 10.5 | 42.5 | 70 | -4 | 57 | 1 | -210 | 10.8 |
| 43.0 | 76 | + | 68 | 0 | 999 | 10.5 | 45.0 | 737 | 99\% | 999 | 999 | 979 | $39 \%$ \% |
| 47.5 | 999 | 999 | 949 | 999 | 999 | 999.0 | 47.3 | 9 999 | 979 | 999 |  |  |  |
| 5 C. | $\cdots$ | (9) | 939 | 99.9 | 999 | 99.0 | 50.0 | 999 | 999 | 999 | 999 | 999 | 9490 |




|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ratios | vat | var | vet | VRr | d-values | tadj |
| 5.0 | 18 | , | 22 | 7 | -930 | 16.4 |
| -. 5 | 43 | $-17$ | 48. | -4 | -880 | 16.0 |
| 10.0 | 55 | -5 | 60 | 3 | -810 | 15.7 |
| 12.5 | 53 | - | 58 | 1 | -720 | 15.0 |
| 15.9 | 34 | -4 | 57 | 4 | -6.40 | 15.2 |
| 17. | 51 | -R | 58 | 0 | -590 | 14.5 |
| 2 n 0 | 51 | $-13$ | 60 | -6 | -530 | 14.4 |
| 27.5 | 52 | 11 | 58 | $-3$ | -470 | 14.6 |
| 25.0 | 64 | -8 | 70 | -1 | -430 | 15.0 |
| 27.5 | $\mathrm{H}_{2}$ | -2 | nip | \% | -380 | 13.7 |
| 37.0 | 66 | -6 | 72 | 1 | -340 | 12.1 |
| 32.5 | 76 | - ${ }^{\text {a }}$ | 82 | 0 | - 280 | 11,? |
| 35.0 | 61 | -14 | 69 | -7 | -260 | 11.1 |
| 37.5 | 6. | -15 | 67 | -8 | -200 | 11.3 |
| 40.0 | 58 | -6 | 63 | 1 | -170 | 11.5 |
| 42.5 | 56 | -2 | 60 | 5 | -130 | 11.0 |
| 45.0 | 53 | -? | 59 | 5 | -90 | 10.5 |
| 47.3 | 53 | -5 | 58 |  | -70 | 10.1 |
| 5 c .0 | 47 | -1 | 57 |  | -60 | 9.8 |






| manims | vit | var | vRt | VRR | o-values | tads | radius | vat | var | vRt | var | D-values | tads | rantus | vat | vas | VRT | VRR | d-values | tndj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.9 | 27 | -11 | 37 | -4 | -440 | 9.5 | 5.0 | 26 | -4 | 38 | $?$ | -600 | 11.0 | 5.0. | 42 | 1 | 31 | 1 | -460 | $7 . \%$ |
| $7 \cdot 3$ | 41 | -11 | 44 | -? | -390 | 8.4 | 7.5 | 37 | -3 | 44 | 3 | -540 | 11.5 | 7.5 | 47 | 2 | 36 | 0 | -380 | 6.9 |
| 10.0 | 42 | -7 | 49 | 0 | -340 | 7.7 | 10.0 | 52 | 2 | 58 | 0 | -480 | 11.4 | 10.0 | 51 | 5 | 42 | 1 | -330 | 6.7 |
| 12.5 | 55 | -15 | 56 | -2 | -300 | 7.1 | 12.5 | 55 | 2 | 59 | -1 | -400 | 10.6 | 17.5 | 48 | 1 | 40 | -1 | -290 | 6.3 |
| 15.0 <br> 17.5 <br> 1.0 | 5.4 1.4 | -17 -17 | 66 | -5 | - 240 | 6.9 | 15.0 | 50 | -4 | 54 | 1 | -3po | 9.5 | 15.0 | 60 | 3 | 5.3 | 1 | -220 | 5.6 |
| 17.5 2.0 | 6, 6 | -17 -15 | 68 73 | -5 -9 | -180 -140 | 6.4 5.7 | 17.5 | 50 | -5 | 54 | 4 | $-330$ | 9.1 | 17.5 | 68 | 6 | 6.3 | 5 | -160 | 6.3 |
| 27.5 | 77 | -46 | 81 | -35 | -100 | 5.7 5.6 | 27.0 22.5 | 65 73 | -3 -5 | 71 79 | -2 -7 | -270 -200 | 9.2 | 20.0 22.5 | 91 85 | 4 | 84 | $-7$ | -70 | 5.4 |
| 2300 | 30 | -37 | 83 | -37 | -60 | 5.4 | 25.0 | 73 | $-4$ | 79 | -3 | -140 | 8.5 | 25.5 25.0 | 85 86 | 5 | 778 | -2 | -10 -50 | 4.9 4.6 |
| 27.5 | $7 ?$ | $-34$ | 81 | -21 | 20 | 5.7 | 27.5 | 63 | -13 | 70 | -7 | -120 | 7.6 | 27.5 | 9 | 15 | 71 | 10 | 100 | 4.6 |
| 30.5 3.5 | 71 | -74 | 81 75 | -15 -16 | 70 110 | 5.3 5.0 | 30.0 32.5 | 62 62 | -8 | 69 | -5 | -70 -30 | 7.2 | 30.0 | 76 | 11 | 68 | 7 | 130 | 3.9 |
| 35.0 | 70 | -27 | 68 | -17 | 140 | 5.2 | 35.0 | 62 | -14 | 71 | -7 -15 | -30 | 6.9 3.9 | 32.5 35.0 | 76 | 16 | 69 | 5 | 180 | 3.8 |
| 37.5 | $1.5{ }^{\circ}$ | -29 | 64 | -17 | 180 | 5.0 | 37.5 | 53 | -25 | 60 | -17 | 50 | 4.3 | 37.5 | 74 | 8 | 67 | 4 |  | 4.0 |
| 4.0 | 59 | -23 | 62 | 13 | 200 | 5.1 | 40.0 | 997 | 979 | 999 | 997 | 9 9า | 997.0 | 40.0 | 74 67 | 7 | 80 | 4 | 210 210 | 4.2 |
| 4.35 | *0 | -31 | 63 | -17 | 220 | 5.3 | 42.5 | 999 | 999 | 999 | 999 | 299 | 979.0 | 42.5 | 979 | 999 | 999 | 999 | 999 | 999.0 |
| 45.0 | ${ }_{6}^{6}$ | -14 | 60 | -10 | 240 | 5.6 | 45.0 | 999 | 999 | 999 | 994 | 979 | 999.0 | 45.0 | 979 | 979 | 979 | 997 | 999 | 999.0 |
| 47.5 | 6,5 4 | -16 -14 | 63 64 | -7 | 270 300 | 5.9 | 47.5 | 999 | 999 997 | 999 | 997 | 999 | 979.0 | 47.5 | 999 | 999 | 499. | 9 n | 974 | 999.0 |
| 36.0 | $t \cdot$ | -14 | 64 | -5 | 300 | 5.6 | 50.0 | 979 | 997 | 999 | 999 | 999 | 997.0 | 50.0 | 999 | 979 | 999 | 999 | 999 | 999.0 |



| an:us | jat | vak | vRt | VRR | i-values. | raos | ranius | vat | var | vrt | VRR | o-valufs | tanj | Ranius | vat | var | V2т | VRR | o-values | tanj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ¢. | is | -8 | 23 | -3 | -580 | 11.0 | 5.0 | 27 | -4 | 35 | 0 | -580 | 9.0 | 5.0 | 40 | -11 | 33 | -2 | -440 | 9.4 |
| 7.5 | 27 | -4 | 33 | 3 | -540 | 10.1 | 7.5 | 36 | 1 | 44 | 3 | -5co | 4.0 | 7.5 | 56 | -110 | 50 | -2 | -4,10 | 8.8 |
| 13.0 | 4.4 | -17 | 49 | 7 | -450 -410 | 9.6 | 10.0 | 44 | -5 | 52 | -1 | -440 | 8.4 | 10.0 | 59 | 2 | 52 | 7 | -350 | 8.6 |
| 12.5 15.6 | $\begin{array}{r}53 \\ 63 \\ \hline 8\end{array}$ | -17 -4 | 68 71 | 5 | -410 -350 | 9.9 9.7 | 12.5 15.0 | 47 | O | 55 | 4 | -4.0 | 8.7 | 12.5 | 97 | 2 | 62 | 11 | -300 | 7.9 |
| 1.95 | 65 | -4 | 72 | 1 | -350 | 9.7 | 17.5 | 49 52 5 | -3 -10 | 57 64 | - -4 | -350 -300 | 9.0 | 15.0 | 72 | -1 | 64 | $\stackrel{\text { A }}{5}$ | - 240 | 6.7 |
| 2 O 0 | 61 | -1 | 67 | 3 | -240 | 8.4 | 20.0 | 63 | -7 | 69 | - 5 | ->80 | 7.8 | 17.5 20.0 | 75 | -9 | 68 | 1 | -180 | 6.0 5.2 |
| 2.5 | 72 | -9 | 78 | -1 | -190 | 7.4 | 22.5 | 62 | -4 | 70 | -3 | -200 | 9.0 | 22.5 | 9 ? | -16 | 85 | -4 | - 60 | 4, ${ }_{1}$ |
| $250$ | 67 | -13 | 74 | $-4$ | -110 | 6.4 | 25.0 | 73 | 2 | 80 | -5 | -170 | 7.9 | 25.0 2.0 | 25 | -1.4 | 83 | -7 | -20 | 4.4 |
| 37.5 | \% 7 | -18 -18 | 74 | -7 | -80 | 6.3 | 27.5 30.0 | 64 | -16 | 72 | - -8 | -110 -70 | 6.6 | 27.5 30.0 | 89 | -17 | $8{ }^{8 .} 8$ | -10 | 30 70 | 4.5 |
| 32.5 | 8.2 | -15 | 69 | $?$ | -10 | 5.0 | 37.5 | 66 | -9 | 74 | -6 | -20 | $4 . \%$ | 330.0 | 897 | -1: | 83 88 | -ii | 170 | 4.3 |
| 35.0 | 52 | -27 | 71 | 7 | 30 | 3.9 | 35.0 | 65 | -11 | 69 | -7 | 30 | 4.4 | 35.0 | 82 | -8 | 76 | -3 | 1130 | 4.3 |
| $\cdots$ | 64 | $-39$ | 69 | -13 | 40. | 3.8 | 37.5 | 6.0 | -11 | 67 | -6 | 60 | 4.4 | 37.5 | 91 | -11 | 75 | -5 | 170 | 4.4 |
| 40.17 | 237 | -797 | 897 | 997 | $9 ¢ 9$ | 999.0 | 40.0 | 63 | -10 | 70 | -6 | R0 | 4.4 | 40.0 | 78 | -12 | 70 | -4 | 190 | 4.2 |
| 42.5 -5.0 | 9.19 997 | 997 990 | 999 909 | 999 997 | 999 | 999.0 | 42.5 4.5 .0 | 57 63 | -6 -3 | 66 67 | -4 | 120 140 | 4.5 4.9 | 42.5 45.0 | 76 75 | -10 | 69 68 | -4 | 200 | 4.2 |
| 47.5 | 799 | 980 | 299 | 959 | 999 | 979.0 | 47.5 | 61 | -6 | 6.4 | -3 | 170 | 4.0 | 47.5 | 74 | -11 | 68 66 | -2 | 240 250 | 4.1 |
| $5 \cdots .0$ | 497 | 949 | 999 | 999 | 999 | 999.0 | 50.0 | 54 | -1 | 61 | , | 180 | 4.0 | 50.0 | 74 | -15 | 65 | -? | 270 | 4.0 |



STORM 14
level 2


STOQM TOUE OCTANT ARMTH YN PDR CENT MAX WINS DRESACTUAL DFL MAX UD




| 9antas | vat | VAR | VRT | VRr | o-values | tad | ramius | vat | var | vRt | vRR | o-valufs | TADJ | radius | vat | var | VRT | VRR | d-values | tans |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ¢.0 | 1 | 3 | 17 | -5 | -820 | 15.7 | 5.0 | 7 | -1 | 17 | 0 | -850 | 17.2 | 5.0 | 10 | $-9$ | 17 | 4 | -r. 50 | 15.6 |
| 7.5 | 21 | ? | 31 | -1 | -900 | 15.0 | 7.5 | 22 | -6 | 31 | 1 | -840 | 17.1 | 7.5 | 18 | -10 | 30 | 1 | -830 | 15.8 |
| 15.7 | 4 | 13 | 43 | 1 | -770 | 14.5 | 10.0 | 31 | -4 | 36 | 5 | -820 | 16.7 | 10.0 | 27 | -8 | 38 | -2 | -810 | 15.3 |
| 12.5 | 56 | 19 | 57 | 4 | -750 | 13.8 | 12.5 | 34 | 0 | 40 | ${ }^{\circ}$ | -810 | 16.4 | 12.5 | 38 | -9 | 47 | -5 | -780 | 16.4 |
| 15.0 | 57 | 17 | 61 | 5 | -700 | 13.3 | 15.0 | 43 | -4 | 52 | 6 | - 710 | 16.2 | 12.0 | 54 | -13 | 6 | -1 | -740 | 15.6 |
| 17.5 | 62 | 21 | 61 | 9 | -640 | 12.9 | 17.5 | 64 | -2 | 69 | 5 | -720 | 15.9 | 17.5 | 54 | -9 | 66 | -3 | -690 | 15.2 |
| 2 n .0 | 61 | 14 | 62 | ? | -590 | 12.5 | 20.6 | 73 | -6 | 74 | , | -660 | 15.6 15.4 | 20.0 22.5 | 59 | -12 -15 | 68 | -6 | -540 -590 | 15.1 14.9 |
| 22.5 | no | 16 | 64 | ${ }_{5}$ | -550 | 12.3 12.4 | 22.5 25.0 | 73 68 | -4, | 73 73 | 5 5 | -610 -570 | 15.4 15.3 | 27.5 27.0 | 56 51 | -15 -21 | 65 64 | -7 -15 | -579 -550 | 14.9 14.5 |
| 250 | 67 | 17 | 67 70 | 4 | -560 -460 | 12.4 12.7 | 27.5 | 71 | -8 | 72 | , | -530 | 15.4 | 27.5 | 56 | -13 | 62 | -9 | -510 | 14.6 |
| 30.0 | 7 i | 21 | 69 | , | -430 | 12.7 | 31.0 | 67 | -7 | 71 | 4 | -490 | 15.3 | 30.0 | 54 | -6 | 63 | 0 | -570 | 14.7 |
| 32. | 66 | 22 | no | 11 | -390 | 12.7 | 32.5 | 67 | -7 | 70 | 4 | $-4 \leq 0$ | 15.1 | 32.5 | 53 | -11 | 65 | -5 | -430 | 1\%\% |
| 35.0 | 67 | 25 | 6.5 | 14 | -360 | 12.8 | 35.0 | 64 | $-7$ | 68 | $?$ | -420 | 14.9 | 35.0 | 58 | $-7$ | ${ }_{6}^{66}$ | -2 | -390 | 13.9 |
| 39.5 | 6.3 | 24 | 67 | 12 | -320 | 12.3 | 37.5 | 64 | -10 | 67 | 1 | -380 | 14.5 | 37.5 | 57 | -11 | 66 | -2 | -360 -340 | 13.2 |
| 4 4 .0 | 6t | 21 | 66 | 9 | -200 | 12.6 | 4 4 .0 | 68 | -12 | 69 | -1 | -360 -350 | 14.3 14.1 | 40.0 | 56 57 58 | -11 | ${ }_{66}^{66}$ | -5 | -340 -310 | 13.0 13.5 |
| 42.5 | 69 | ${ }^{11}$ | 65 | 8 | -260 -230 | 12.4 | 42.3 4.0 | 69 67 | -13 | 70 | -2 | -370 | 13.9 | 45.0 | 56 | -13 | 68 | -8 | -290 | 13.7 |
| 47.0 | t, 2 | 21 | 61 | 10 | -210 | 12.4 | 47.5 | 84 | -9 | 6.9 | 1 | -290 | 13. ${ }^{\text {a }}$ | 47.5 | 59 | -11 | 70 | -4 | -260 | 13.2 |
|  | 53 | 25 | 64 | 13 | -210 | 12.5 | 50.0 | 65 | -5 | 68 | 6 | -270 | 13.7 | 50.0 | 61 | -10 | 69 | -3 | -240 | 12.9 |



| smocthed vertex averages |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| anotus | vat | var | vRt | ver | d－values | TADJ | VAT2 |
| 5.0 | 16 | 0 | 21 | 0 | －836 | 16.4 | 350 |
| 7.5 | 77 | ． 0 | 31 | 0 | －821 | 16.3 | 884 |
| 10.0 | 33 | 2 | 41 | 1 | －795 | 16.1 | 1674 |
| 12.5 | 47 | 3 | 50 | 1 | －759 | 15.6 | 2436 |
| 17.6 17.5 | $5{ }^{3}$ | 2 | 57 | 0 | －714 | 15.0 | 3192 |
| 17.5 26.6 | 60 63 | 1 | 6,2 6,4 | －0 | －665 | 14.5 | 3631 |
| 22．0， | 63 | － | 85 | －0 | -615 -571 | 14.2 13.9 | 4073 <br> 4238 |
| 25.0 | 63 | －0 | 65 | －1 | －531 | 13.9 | 4375 |
| 27.5 | 65 | 0 | 1.5 | 0 | －496 | 14.0 | 4378 |
| ${ }^{3 C .6}$ | 65 | 2 | 85 | 1 | －465 | 13.9 | 4283 |
| 32.5 | 65 | $\frac{2}{3}$ | 65 | $\stackrel{2}{2}$ | -423 -187 -185 | 13.8 1.6 | 4291 4308 |
| 37.5 | 5 | 3 | 6 | 2 | -387 -355 | 13.6 13.3 | 4308 4337 |
| 4 CO | 6.5 | 3 | 6.5 | 2 | －329 | 13.2 | 4357 |
| $4 \mathrm{4} \cdot \mathrm{S}$ | 8.5 | 3 | 65 65 | 2 | －304 | 13.2 | 4327 |
| 47.3 | 63 | 4 | 65 65 | 4 | －278 | 13.2 13.1 | 4200 4089 |
| 50.0 | 65 | 6 | 6.5 | 6 | －243 | 12.9 | 4291 |


|  |  | stor | 1 | OAT | $\text { , FEET }, ~ M P E S$ |  | $\begin{gathered} \text { in } \\ \hline 0 \text { in } \end{gathered}$ |  |  | IAT/ONE/ IR./ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | GTOPMSPO/ DIP |  | true neta |  | STM/AN | TN PDO CFNT |  | MAX WYNDG DARIUS /ACTUAL/REL /MAX WD/ |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| qathes | vat | var | vit | vRr | d-values | tadj | radius | vat | var | vRt | ver | 0-values | TADJ |
| 5.9 | 12 | -7 | 20 | , | -870 | 15.8 | 5.0 |  | -25 | , | -16 | -840 | 10.4 |
| ${ }_{10.5}{ }^{7} 5$ | 4 | - -5 | 39 39 | $\stackrel{2}{7}$ | -850 | 15.2 | 7.5 10.5 | 19 | -11 | 25 | -1 | -820 | 16.2 |
| $1 \cdot .5$ | 4 | - | 4. | 10 | -790 | 1:. 3 | 12.5 | 51 | 4 | 50 | 2 | -710 | 16.1 |
| 12.0 | so | -1 | 53 | 10 | -760 | 14.8 | 15.0 | 5 A | 3 | 57 | 3 | -730 | 16.7 |
| 17.5 | 62 | -7 | 6 | 10 | -720 | 14.5 | 17.5 | 54 | 2 | 52 | 0 | -670 | 16.2 |
| 22.0 | 63 68 | -7 | 6.7 64 | 5 | -660 -620 | 14.2 14.4 | 20.0 | 51 | - | 50 | 1 | -6,50 | 15.7 |
| 25.3 | 6. | -? | 64 | 4 | -530 | 14.6 | 25.0 | 52 | -7 | 53 <br> 55 | 3 | -610 -580 | 15.3 |
| 27.5 | +3 | 1 | 6.5 | 8 | -550 | 14.8 | 27.5 | 57 | - - | 60 | 0 | -540 | 15.0 |
| 30.0 | 65 | -7 | 6.6 | 3 | -510 | 14.9 | 30.0 | 60 | -12 | 64 | 0 | -510 | 15.1 |
| 32.5 | 68 | -12 -12 | 69 | - | -470 | 15.0 | 32.5 | 66 | -13 | 67 | ? | -470 | 15.1 |
| 35.0 | $\%_{0}^{8}$ | $-1 \%$ | $\mathrm{ta}_{7}$ | -2 | -450 | 13.0 | 35.0 | 65 | -13 | 67 | -1 | -440 | 13.9 |
| 3.5 4.5 40.0 | 86 | -14 -10 | 67 69 | -2 | -420 -380 | 14.6 | 37.5 | 64 | -10 | 65 | 1 | -410 | 14.1 |
| 4 | 64 6.0 | $\begin{array}{r}-11 \\ 1 \\ \hline 1\end{array}$ | 65 | - 7 | -380 -340 | 14.3 14.2 | 40.0 42.5 | 64 60 | -10 -11 | 64 62 | 2 | -360 -330 | 14.4 |
| 450 | 6.7 | $\rightarrow$ | 63 | 2 | - 310 | 14.0 | 42.5 45.0 | 59 | -11 | 62 | $\frac{1}{9}$ | -330 -310 | 14.3 $14 . ?$ |
| 47.5 | 94.) | 394 | 974 | 999 | 994 | 999.0 | 47.5 | 993 | 999 | 999 | 999 | 999 | ก94.0 |
| 59.0 | วา9 | 972 | 979 | 999 | 999 | 299.0 | 50.0 | 999 | 999 | 399 | 499 | 999 | 999.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Qastus | vat | var | vRT | vRg | D-values | tanj | radius | vat | var | vRt | vRe | d-values | TAOJ |
| 5.0 | 17 | -i) | 17 | -1 | -840 | 16.4 | 5.0 | , | -9 | 18 | -1 | -nso | 16.4 |
| ${ }^{7.5}$ | $3 ?$ | -15 -21 | 31 45 | -4 | -830 | 16.8 | 7.5 | 19 | -9 | 28 | -1 | -850 | 16.4 |
| 13.3 | ¢ 5 | -21 -18 | 45 55 | -9 -5 | -860 -750 | 10.4 $1 i .2$ | 10.0 12.5 | 29 63 | -8 | 36 56 | 2 | -840 | 16.4 |
| 15.0 | 53 | -10 | 59 | 1 | -700 | 15.3 | 15.0 | 62 | -15 | 69 | -5 | -770 | 16,4 |
| 17.5 | 61 | -13 | 62 | -3 | -550 | 15.2 | 17.5 | 63 | -11 | 69 | -9 | -760 | 16.8 |
|  | 6\% | - ${ }_{\text {- }}^{\text {- }}$ | 6.5 65 | 5 | -610 -570 | 15.0 | 20.0 | 73 | 11 | 75 | 22 | -640 | 16.6 |
| 24.0 | 84 | $-13$ | 64 | -1 | -530 | 15.3 15.3 | 22.5 25.0 | ${ }_{68} 8$ | -14 | 77 | - 5 | -690 -550 | 16.1 15.6 |
| 27.3 | 60 | $-14$ | 62 | -1 | -560 | 15.6 | 27.5 | 70 | -3 | 70 | 4 | -510 | 15.4 |
| 33.8 | 92 | -14 | 84 | -1 | -450 | 15.6 | 30.0 | ${ }^{63}$ | -19 | ${ }^{64}$ | -1 | -470 | 15.2 |
| 350 | S6 | -i9 | 67 | -8 | -390 | 14.6 | 32.5 35.0 | 76 | -38 | 74 81 | 32 39 | -430 -390 | 14.4 |
| 37., | 6.9 | -19 | 69 | -6 | -360 | 14.0 | 37.5 | $0 \cdot 1$ | 15 | P. 9 | 34 | -370 | 13.5 |
| 47.0 | 99 | -is | 69 | -5 | -350 | 13.3 | 40.0 | 95 | 22 | 71 | 34 | -340 | 13.1 |
| $4 ? .5$ | 65 | $-13$ | 68 | -3 | -330 | 13.2 | 42.5 | 87 | 24 | 92 | 23 | -310 | 13.2 |
| 45.9 | -5 | $-7$ | 67 | ${ }_{7}$ | -290 | 13.0 | 45.0 | 70 | -10 | . 75 | 1 | -290 | 13.5 |
| 47.3 50.0 | ${ }_{7} 86$ | -1 | 67 998 | - ${ }^{7} 9$ | -280 -999 | 13.1 999.0 | 47.5 50.0 | 71 989 | $99^{1}$ | 76 999 | 12 999 | -270 -979 | 13.7 997.0 |

STORM 14
level 4



| STJRM | 0.9TE | zLVL | PLVL | $\begin{aligned} & \text { TIVE } \\ & \text { INTERVAL } \end{aligned}$ | 1-0 | $1.4 T$ | LING | $\begin{gathered} \text { Sir } \\ \text { IIR } \end{gathered}$ | Spon | TH | OH | OSTM | A2L | 10 | $\begin{aligned} & \text { RDR EYE } \\ & \text { RADIUS } \end{aligned}$ | $\begin{aligned} & \text { CLNT. } \\ & \text { PRES } \end{aligned}$ | vatx | 9, \% W | vRTx |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| rima | 640001 | าяา0 | 715 | 1755-1810 | 1 | 28 | 69 | 285 | 10 | 290 | E | 5 | 100 | 121 |  | 95 |  |  |  |
| 0304 | 640707 | 9090 | 715 | 1,57-1610 | n | 29 | 64 | 285 | 10 | 110 | SF | 5 | 110 | 117 | 13 | 969 | 69 | 32.5 | 67 |
| Düa | 34030 | $\bigcirc 390$ | 715 | 1713-1730 | $\square$ | 28 | 69 | 285 | 10 | 110 | SE | 5 | 110 | 122 | 15 | 960 | 69 | 37.5 | 67 |
| mera | 640007 | 9830 | 715 | 1617-1530 | 1 | 28 | $6{ }^{6}$ | 295 | 10 | 300 | SE | 5 | 120 | 118 |  | 90 | 68 | 32.5 | 67 |
| otia | 640907 | Opa\% | 115 | 1540-1+50 | 1 | 39 | 69 | 285 | 10 | 90 | 4 | 1 | 275 | 119 | 13 | 96. | ${ }_{7} 7$ | 42.5 | 92 |
| cera | 690907 | $\sin ^{\circ}$ | 715 | 1910-1430 | ก | 78 | 69 | 285 | 10 | 300 | W | i | 295 | 123 | 13 | 959 | 81 | 32.5 50.0 | ${ }_{8}^{69}$ |
| cura | 840, ${ }^{\text {a }}$ | ? ${ }^{\text {a }}$ | 715 | 16,30-1654 | ก | 78 | 69 | 285 | 10 | 290 | NH | 1 | 290 | 120 | 15 | 960 | 87 | 50.0 | 81 |
| dera | 64.9707 | 9980 | 715 | 1655-1713 | 1 | ว | 67 | 285 | 10 | 110 | w | 1 | 290 | 124 | 15 | 960 | 89 | 50.0 | 68 87 |
| u; madothed weighteo vortex avfrages |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | racies |  | vat var |  | vRt | vq | d-values |  |  |  | tanj | vaiz |  |  |  |  |  |  |
|  |  | 4.10 |  | -0 |  | 14 | - | -950 |  |  |  | 15.8 | 8 A |  |  |  |  |  |  |
|  |  | 7.5 |  | 201 |  | 29 | - | -833-809 |  |  |  | 15.4 | 173 |  |  |  |  |  |  |
|  |  | 12.0 |  | 36 |  | 38 |  |  |  |  |  | 15.2 | $\begin{array}{r}1333 \\ 2830 \\ \hline\end{array}$ |  |  |  |  |  |  |
|  |  | 12.5 |  | $5 \% 10$ |  | 50 |  | -809 |  |  |  | 15.3 |  |  |  |  |  |  |  |
|  |  | 15.0 |  | 56 8 |  | 58 |  | -736 |  |  |  | 15.3 | 3137 |  |  |  |  |  |  |
|  |  | 17.3 |  | 58 |  | 61 |  | -682-639 |  |  |  | 14.9 | 3439.4107 |  |  |  |  |  |  |
|  |  | 20.0 |  | ${ }^{53} \quad 8$ |  | 63 |  |  |  |  |  | 14.5 |  |  |  |  |  |  |  |
|  |  | 22.1 |  | 057 |  | 65 |  | -639-596 |  |  |  | 14.2 | 4107 |  |  |  |  |  |  |
|  |  | 32.0 |  | 84 |  | 63 |  | -552 |  |  |  | 14.0 | 4121 |  |  |  |  |  |  |
|  |  | 27.5 |  | 645 |  | 63 |  | -513 |  |  |  | 14.1 | 4163 |  |  |  |  |  |  |
|  |  | 30.0 |  | 64 -2 |  | 6.4 | - | -438 |  |  |  | 14.0 | 4178 |  |  |  |  |  |  |
|  |  | 32.\% |  | 641 |  | 68 |  |  |  |  |  | 14.0 | 488347284 |  |  |  |  |  |  |
|  |  | 35.0 |  | 68 10 |  | 6. | 10 | -438-404 |  |  |  | 13.7 |  |  |  |  |  |  |  |
|  |  | 31.5 |  | 6) 7 |  | 71 | 10 | -378 |  |  |  | 13.3 | 4915 |  |  |  |  |  |  |
|  |  | 4 CH |  | 7010 |  | 72 | 10 |  |  |  |  | 13.2 | 5097 |  |  |  |  |  |  |
|  |  | 42.5 |  | 6814 |  | 71 | 10 | -314-291 |  |  |  | 13.1 |  |  |  |  |  |  |  |
|  |  | 45.6 |  | 61 8 |  | 69 |  |  |  |  |  | 13.1 |  |  |  |  |  |  |  |
|  |  | 47.3 |  | $72 \quad 13$ |  | 73 | 11 |  |  |  |  | 12.8 | 5364 |  |  |  |  |  |  |
|  |  | 5 c .0 |  | $17 \quad 23$ |  | 76 | 11 | -220 |  |  |  | 12.3 | 561936193 |  |  |  |  |  |  |



[^2]



 110/285/200/E/5/110/15/756/84/89/37.5

| Raniles | vat | VAP. | vRt | VRR | o-values | TADJ | radius | vat | var | vrt | Vrr | d-values | tald |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 10 | -6 | 14 | -9 | -890 | 12.6 | 5.0 | 15 | 4 | 10 | -8 | -900 | $12 . ?$ |
| 7.5 | 25 | 4 | 26 | -2 | -870 | 12.2 | 7.5 | 28 | 日 | 24 | -3 | -910 | 12.0 |
| 10.0 | 38 | 1, | 42 | 6 | -850 | 12.4 | 10.0 | 37 | 11 | 36 | -1 | -9rd | 12.2 |
| 12.5 | 43 | 21 | 4 | $\stackrel{8}{7}$ | -790 | 12.4 | 12.5 | 5.5 | 15 | 43 | 3 | -8. 60 | 12.0 |
| 15.0 | 90 | 17 | 49 | 7 | -750 | 11.8 | 15.0 | 65 | 11 | 57 | 0 | -790 | 11.7 |
| 17.5 | 50 | 17 | 50 | 4 | -710 | 11.2 | 17.5 | 65 | 14 | 58 | 0 | -710 | 10.9 |
| 20.0 | 50 | 14 | 50 | 2 | -660 | 11.0 | 20.0 | 62 | 13 | 59 | 1 | -650 | 10.2 |
| 22.5 | 52 | 22 | 51 | 5 | -670 | 10.8 | 22.5 | 64 | 13 | 65 | 3 | -6co | 10.0 |
| 24.0 | 55 | 17 | 53 | 5 | -580 | 10.0 | 25.0 | 70 | 16 | 68 | 5 | -570 | 9.5 |
| 27.5 | 60 | ? | 56 | B | -570 | 10.0 | 27.5 | 70 | 14 | 68 | ? | -540 | 9.1 |
| 31.0 | 51 | 19 | 63 | 5 | -550 | 10.2 | 30.0 | 70 | 21 | 68 | 9 | -5.0 | 7.2 |
| 32.5 | 70 | 19 | 70 | 6 | -570 | 9.6 | 32.5 | 68 | 21 | 66 | 6 | -4.70 | 9.4 |
| 35.0 | 70 | 22 | 70 | 10 | -4,70 | 9.0 | 35.0 | 65 | 24 | 64 | 12 | -440 | 9.4 |
| 37.5 | 57 | 23 | 66 | 11 | -430 | 8.9 | 37.5 | 10 | 20 | 64 | 7 | -4.0 | 4.9 |
| 45.0 | 70 | 19 | 67 | 9 | -4c0 | 8.8 | 40.0 | 67 | 19 | 64 | 7 | -390 | 10.2 |
| 42.5 | 70 | 2\% | 03 | 11 | -370 | 8.8 | 42.5 | 65 | 22 | 61 | 9 | -380 | 16.0 |
| 45.0 | 70 | 24 | 69 | 12 | -340 | 8.9 | 45.0 | 60 | 20 | 58 | ๆ | -330 | 9.5 |
| 47.5 | 67 | 21 | 68 | 14 | -310 | 8.6 | 47.5 | 60 | 2.1 | 56 | 10 | -310 | 7.2 |
| 52.0 | 1.7 | 18 | 64 | 6 | -300 | 8.4 | 50.0 | 60 | 17 | 56 | 5 | -360 | 9.2 |


 $110 / 285 / 195 / 5 / 5 / 195 / 15 / 960 /$ o-values

[^3]| ramius | vat | var | vRt | vre | o-values | tads | ynomes | var | vas | VRt | vrr | d-values | tadj | radius | vat | var | vRt | vise | o-values | IADS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 5 | -5 | 13 | 1 | -970 | 13.4 | 5.0 | 10 | 9 | 16 | -3 | -900 | 13.1 | 5.0 | 27 | 10 | 11 | 5 | -910 | 14.0 |
| 7.5 | 15 | ค | 23 | 2 | -910 | 13.2 | 7.5 | 15 | 7 | 24 | -1 | -390 | 13.0 | 7.5 | 31 | h | 22 | -3 | -9C0 | 13.2 |
| 10.0 | 35 | 15 | 41 | 7 | -860 | 12.4 | 15.0 | 23 | 10 | 32 | 2 | -870 | 12.8 | 1.0 .0 | 44 | A | 46 | - | -96n | 12.6 |
| 12.5 | 47 | 19 | 50 | 5 | -87n | 11.2 | 12.5 | 35 | 15 | 37 | 2 | -830 | 12.0 | 12.5 | 49 | 13 | 48 | -2 | -830 | 21.1 |
| 15.0 | 55 | 19 | 56 | 9 | -770 | 10.6 | 15.0 | 52 | 3 | 51 | -8 | -8.0 | 11.3 | 15.0 | 84 | 10 | 59 | -1 | - 770 | 11.5 |
| 17.5 | 59 | 16 | 61 | 5 | -720 | 10.4 | 17.5 | 55 | , | 55 | -6 | -760 | 10.7 | 17.5 | 71 | 9 | 67 | -1 | -720 | 11.2 |
| 20.0 | 67 | 21 | 64 | 9 | -670 | 10.2 | 25.0 | 55 | 11 | 56 | 0 | -730 | 10.4 | 20.0 | 70 | 17 | 69 | 8 | -640 | 110.9 |
| 22.5 | 70 | 17 | 68 | 5 | -620 | 9.9 | 22.5 | 57 | 19 | 38 |  | -670 | 10.2 | 22.5 | 55 | 10 | 52 | -2 | -610 | 10.4 |
| 25.0 | 63 | $1 ?$ | 63 | 0 | -57c | 1 C .0 | 25.0 | 60 | 17 | 61 | 1 | -620 | 10.2 | 25.0 | 66 | 10 | 63 | -1 | -570 | 10.2 |
| 27.5 | 64 | 18 | 65 | 7 | -540 | 9.1 | 27.3 | 64 | 10 | 64 |  | -580 | 10.0 | 27.5 | 68 | 7 | 66 | -5 | -530 | 10.0 |
| 30.0 | 66 | 23 | A5 | 17 | -5n0 | 3.0 | 30.0 | 65 | 14 | 65 | 2 | -510 | 10.0 | 30.0 | 65 | 17 | 62 | 5 | -510 | 10.0 |
| 37.5 | 67 | 30 | 65 | B | -45ii | 9.2 | 32.5 | 63 | 6 | 64 | -3 | -560 | 10.2 | 32.5 | 60 |  | 58 | -5 | -470 | 9.8 |
| 35.0 | 65 | 20 | 6. |  | -430 | $10 . ?$ | 35.6 | 59 | in | 59 | -2 | -430 | 10.0 | 35.0 | 64 | 11 | 63 | 0 | -450 | 10.0 |
| 37.5 | 6 ? | 17 | 61 | 5 | -410 | 10.8 | 27.5 | 64 | 6. | $6 ?$ | -6 | -440 | 9.6 | 37.5 | 63 | 13 | 62 | 1 | -470 | 10.0 |
| 40.0 | 60 | 19 | 61 | 6 | -390 | 11.0 | 40.0 | 6.5 | 10. | 63 | -1 | -400 | 9.4 | 40.0 | 64 | 13 | 65 | 1 | -390 | 7.8 |
| 42.5 | 60 | 17 | ${ }^{\text {f1 }}$ | 7 | -360 | 10.7 | 42.5 | 50 | 10 | 60 | -2 | -380 | 9.7 | 42.5 | 70 84 | 15 | 68 | 5 | -360 | 9.7 |
| 43.0 | 64 | 13 | 60 | 7 | -340 | 9.7 | 45.9 | 60 | 21 | 62 | ? | -360 | 9.6 | 45.0 | 84 | 20 | 83 | 8 | -350 | 9.6 |
| 47.5 | 62 | 16 | 58 | 7 | -920 | 9.0 | 47.5 | 73 | 38 | 74 | 26 | -290 | 9.4 | 47.5 | 78 | ? 1 | 79 | 8 | -300 | 4.0 |



STORM 14
LEVEL 5






|  |  | $\begin{aligned} & \text { STORM } \\ & - \text { STOPN } \\ & \text { SPO/ DIR } \end{aligned}$ |  | $\begin{gathered} \text { DATE } \\ \text { TPUE } \\ \text { HDG } \end{gathered}$ |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | OCTANT AZMTH TN POQ CENT MAX WTNOS RADTUS /MOTH/STM/ANGLE/EYERAD/ PRES/ACTUAL/RFI. MAX WD/ |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2anius | vat |  |  | var | vrt | vre | d-values | tanj | racius | vat | var | vet | VRR | d-values | tanj |
| 5.0 | 70 | -1 | 9 | 5 | -770 | 15.2 | 5.0 | 7 | -17 | 5 | -5 | -780 | 15.6 |
| 1.5 | 29 | 2 | 18 | . 7 | -750 | 14.7 | 7.5 | 11 | -14 | 14 | -3 | -770 | 15.5 |
| 10.0 12.5 | 34 3 | 20 | 22 | 18 | -730 -700 | 14.5 | 10.0 | 19. | -11 | 20 | -1 | -790 | 15.7 |
| 15.0 | 37 | 5 | 26 | 7 | -680 | 13.8 | 12.5 15.0 | 33 | -10 | 314 | -1 | -8.0 | 15.8 15.8 |
| 17.5 | 34 | 5 | 26 | 5 | -670 | 13.7 | 17.5 | 38 | -6 | 41 | -1 | - 780 | 15.4 |
| 20.0 | 43 | 3 | 30 | 2 | -640 | 14.4 | 20.0 | 43 | -6 | 43 | 0 | - 770 | 18.9 |
| 22.5 | 48 57 | 35 | 35 | 1 | -620 | 14.3 | 22.5 | 17 54 | -6 | 51 | 0 | -740 | 1 H .6 |
| $\begin{aligned} & 25.0 \\ & 27.3 \end{aligned}$ | 57 68 | - | 44 | 0 | -610 | 13.7 | 25.0 | 54 | -4 | 53 | 1 | -720 | 16.2 |
| 37.3 | 78 | $-7$ | 50 64 | -2 -4 | -590 -540 | 12.8 11.9 | 27.5 30.0 | 59 | -1 | 60 | $1{ }^{4}$ | -680 -650 | 15.1 15.6 |
| 32.5 | 83 | 1 | 69 | 3 | -510 | 11.7 | 32.5 | 64 | 6 | 66 | a | -630 | 14.8 |
| 35.0 | 8.3 | -1 | 73 | ${ }_{5}^{2}$ | -480 | 11.4 | 35.0 | 96 | 5 | 73 | 10 | -570 | 14.2 |
| 31.5 | 45 | 4 | 45 | 5 | -440 | 11.3 | 37.5 | 76 | 4 | 79 | 10 | -530 | 13.9 |
| $4{ }^{4} .0$ | 979 | 979 | 999 | 999 | 999 | 999.0 | 40.0 | 76 | 5 | 79 | 10 | -470 | 12.4 |
| $4 \% .5$ | -394 | 497 | 499 | 979 | 979 | 999.0 | 42.5 | 30 | 5 | 84 | 9 | -450 | 11.4 |
| 47.5 | ¢99 | 99\% | 999 | 9797 | 999 | 999.0 999.0 | 45.0 47.5 | 79 | 9 | 83 | $1 ?$ | -470 | 10.6 |
| 52.0 | 9\%* | 497 | 999 | 999 | 999 | 99990 | 47.5 50.0 | 70 | $11^{7}$ | 79 79 | 115 | $\begin{aligned} & -360 \\ & -350 \end{aligned}$ | 10.2 10.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $121235 / 90 / E / 5 / 90 / 151962 / 70 / 71 / 50.0112 / 285 / 901 / 6 / 1 / 270 / 151962 / 82184 / 32.5$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| racius | vat | vas | vRT | vRr | o-values | tanj | raoius | vat | var | v®t | vRr | d-values | tanj |
| 5.0 | 8 | -7 | 6 | 6 | -690 | 16.2 | 5.0 | 11 | \& | 20 | -5 | -6.670 | 16.2 |
| 7.5 | ${ }^{8}$ | -3 | 11 | 8 | -690 | 15.7 | 7.5 | 18 | 4 | 24 | -3 | -670 | 12.5 |
| 10.9 12.5 | 3 | -5 | 14 22 | $\stackrel{8}{8}$ | -670 -660 | 15.4 15.3 | 10.0 | 15 37 | 9 | 22 | -1 | -560 -640 | 14.8 |
| 15.0 | 13 | -1 | 22 | 11 | -650 | 15.3 | 12.5 | 34 | 7 | 38 41 | -1 -2 | -640 -610 | 14.5 14.2 |
| 17.5 | 21 | -3 | 22 | 6 | -560 | 15.2 | 17.5 | 41 | 9 | 43 | -1 | -590 | 13.7 |
| 20.0 | ? 6 | -7 | $2{ }^{28}$ | 7 | -630 | 15.7 | 20.0 | 46 | 25 | 50 | 0 | -550 | 13.7 |
| 22.5 | 34 37 | -6 -10 | 35 <br> 38 <br> 8 | 8 | -610 | 15.4 | 27.5 | 39 | 22 | 45 | 0 | -530 -500 | 17.0 |
| 27.0 87.5 | 37 4 4 | -10 -9 | 38 48 | $\stackrel{2}{4}$ | -590 -570 | 14.9 14.6 | 25.0 27.5 | 55 57 | 118 | 60 60 | 1 | -500 -470 | 12.4 |
| 3.2 | 41 | -13 | 41 |  | -5¢0 | 14.7 | 30.0 | 74 | 21 | 76 | 10 | -440 | 10.9 |
| $3 \cdot .5$ | 47 | -8 | 45 | 2 | -540 | 15.1 | 32.5 | 82 | 19 | 84 | 7 | -390 | 10.0 |
| 35.9 | 51 | -5 | 51 | 8 | -530 | 15.4 | 35.0 | 82 | 10 | 84 | 10 | -340 | 3.7 |
| $37 \cdot$ | 57 | -5 | 52 | 7 | -500 | 15.5 | 37.5 | 78 | 21 | 80 | 10 | -310 | 10.2 |
| 43.0 | 56 | -5 | 55 | 7 | -490 | 15.6 | 40.0 | 73 | 29 | 76 | 9 | -2p0 | 10.1 |
| 45.3 | 59 59 | - | 58 59 | $?$ |  | 15.2 14.3 | 47.5 45.0 | 72 68 | 189 | 73 70 | 12 | -260 -220 | 10.7 7.9 |
| 47.5 | 6.7 | -4 | 65 | 7 | -410 | 13.6 | 47.5 | 64 | 17 | 66 | $1 ?$ | - 190 | 4.9 |
| 51.5 | 70 | -5 | 71 | 6 | -330 | 13.5 | 30.0 | 58 | 9 | 61 | 15 | -170 | 10.0 |

 $121235 / 92 / E / 5 / 90 / 15 / 962 / 70 / 71 / 50.0$


$$
\text { ID024 / } 640908 / 11730 / 667 / 1337-1400 / 0 / 27 / 74 / 145 \text {, }
$$

hadius vat var vrt vrr d-values tadj

| 5.0 | 8 | -7 | 10 |  | -550 | 13.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7.5 | 11 | - 5 | 16 |  | -540 | -13.5 |
| 10.0 | 16 | -4 | 21 | 8 | -530 | 13.4 |
| 12.5 | 22 | -5 | 26 | 7 | -530 | 13.7 |
| 15.0 | 33 | -15 | 34 | -2 | -510 | 13.8 |
| 17.5 | 42 | -17 | 39 | -5 | -500 | 13.8 |
| 20.0 | 47 | $-19$ | 43 | -6 | -460 | 13.5 |
| 22.5 | 48 | -16 | 46 | -3 | -4.40 | 13.5 |
| 25.0 27.5 | 43 | -14 -14 | 44 | -1 | -420 | 13.4 |
| 27.5 30.0 | 51 | -14 | 49 | 1 | -400 | 12.8 |
| 32.5 | 58 | -12 | 50 | 1 | -350 | 12.3 |
| 35.0 | 65 | -13 -13 | 53 69 | 3 | -340 | 12.3 |
| 37.5 | 77 | -16 | 68 | -5 | -3.30 | 12.3 |
| 40.0 | 8.2 | -22 | 82 | -9 | -260 | 11.3 |
| 4.5 | 82 | -26 | 78 | -12 |  | 9.5 |
| 5.0 | 78 | -33 | 74 | -20 | -240 | 月.7 |
| 47.5 | 76 | -27 | 71 | -16 | -180 | 8.6 |
| 50.0 | 75 | -33 | 69 | -18 | -160 | 9.1 |


|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| radius | vat | va | VRT | VRR | D-v | tad. |
| 5.0 | 16 | 11 | 12 | -2 | -540 | 11.8 |
| 7.5 10.0 | 19 | 5 | 18 | -9 | -540 | 11.7 |
| 12.5 | 19 18 | 1 | 24 | -1.2 | -530 | 11.9 |
| 15.0 | 18 | 2 | 21 | -10 -10 | -490 -440 | 12.1 |
| 17.5 | 24 | 0 | 32 | -10 | -470 | 12.8 |
| 20.0 | 27 | 4 | 36 | -7 | -460 | 12.5 |
| 22.5 25.0 | ?9 | 5 | 38 | -6 | -440 | 12.3 |
| 25.0 27.5 | 31 3 | 4 5 | 41 | -6 | -430 | 12.5 |
| 30.0 | 36 | $\stackrel{8}{9}$ | 42 | -7 | -410 -380 | 12.5 |
| 32.5 | 42 | 10 | 48 | -1 | -370 | 12.6 |
| 35.0 37.5 | 45 | 14 | 48 | 4 | -350 | 12.1 |
| 37.5 40.0 | 43 50 | 13 | 49 54 | 3 | -320 | 10.6 |
| 42.5 | 54 | 21 | 54 <br> 59 | 1 | -290 -260 | 10.0 |
| 45.0 | 6.2 | 29 | 64 | 18 | -260 | 10.1 |
| 47.5 | 70 | 34 | 70 | 22 | -190 | 9.9 |
| 50.0 | 73 | 31 | 76 | 18 | -170 | 9.2 |

132. 




| Storn | date | LLVL PlVL | $\begin{aligned} & \text { TINE } \\ & \text { INTRVAL } \end{aligned}$ | 1-0 | L4T | LONG | $\begin{gathered} \text { STOR } \\ \text { DIR } \end{gathered}$ | $\begin{aligned} & \text { RYM } \\ & \text { SP } \end{aligned}$ | TH | ON | QSTM | art | In | ROR EYE radius | CENT. PRES | vatk | RMW | VRIX |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| nora | ¢¢ (\%) | 4780800 | 1706-1731 | 0 | 29 | 79 | 280 | 10 | 80 | E | 4 | 80 | 147 |  | 965 | 77 | 42.5 | 74 |
| dren | 54070.7 | 4787960 | 15n6-15? | 1 | 79 | 79 | 280 | 10 | 125 | SE | 6 | 125 | 148 | 25 ^ | 965 | 82 | 40.0 | 84 |
| OUR | $64010 \cdot$ | 4790860 | 1544-16,92 | 1 | 24 | 79 | 280 | 10 | 10 | S | 6 | 170 | 149 | 25 A | 965 | 82 | 45.0 | 89 |
| DITRA | 64cycy | 4790 P. 50 | 1513-1531 | ก | 29 | 79 | 290 | 10 | 230 | SW | 8 | 730 | 150 | 25 A | 965 | 71 | 47.5 | 17 |
| ocra | 640307 | 47808300 | 1450-1509 | 1 | 29 | 79 | 280 | 10 | 110 | W | ${ }^{\text {a }}$ | 260 | 151 | 25 | 965 | 81 | 47.5 | 82 |
|  |  | Ras:Ius | ghemootmin weightio voriex averages |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | vat vak |  | V2t | Var | d-values |  |  | tanj |  | vatz |  |  |  |  |  |  |
|  |  | 5.6 | 11 -l |  | 18 | - | -1208 |  |  |  | 20.7 |  |  |  |  |  |  |  |
|  |  | 7.5 | 230 |  | 27 |  | -1187 |  |  |  | 20.6 |  |  |  |  |  |  |  |
|  |  | 10.6 | 31 |  | 34 |  | -1155 |  |  |  | 20.4 |  |  |  |  |  |  |  |
|  |  | 12.5 | 38 |  | 40 |  | -1116 |  |  |  | 20.2 |  |  |  |  |  |  |  |
|  |  | 15.c | 442 |  | 43 |  | -1071. |  |  |  | 17.9 |  |  |  |  |  |  |  |
|  |  | 17.5 | 032 |  | 43 |  |  |  |  |  | 19.8 |  |  |  |  |  |  |  |
|  |  | 70.0 | 484 |  | 50 |  | -1004 |  |  |  | 19.7 |  |  |  |  |  |  |  |
|  |  | 23.5 | 51 |  | 53 |  |  |  |  |  | 19.6 |  |  |  |  |  |  |  |
|  |  | 75.6 | 53 |  | 54 |  | -929. |  |  |  | 19.4 |  |  |  |  |  |  |  |
|  |  | 21.5 | $54 \quad 6$ |  | 56 |  | -899 |  |  |  | 19.3 |  |  |  |  |  |  |  |
|  |  | 31.0 | $5 \%$ 8 |  | 1.5 |  | -86? |  |  |  | 19.0 |  |  |  |  |  |  |  |
|  |  | 2.5 | 6.58 |  | 67 |  | -824 |  |  |  | 18.6 |  |  |  |  |  |  |  |
|  |  | 34.8 | 67 . 7 |  | 69 | 1 | -824-793 |  |  |  | 19.2 |  |  |  |  |  |  |  |
|  |  | 31.5 | $70 \quad 11$ |  | 72 |  | -753 |  |  |  | 17.9 |  |  |  |  |  |  |  |
|  |  | 4 C . | 73 |  | 74 |  | -753-719 |  |  |  | 17.6 |  |  |  |  |  |  |  |
|  |  | 42.5 | 7212 |  | 75 | 1 | -719 |  |  |  | 17.4 |  |  |  |  |  |  |  |
|  |  | 45.8 | 7411 |  | 17 | 1 | -651 |  |  |  | 17.2 |  |  |  |  |  |  |  |
|  |  | 47.3 | $77 \quad 10$ |  | 78 | 1 | -623 |  |  |  | 17.0 |  |  |  |  |  |  |  |
|  |  | 50.0 | 767 |  | 79 |  | -601 |  |  |  | 16.9 |  |  |  |  |  |  |  |

smedthed vortex averages

| pagius | vat | var | vRt | vrr | d-values | TADJ | vatz |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 14 | -1 | 21 | -2 | -1201 | 20.7 | 261 |
| 7.3 | 25 | 0 | 27 | -1 | -1183 | 20.6 | 774 |
| 10.0 | 31 | 0 | 34 | -0 | -1153 | 20.4 | 1095 |
| 12.3 | 38 | 1 | 40 | 0 | -1115 | 20.2 | 157.3 |
| 15.6 | 43 | 2 | 45 | ? | -1073 | 20.0 | 1884 |
| 17.5 | 43 | 3 | 48 | 3 | -1037 | 17.9 | 2077 |
| 2\%.0 | 48 | 4 | 50 | 5 | -1001 | 13.7 | 2361 |
| 22.5 | 51 | 4 | 52 | 6 | -963 | 19.6 | 2658 |
| 25.6 | 53 | 4 | 54 | 6 | -930 | 19.4 | 2376 |
| 27.5 | 55 | 6 | 58 | 7 | -897 | 19.3 | 3146 |
| 3 coc | 60 | 8 | 8.4 | 8 | -861 | 17.0 | 3658 |
| 32.5 | 64 | 8 | 6.9 | 9 | -826 | 18.6 | 4204 |
| 35.4 | 67 | 8 | 67 | 10 | -791 | 18.2 | 4591 |
| 37.5 | 70 | 10 | 72 | 12 | -754 | 17.9 | 5032 |
| 40.0 | 72 | 10 | 73 | 14 | -719 | 17.6 | 5317 |
| 42.5 | 73 | 11 | 75 | 15 | -685 | 17.4 | 5398 |
| 45.0 | 73 | 11 | 77 | 14 | -653 | 17.2 | 966日 |
| 47.5 | 76 | 10 | 79 | 13 | -626 | 17.1 | 5857 |
| 50.0 | 17 | 8 | 74 | 11 | -609 | 17.0 | 544,3 |



| hatius | vat | var | vet | vre | o-values | tads | radius | vat | var | VRT | VRR | D-valufs | rass | badius | vat | vak | vR ${ }^{\text {t }}$ | vRR | d-values | 1AOJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9.9 | 943 | 4.94 | 999. | 999 | -630 | 14.3 | 5.0 | 23 | 5 | 24 | 1 | -970 | 14.7 |  |  |  |  |  |  |  |
| 7.9 | 13 | -1 | $10^{\circ}$ | 997 | -670 | 13.3 | 7.5 | 33 | 6 | 28 | 1 | -740 | 14.5 | 3.0 | 28 33 | 6 2 | 23 28 | 5 | -760 -730 | 15.5 14.5 |
| 19.0 12.5 | 73 | -3 -3 | 24 27 | ? | -600 -580 | 13.0 13.5 | 10.0 | 31 | 3 | 33 | 2 | -790 | 14.3 | 10.0 | 36 | $\stackrel{1}{0}$ | 31 | -1 | -730 | 14.5 15.1 |
| 15.6 | 21 | -2 | 29 | -1 | -5.0 | 13.3 | 15.0 | 37 | 3 | 40 | - | -720 -690 | 14.2 | 12.5 | 37 | 2 | 32 | $\bigcirc$ | -670 | 14.5 |
| 17.5 | 23 | -1 | 33 | 7 | -540 | 13.6 | 17.5 | 44 | -1 | 47 | -1 |  |  |  | 3 m | 12 | 33 | 10 | -690 | 14.7 |
| 20.0 | 34 | -1 | 39 | 2 | -540 | 13.3 | 20.9 | 60 | 5 | 56 | -1 | -670 | 14.5 14.7 | 17.5 | 40 | 13 | 35 | $11^{.}$ | -640 | 14.0 |
| 26.5 | 35 | -1 | 41 | -1 | -5?0 | 13.4 | 22.5 | 60 | 5 | 62 | 0 | -570 | 14.7 | 20.0 | 49 60 | 14 | 44 | 12 | -630 | 13.5 |
| $\cdots$ | 40 | -5 | 4.4 | - | -500 | 13.3 | 25.0 | 6.3 | 6 | 6.1 | 2 | -530 | 13.1 | 25.0 | 6 | 5 | 550 | 8 | -590 -500 | 12.3 |
| 27.5 | 19 51 | $-2$ | 50 | 4 | -460 | 13.3 | 27.5 | 65 | $\stackrel{9}{9}$ | 64 | 4 | -490 | 13.1 | 27.5 | 73 | \% | $5{ }_{60}$ | - | -5n0 | 13.2 13.2 |
| $\because$ ? | 5. | 7 | $5 \cdot 3$ | 9 | -3, 30 | 13.2 | 37.0 32.5 | 67 64 | 9 | 66 | 4 | -460 | 12.7 | 30.0 | 6.7 | 6 | 62 | 4 | -470 | 13.0 |
| 3 CO | 51 | 9 |  | 10 | -350 | 13.2 | 35.0 | 6,6 | 14 | 65 | 4 | -410 -370 | 12.5 | 32.5 | 77 | 5 | 73. | 3 | -430 | 17.7 |
| 3 3. ${ }^{\text {a }}$ | 93 | 7 | 57 | 4 | - 320 | 12.9 | 37.5 | 70. | 14 | 70 | 6 | -370 -340 | 12.5 | 33.0 37.5 | 80 | 5 | 75. | 3 | -360 | 12.9 |
| 4 | so | -? | 56 | 3 | -270 | 12.8 | 40.0 | 72 | 17 | 71 | 9 | -320 | 12.? | 40.0 | 76 79 | -1 | 71 74 | -3 | -330 -310 | 12.7 |
| ¢T\% | 48 | -1 | 56 | 3 | -250 | 12.6 | 42.5 | 71 | 12 | 71 | 12 | ->9n | 12.0 | 42.5 | 74 | -1 | 74 | -3 | -310 $-2,20$ | 12.5 |
| $\cdots$ | 9 | 4 | $5{ }^{8}$ | 5 | -240 | 12.7 | 45.0 | 71 | 11 | 71 | 10 | -250 | 11.9 | 45.0 | 73 | ? | 68 | -2 | -290 -260 | 12.0 |
| $4 \cdot 5$ | $\mathrm{r}^{2}$ | $\stackrel{6}{6}$ | 60 | 5 | -210 | 12.5 | 47.5 | 68 | 11 | 70 | 8 | -220 | 11.6 | 47.5 | 74 | 4 |  |  |  | 11.7 |
| $0 \cdot 0$ | ${ }^{18}$ | $?$ | 62 | 4 | -180 | 12.3 | 30.0 | 66 | 11 | 68 | 7 | -190 | 11.6 | 50.0 | 75 | 3 | 70 | . | -170 | 11.7 11.2 |




| 4-itius | vas | var | vrt | ver | d-values | TADJ | radius | vat | var | vRt | VRR | n-values | tanJ | Radius | vat | var | vRt | var | d-values | iADJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \%.0 | 970 | 979 | 10 | 0 | -830 | 16.0 | 5.0 | 18 | 11 | 16 | 5 | -670 | 14.1 | 5.0 | 997 | 739 | 20 |  |  |  |
| 7.5 | 15 | ? | 22 | 1 | -780 | 16.0 | 7.9 | 31 | 5 | 29 | 4 | -6,50 | 14.1 | 7.5 | 34 | 737 -5 | 28 | 999 | -590 -590 | 13.9 |
| 10.9 | 13 | \% | 23 | ? | -740 | 11.3 | 10.0 | 27 | 1? | 24 | 4 | -6.30 | 13.9 | 10.0 | 39. | -6 | 34 | 3 | -590 | 11.5 13.4 17.4 |
| 19.0 | 35 | 5 | 26 28 28 | -1 | -710 -670 | 16.3 | 12.5 | 34 | 8 | 31 35 | ? | -6no | 13.6 | 12.5 | $35^{\circ}$ | -8 | 38 | -3 | -569 | 13.4 |
| 17.5 | 33 | 2 | 32 | - 2 | -620 | 16.0 | 17.9 17.5 | 38 | 5 | 35 | 0 | -5an | 13.6 | 15.0 | $4{ }^{4}$ | -8 | 44 | 0 | -520 | 13.5 |
| $2 \% 0$ | 26 | -1 | 37 | -4 | -610 | 16.1 | 20.0 | 46 | -4 | 35 | -2 | -570 | 13.3 | 17.5 | 55 | -5 | 50 | -1 | -490 | 13.7 |
| 27.5 | 33 | -? | 42 | -4 | -600 | 15.9 | 22.5 | 59 | -7 | 54 | $-3$ | -540 | 14.5 | 22.5 | 67 | -5 -7 | 54 55 | -2 | -470 | 13.7 |
| $1 \%$ | 37 | -1 | 47 | -4 | -580 | 15.3 | 25.0 | 58 | -1 | 54 | -2 | -49n | 14.3 | 25.0 | 60 | -10 | 58 | -5 | -440 | 14.1 14.6 |
| 27.5 | 44 | 0 | 51 | -3 | -550 | 14.5 | 27.5 | 56 | -1 | 52 | -3 | -450 | 14.2 | 27.5 | 61 | -11 | 57 | -5 |  | 14.6 14.7 |
| 30.3 | 45 | 0 | 52 | -2 | -510 | 13.7 | 30.0 | 56 | 0 | 52 | -3 | -4, 0 | 14.2 | 30.0 | 60 | -11 | 58 | -6 | -370 | 14.7 14.6 |
| 37.5 35.0 | 6.7 4.9 | 5 | 51 51 | $\frac{1}{3}$ | -470 -440 | 13.6 13.7 | 32.5 35.0 | 56 68 | 5 | 52 | $\frac{1}{2}$ | -4n0 | 14.3 | 32.5 | 59 | -12 | 58 | -4 | -350 | 14.6 |
| 37.5 | 4 | 9 | 51 | 4 | $-460$ | 13.3 | 37.0 | $\underline{61}$ | 5 | 59 50 | ? | -360 -320 | 14.1 13.8 | 35.0 37.5 | 60 6 6 | -7 -7 | 58 59 59 | -2 | -320 -300 | 17.7 |
| 40.5 | 51 | 7 | 5 ? | 3 | -370 | 13.0 | 40.0 | 62 | 7 | 57 | 4 | -300 | 13.3 | 40.0 | 64 | -6 | 60 | -2 | - 300 -200 | 12.9 12.5 |
| 42.5 | 53 | 11 | 54 | 5 | -350 | 13.0 | 42.5 | 65 | 6 | 59 | 6 | - 260 | 12.3 | 42.5 | 6.2 | -8 | 58 | -1 | - 2150 | 12.5 12.2 |
| 45.0 | 57 | 12 | 56 | ${ }^{8}$ | -320 | 13.1 | 45.0 | 67 | 7 | 57 | 4 | -260 | 12.5 | 45.0 | 999 | 999 | 999 | 997 | 499 | 12.2 999.0 |
| 47.5 90.0 | 560 | 14 | 47 58 | $\stackrel{7}{6}$ | -300 -280 | 12.9 12.6 | 47.5 30.0 | $\begin{array}{r}67 \\ \hline 99\end{array}$ | 49 | -599 | $9{ }_{9}^{6}$ | 999 | 2973.0 | 47.5 | 994 | 999 | 997 | 999 | 999 | 9999.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 99 | 999 | 999 | 499 | 994.0 |

$$
\begin{aligned}
& \text { STORM TPUE OCTANT AZMTH TN ROR CFNT MAX WTNOS PANIUC } \\
& \text { SDD/ OIR, HDR iNOTH/CTM/ANGIF/FYFDAN/ DNFS/ACTUAL/REL IMAX WD, }
\end{aligned}
$$

| Stoam | Qupe | ilvL Plvt | $\begin{gathered} \text { TIMF } \\ \text { INTEQVAL } \end{gathered}$ | 1-0 | lat | LONG | $\mathrm{SiP}_{\text {Stom }}$ |  | TH. | QN | QStm | ARL | 10 | RDR EyE RADIUS | CENT. PESS | vatx | R ${ }^{\text {d }}$ | vrix |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| cora | 548707 | \% | 1359-1492 | 1 | $?$ | $7{ }^{\circ}$ | 280 | 10 | 295 | f | 5 | 100 | 154 |  | 965 | 58 | 50.0 |  |
| 0cza | 840407 | 9190715 | 1836-1990 | 1 | 29 | 79 | 280 | 10 | 325 | $s$ | 6 | 160 | 155 | 25 A | 965 | 56 | 50.0 | 58 |
| ocira | $64040 \cdot 9$ | 9790715 | 2043-2111 | 1 | 29 | 79 | 280 | 10 | 35 | SW | 7 | 210 | 156 | 25 ^ | 965 | 72 | 40.0 | 71 |
| 0324 | 640.0. ${ }^{\text {a }}$ | $\rightarrow 880715$ | 1535-1549 | 1 | 29 | 79 | 280 | 10 | 90. | H | 1 | 270 | 157 |  | 965 | 67 | 45.0 | 59 |
| dura | 86.0707 | 2000715 | 10n1-1.93 | n | 27 | 79 | 280 | 10 | 270 | 4 | 1 | 270 | 15n | 25 A | 965 | 80 | 35.0 | 75 |
| Dran | 060904 | 94\%0 715 | 1513-1527 | $\square$ | 27 | 79 | 280 | 10 | 370 | $N$ | 2 | 370 | 159 | 25 A | 965 | 64 | 40.0 | 60 |
|  |  |  | unsmbetheo | wFIG | hted | Vorte | x aver | race |  |  |  |  |  |  |  |  |  |  |
|  |  | rapius | vat var |  | vit | vR | Rr | D-V | lues |  | tads |  | vat? |  |  |  |  |  |
|  |  | 5.6 | $27 \quad 5$ |  | 20 |  | 2 |  | 00 |  | 14.7 |  | 745 |  |  |  |  |  |
|  |  | 7.5 | 260 |  | 24 |  | 1 |  | 77. |  | 14.3 |  | 772 |  |  |  |  |  |
|  |  | 10.3 | 29 |  | 28 |  | 0 |  | 56' |  | 14.2 |  | 905 |  |  |  |  |  |
|  |  | 17.3 | 31 |  | 32 |  | 0 |  | 27 |  | 14.1 |  | 1058 |  |  |  |  |  |
|  |  | 15.6 | $3 \%$ |  | 35 |  |  |  | 00 |  | 14.1 |  | 277 |  |  |  |  |  |
|  |  | 17.5 | 39 |  | 19 |  | 1 |  | 575 |  | 14.1 |  | 6.97 |  |  |  |  |  |
|  |  | 2¢.6 | 45 |  | 46 |  |  |  | 58 |  | 14.1 |  | 261 |  |  |  |  |  |
|  |  | 22.5 | $51-0$ |  | 50 |  | 1 |  | 22 |  | 14.0 |  | 277 |  |  |  |  |  |
|  |  | 75.0 | $53-2$ |  | 53 |  | 1 |  | 94 |  | 14.0 |  | 2965 |  |  |  |  |  |
|  |  | 27.5 | $57-2$ |  | 56 |  | - |  | 64 |  | 13.9 |  | 3365 |  |  |  |  |  |
|  |  | 32.8 | 57 - 0 |  | 57 |  | 0 |  | 33 |  | 13.6 |  | 3371 |  |  |  |  |  |
|  |  | 32.5 | 531 |  | 59 |  | 1 |  | 99 |  | 13.5 |  | 3529 |  |  |  |  |  |
|  |  | 35.0 | 60.4 |  | 6\% |  | 3 |  | 61 |  | 13.3 |  | 3733 |  |  |  |  |  |
|  |  | 37.5 | $60 \quad 4$ |  | 60 |  | 2 |  | 31 |  | 12.7 |  | 379 |  |  |  |  |  |
|  |  | 4 CO | 62 |  | 61 |  | 1 |  | 07 |  | 12.7 |  | 3978 |  |  |  |  |  |
|  |  | 42.5 | 60 |  | 61 |  | 3 |  | 79 |  | 12.4 |  | 3806 |  |  |  |  |  |
|  |  | 45.0 | $60 \quad 6$ |  | 62 |  | 4 |  | 00 |  | 12.4 |  | 393 |  |  |  |  |  |
|  |  | 4,7.3 | 607 |  | 62 |  | 5 |  | 25 |  | 12.1 |  | 3818 |  |  |  |  |  |
|  |  | 5c. ${ }^{\text {c }}$ | 6\% 4 |  | 65 |  | 3 |  | 93 |  | 11.9 |  | 265 |  |  |  |  |  |

## smoothed vortex averages

| qar.ius | vat | vak | vRt | vre | d-valies | tanj | vatz |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 29 | 5 | 22 | 1 | -692 | 14.5 | \%sh |
| 7.1 | 26 | 0 | 25 | 1 | -675 | 14.3 | 734 |
| 1 cos | 28 | 0 | 78 | 0 | -654 | 14.2 | 415 |
| 12.5 | 11 | 0 | 32 | -0 | -627 | 14.1 | 107 |
| 15.6 | 34 | 0 | 35 | 0 | -600 | 14.1 | 1327 |
| 17.5 | 39 | 0 | 40 | 0 | -577 | 14.1 | 1741 |
| 72.0 | 45 | 0 | 45 | 0 | -554 | 14.1 | 2260 |
| 22.; | 50 | -0 | 49 | -0 | -523 | 14.0 | 2695 |
| 25.6 | 53 | -1 | 53 | -1 | -493 | 14.0 | 2998 |
| 27.5 | 46 | -1 | 56 | -0 | -464 | 13.8 | 3275 |
| 30.6 | 57 | 0 | 57 | , | -432 | 13.7 | 3397 |
| 37.5 | 58 | 1 | 5. | 1 | -397 | 13.5 | 3545 |
| 34.0 | to | 3 | 60 | 2 | -362. | 13.3 | 3700 |
| 37.', | so | , | 60 | 2 | -333 | 13.0 | 3814 |
| 40.0 | 61 | 2 | 60 |  | -306 | -12.7 | 3894 |
| 42.5 | ¢1 | 2 | So | 3 | -281 | 12.5 | 3838 |
| 45.0 | 60 | 6 | 62 |  | -258 | 12.4 | 3829 |
| 47.3 | 61 | 8 | 62 | 4 | -225 | 12.1 | 3908 |
| 5 c .0 | 63 | 5 | 64 | 3 | -204 | 11.9 | 4175 |

# ドトに へし「 

 FEET，MB，TIMF OUT／I ATMONGヒ，In／． STORN TOUE OCTANT AZMTH IN RDR CFNT MAX WTNIS RADIUS SPI／DIR，HDG ANTH／STM／ANGILEIEYERAD／PRES／ACTUAL／RFL MMAX WDI
hadius vat var vat var d－values tadj

| 5.0 | 28 | $\square$ | 25 | 5 | －400 | 9.1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7.5 | 36 | 3 | 33 | 3 | －380 | 8.6 |
| 10.0 | 38 | 5 | 35 | 4 | －360 | 8． 5 |
| 12.5 | 49 | 8 | 37 | 6 | －340 | 8． 3 |
| 15.0 | $5 ?$ | 9 | 45 | 7 | －300 | 1.6 |
| 17.5 | 59 | 19 | 51 | 10 | －2．50 | 7.3 |
| 20.0 | 68 | 16 | 63 | 14 | －210 | 6.9 |
| 22.5 | \％6 | 15 | 61 | 16 | －1170 | 6.4 |
| 25.0 | n4 | 10 | 60 | 8 | －150 | 6.3 |
| 27.5 | 67 | 14 | 62 | 12 | －120 | 6.4 |
| 30.0 | 63 | 16 | 65 | 16 | －90 | 8.2 |
| 37.5 | 6,7 | 17 | 63 | 15 | －60 | 6.0 |
| 33.0 | 62 | 14 | 60 | 13 | －30 | 6.7 |
| 37.5 | 61 | 18 | 58 | 14 | 0 | 6.5 |
| 40.0 | 57 | 14 | 58 | 17 | 20 | 6.4 |
| 42.5 | 64 | 21 | 60 | 18 | 40 | 6.4 |
| 45.0 | h7 | 22 | 60 | 15 | 70 | 6.3 |
| 47.5 | 53 | 13 | 55 | 12 | 1 co | 6.1 |
| 50.0 | 57 | 10 | 62 | 12 | 120 | 6.2 |

IDCNA／640909／13800／618／1627－1640／0／29／79／161／


| radius | vat | var | vRr | vRr | n－values | IADJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 12 | 3 | 20 | 1 | －310 | 9.2 |
| 7.5 | 16 | 1 | 23 | 1 | －330 | 9.6 |
| 10.0 | 19 | －1 | 23 | 1 | －370 | 9.4 |
| 12.5 | 17 | 2 | 27 | 0 | －310 | 8.7 |
| 15.0 | 32 | 0 | 38 | 0 | －250 | 3.1 |
| 17.5 | 43 | －9 | 50 | －8 | －220 | 8.0 |
| 2 c ． 0 | 4.4 | －1 | 50 | －2 | －210 | 8.5 |
| 22.5 | 4.4 | －2 | 50 | 0 | －190 | 9.0 |
| 25.0 | 44 | 2 | 48 | －2 | －150 | 8．${ }^{\text {¢ }}$ |
| 27.5 | 48 | －4， | 45 | －4 | －170 | ค． 3 |
| 30.0 | 40 | －7 | 49 | －5 | －100 | 7.3 |
| 32.5 | 52 | －4 | 55 | －4 | －70 | 6.6 |
| 35.0 | 47 | 0 | 52 | －2 | －50 | 0.6 |
| 37.5 | 47 | －1 | 52 | 1 | －20 | 6.5 |
| 40.15 | 949. | 999 | 979 | 999 | 999 | 999.0 |
| 42.5 | ¢ッワ | วํา | 9 9\％ | 994 | 999 | 999.0 |
| 45.0 | 394 | 939 | 999 | 999 | 999 | 999.0 |
| 47.5 | 997 | 999 | 999 | 979 | 779 | 999.0 |
| 50.0 | 999 | 999 | 999 | 499 | 999 | 999.0 |



| mantus | Vit | var | VRT | VRR | d-values | TADJ | ramus | vat | var | VRT | VRR | o-valufs | TADJ | ranius | vat | var | VR T | VRR | o-values | tanj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9.0 | 25 | 11 | . 13 | 9 | -1460 | 22.9 | 5.0 | 70 | -4 | 18 | 7 | $-1330$ | 22.7 | 5.6 | 12 | -4 | 24 | -6 | -1290 | 23.: |
| 7.5 | 53 | 10 | $\cdots 3$ | 8 | $-1440$ | 23.0 | 7.5 | 43 | $-9$ | 38 | 0 | -1250 | 21.9 | 7.5 | 42 | -7 | 47 | -9 | -1230 | 21.0 |
| $1 \mathrm{~m}, 6$ | 1 n 3 | 12 | 74 | 9 | -14.0 | 22.4 | 10.0 | 73 | -12 | 74 | -2 | -1210 | 21.3 | 10.0 | 65 | 3 | 73 | 2 | -1100 | 21.4 |
| 12.5 | 111 | -6 | 101 | -10 | -14.00 | 21.8 | 12.5 | 9 ค | -1 | 93 | 10 | -930 | 20.8 | 17.5 | 8.4 | -3 | 95 | -4 | -1010 | 20.8 |
| 15.0 | 110 | 3 | 91 | -1 | -1300 | 21.0 | 17.0 | 110 | -2 | 105 | 7 | -750 | 20.2 | 15.0 | 33 | -9 | 95 | -11 | -810 | 20.2 |
| 17.5 | 103 | 1 | 95 | -3 | -1120 | 20.2 | 17.5 | 96 | -? | 93 | A | -6.30 | 19.4 | 17.5 | ก0 | -13 | 93 | -15 | -670 | 19.9 |
| $2 \mathrm{P} \cdot 0$ | 129 | -1 | P. 6 | -5 | -840 | 17.6 | 20.0 | 97 | $-7$ | 84 | 3 | -570 | 17.5 | 2 C .0 | 75 | $\rightarrow$ | 83 | -10 | -610 | 19.7 |
| 22.5 | 33 | ? | 84 | -2 | -740 | 20.0 | 22.5 |  | -4 | 77 | 6 | -500 | 14.5 | 22.5 | 73 | $-3$ | 83 | -9 | -500 | 19.3 |
| 4.0 | 31 | 1 | R 2 | -3 | -590 | 20.2 | 25.0 | 81 | 0 | 77 | 9 | -420 | 19.4 | 25.0 | 74 | -16 | 8. | -18. | -4.50 | 19.1 |
| 27.5 | 8 | ? | 03 | -2 | -510 | 20.1 | 27.5 | 7.1 | -2 | 76 | 8 | -36.0 | 19.3 | 27.5 | 73 | -12 | 83 | -13 | -300 | 19.1 |
| 30.7 | $\stackrel{9}{97}$ | - | 81 | $-2$ | -470 | 2 C .0 | 310.0 | 74 | -2 | 69 | 8 | -370 | 19.1 | 30.0 | 71 | -16 | 76 | -17 | -340 | 19.1 |
| 32.5 | 35 | -2 | 75 | -h | -4.0 | 19.7 | 32.5 | 71 |  | 66 | 4. | -780 | 18.8 | 32.5 | 67 | -17 | 78 | -14 | -300 | 13.月 |
| 35.0 37.5 | 9 78 | -1 | 70 | -4 | -350 -320 | 13.2 18.8 | 33.0 37.5 | 69 | -5 | 63 66 | ${ }^{4}$ | -230 <br> -200 <br> 170 | 19.3) | 36.0 | 65 | -13 | 72 | -14 | -250 | 13.8 |
| 451.0 | 75 | 5 | 67 | -4 | -320 | 18.9 18.7 | 37.5 40.0 | 68 67 | 3 | 66 64 | 12 | -200 -170 | 17.1 11.9 | 37.5 40.0 | 61 61 | -16 -19 | 73 75 | -17 -20 | -230 -220 | 18.7 |
| 42.5 | 74 | 2 | 63 | -3 | -170 | 18.7 | 42.5 | $6{ }_{6}$ | 10 | 60 | 0 | -150 | 14.0 | 42.5 | 63 | -19 | 71 | - | - | 10.5 |
| 46.0 | 76 | 3 | 65 | -1 | -160 | 18.5 | 45.0 | 65 | -17 | 61 | -8 | -130 | 19.0 | 45.0 | 60 | $-13$ | 71 | -13 | -180 | 13.3 |
| 49.5 | 75 | b | 67 | 0 | -150 | 18.3 | 47.5 | 63 | -16 | 55 | -6 | -100 | 14.6 | 47.5 | 58 | -11 | 68 | -12 | -130 | 18.2 |
| 31.0 | 75 | 4 | 66 | -1 | -160 | 18.1 | 50.0 | 62 | -14 | 59 | $-4$ | - 20 | 17.? | 50.0 | 57 | -7 | 68 | -7 | -140 | 18.1 |




| Strey | cate | 7.VL | PLVL | $\begin{gathered} \text { Tive } \\ \text { LNTERVAL } \end{gathered}$ |  | 1-0 | lat | LOHG | $\begin{aligned} & \text { STORM } \\ & \text { OIR SPO } \end{aligned}$ |  | rH | QN | QSTM | ARL | 10 | RDR EYE RADIUS | $\begin{aligned} & \text { CFNTI } \\ & \text { PRRS } \end{aligned}$ | vatx | R.Vm | VRTX |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| glanys | 6407i7 | 32.3 | 907 |  | 550 | 0 | 24 | 64 | 300 | 9 | 5 | N | 2 | 5 |  |  |  |  |  |  |
| glabrs | 640917 | 3240 | 901 |  | 335 | 0 | 24 | ${ }_{64} 6$ | 300 | 9 | 90 | N | 4 | 90 | 163 | 13 | 949 954 | 111 | 12.5 | 101 |
| glabys | 040717 | 1240 | 907 | 137 | 4 ns | 1 | 24 | 64 | 300 | 9 | 270 | E | 4 | 100 | 164 | 13 | 954 |  | 15.0 | 100 |
| glaicys | $54 \mathrm{Col}{ }^{7}$ | 3210 | 907 |  | 527 | I | 24 | 64 | 300 | 9 | $\stackrel{10}{ }$ | ${ }_{5}$ | 7 | 195 | 164 | 13 | 954 <br> 948 <br> 9 | 110 | 15.0 | 105 |
| glacrs | 640717 | 32.0 | י07 | 123 | 316 | I | 74 | 64 | 300 | 9 | 35 | sw | 7 | 225 | 166 | 13 | 954 | 84 | 12.5 | 109 75 |
| geners | 640917 | 3240 | 907 |  | 436 | 0 | 24 | 64 | 300 | 9 | 260 | * | 8 | 260 | 157 | 13 | 954 | 93 | 12.5 | 98 |
| unsmothed weighte vortex averages |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| rancus |  |  |  | vat | vaie |  | vat | vя | d-yalues |  |  | tadj vat2 |  |  |  |  |  |  |  |  |
|  |  | 5.8 |  | 21 | -2 |  | 19 | - | -1364 |  |  | 22.0 467 |  |  |  |  |  |  |  |  |
|  |  | 7.5 |  | 47 | -3 |  | 40 | - | -1328 |  |  | 22.32357 |  |  |  |  |  |  |  |  |
|  |  | 12.0 |  | 20 | 0 |  | 74 |  |  |  |  | $\begin{array}{ll}21.9 . & 6716 \\ 21.2 & 9939\end{array}$ |  |  |  |  |  |  |  |  |
|  |  | 12.: |  | 94 | -6 |  | 98 | -5 | -1230 |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 15.6 |  | 100 | -2 |  | 77 | -2 | -1155-960 |  |  | $\begin{array}{rr}21.2 & 9739 \\ 20.4 & 10159\end{array}$ |  |  |  |  |  |  |  |  |
|  |  | 11.5 |  | 91 | -2 |  | 91 | - | -960-809 |  |  | 19.9 946? |  |  |  |  |  |  |  |  |
|  |  | 20.0 |  | 84 | -2 |  | 32 | - | -659. |  |  | 19.6 |  |  |  |  |  |  |  |  |
|  |  | 22.5 |  | 79 | -0 |  | 79 |  | -657.-576-495 |  |  |  |  |  |  |  |  |  |  |  |
|  |  | $2 \cdot 6$ |  | 77 | -0 |  | 76 | n |  |  |  | 19.76362 |  |  |  |  |  |  |  |  |
|  |  | 27.3 |  | 76 | 2 |  | 77 |  | -495 |  |  | $\begin{array}{ll}19.6 & 6037 \\ 10.5 & 5932 \\ \end{array}$ |  |  |  |  |  |  |  |  |
|  |  | $3 \mathrm{n} \cdot \mathrm{a}$ |  | 75 | 2 |  | 76 | - | -433-387 |  |  |  | 19.4 |  |  |  |  |  |  |  |
|  |  | 32.5 |  | 73 | $-1$ |  | 73 | -0 | $\begin{aligned} & -339 \\ & -293 \end{aligned}$ |  |  |  | 19.2 | 5414 |  |  |  |  |  |  |
|  |  | 35.0 |  | 70 | -1 |  | m | -1 |  |  |  |  | 19.0 | 4980 |  |  |  |  |  |  |
|  |  | 37.8 |  | 66 | 1 |  | 69 |  |  |  |  |  | 18.9 | 4480 |  |  |  |  |  |  |
|  |  | 40.0 |  | 65 | -2 |  | 67 | -1 | -261 |  |  |  | 10.7 | 43634274 |  |  |  |  |  |  |
|  |  | 42.5 |  | 65 | 0 |  | 63 | -2 | -219 |  |  |  | 18.6 |  |  |  |  |  |  |  |
|  |  | 45 |  | 6,4 | -3 |  | 64 | -2 | -162 |  |  |  | 18.5 | 42744198 |  | . |  |  |  |  |
|  |  | 47.3 |  | 63 | $-4$ |  | 61 | -3 | -142 |  |  |  | 18.5 | 419841284 |  |  |  |  |  |  |
|  |  | 5 c .0 |  | 64 | -4 |  | 6.4 | -4 | -133 |  |  | 18.3 . 4193 |  |  |  |  |  |  |  |  |



| antus | vat | var | vRt | var | o-values | tanj | radius | vat | VAR | vri | vRr | 0-valufs | IADS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | s | 5 | 15 | 1 | -1210 | 20.月 | 5.0 | 26 | 1 | 40 | ค | -1170 | 10.0 |
| $\because .5$ | 14 | -2 | 10 | -6 | -1210 | 19.8 | 7.5 | 48 | 2 | 53 | 15 | -1100 | 13.4 |
| 17.0 | 33 | -6 | 25 | -11 | -1170 | 18.5 | 10.0 | 71 | 12 | 83 | 1 n | -990 | 13.7 |
| 12.5 | $4{ }_{4}$ | $-9$ | 43 | -14 | -11.0 | 17.5 | 12.5 | 91 | 6 | 94 | 14 | -820 | 12.1 |
| 15.0 | 59 | -10 | 50 | -15 | -1150 | 15.5 | 15.0 | 90 | 4 | 91 | 10 | -610 | 10.6 |
| 17.5 | 30 | $-37$ | 57 | -25 | -770 | 13.6 | 17.5 | 73 | 0 | e 3 | 7 | -580 | 10.4 |
| 20.1 | 75 | -14 | 71 | -20 | -840 | 12.2 | 20.0 | 6.6 | 1 | 74 | B | -400 | $1 \mathrm{ir.4}$ |
| 32.5 | 50 | -18 | 44 | -7 | -740 | 11.4 | 22.5 | 6.3 | 0 | 74 | 2 | -4,70 | 10.1 |
| 25.0 | 50 | -16 | 46 | -22 | -650 | 10.5 | 25.0 | 61 | -5 | 69 | 0 | -360 | 10.2 |
| 27.3 | 49 | -? | 45 | -11 | -560 | 9.8 | 27.5 | 61 | -5 | 70 | 1 | -300 | 9.) |
| 3 l | 73 | $-17$ | 72 | -27 | -490 | 9.9 | 30.0 | 59 | -7 | 67 | -2 | -260 | 9.7 |
| 32.5 | 7 | 10 | 78 | 1 | $-4 \mathrm{CO}$ | 4.8 | 37.5 | 56 | -6 | 65 | -1 | -220 | 10.7 |
| 19.6 | ${ }^{515}$ | -r. | 74 | 997 | -300 | 9.8 | 35.0 | 58 | -6 | 63 | - | -190 | 4.7 |
| 17. | 37 | 997 | 8 g | 997 | -210 | 10.1 | 37.5 | 59 | -5 | 58 | -1 | -1/0 | 7.5 |
| 4 n .6 | 31 | $49 \%$ | 86 | 497 | -150 | 9.7 | 47.0 | 52 | -2 | 61 | 2 | -170 | 4.5 |
| 4 | 96 | 20.3 | ns | 997 | -100 | 9.2 | 42.5 | '5 | -6 | 62 | 0 | - 0 | 9.4 |
| 43.0 | 32 | 471 | 8 s | 997 | -60 | 9.0 | 43.0 | $5 \cdot 4$ | -11 | 63 | -5 | -70 | 9.5 |
| 47.5 | 91 | 370 | 90 | 993 | -30 | 8.9 | 47.5 | 52 | -n | 60 | -6 | -40 | 7.7 |
| sr.c | R1 | 999 | но | 999 | -10 | 9.0 | 50.0 | 49 | - | 52 | -5 | - 1.0 | 4.4 |


 ratije vat var vet vir

| $5 . n$ | 90 | 1 | 18 |
| :---: | :---: | :---: | :---: |
| 1.5 | 32 | -1 | 27 |
| 10.0 | ${ }^{4}$ | -7 | 34 |
| 12.5 | \% | 1 | 82 |
| 13.0 | $\square い$ | - | 96 |
| 17.5 | 13 | -1 | $n 9$ |
| 20.0 | $\cdots$ | -5 | 85 |
| 22.3 | 71 | - ? | مf |
| 25.0 | 97 | 5 | 33 |
| 27.5 | 9 | 2 | 81 |
| 3.13 | 9 | $-3$ | 81 |
| 32.5 | 33 | -? | 76 |
| 35.0 | 32 | -4 | 75 |
| 3.5 | 90 | -2 | 74 |
| $4 \mathrm{C} \cdot 0$ | 77 | 2 | 71 |
| 42.5 | 74 | , | 6. |
| 45.0 | 71 | 4 | 66 |
| 47.5 | 64 | 0 | 65 |

D-Values
-1100
-1080
-1040
-910
$-8 n 0$
-630
-540
-440
-360
-300
-210
-710
-170
-140
-100
-80
-60
-30
10
$1 A 0 S$
17.2
15.8
14.3
12.3
11.2
11.1
10.8
10.0
9.9
10.1
9.7
9.3
8.8
8.9
8.4
7.2
8.9
8.4
8.7

| RADIUS | VAT |
| :---: | :---: |
| 5.0 | 31 |
| 7.5 | 60 |
| 10.0 | 8.2 |
| 12.5 | 8.1 |
| 15.0 | 78 |
| 17.5 | 71 |
| 20.0 | 6.4 |
| 22.5 | 61 |
| 25.0 | 58 |
| 27.5 | 54 |
| 30.0 | 50 |
| 32.5 | 46 |
| 35.0 | 65 |
| 37.5 | 51 |
| 40.0 | 50 |
| 42.5 | 49 |
| 45.0 | 51 |
| 47.5 | 49 |
| 50.0 | 48 |


| VAR | VRT |
| :---: | :---: |
| 7 | 27 |
| 13 | 69 |
| 6 | 90 |
| 17 | 89 |
| 15 | 84 |
| 7 | 78 |
| 7 | 72 |
| 4 | 66 |
| 6 | 67 |
| 7 | 57 |
| 8 | 51 |
| 0 | 56 |
| -3 | 381 |
| -3 | 58 |
| 1 | 52 |
| 9 | 55 |
| 11 | 49 |
| 13 | 56 |
|  | 50 |


| vur | n-valufs | [AI) ${ }^{\text {d }}$ |
| :---: | :---: | :---: |
| -2 | -117n | 14.5 |
| 4 | -1000 | 15.7 |
| -3 | - | +3.4 |
| 2 | -70 | 12.0 |
| 6 | -5\%0 | 10.7 |
| ? | -430 | 16.1 |
| -2 | -420 | 10.0 |
| -5 | -360 | 1 c .1 |
| - 3 | -310 | 10.1 |
| -3 | -270 | 9.8 |
| -1 | 99. | 9.9 |
| -9 | 099 | $1{ }^{10} 1$ |
| -12 | 999 | 9.9 |
| -10 | 999 | 9.5 |
| -6 | 94\% | \% 6 |
| -1 | 999 | 1.4 |
| 1 | 999 | 9.0 |
| 4 | 999 | ฯ.0 |



| /9/300/195/ N/3/ $20 / 13$ /945/107/107/15.0 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| patius | vat | var | VRt | VRr | d-values | tans |
| 5.0 | 24 | -6 | 12 | -4 | -1530 | 16.7 |
| 7.5 | 51 | -4 | 30 | -3 | -1490 | 14.0 |
| 10.0 | 77 | -3 | 69 | -3 | -138C | 12.6 |
| 12.5 | 98 | 6 | 95 | 5 | $-1 ? 10$ | 11.1 |
| 15.0 | 107 | -4 | 107 | -5 | -1030 | 10.1 |
| 17.5 | 28 | -s | 87 | -8 | -890 | 9.6 |
| 20.0 | 92 | -4 | 84 | -6 | -770 | 9.6 |
| 2e.5 | 96 | -4 | 75 | -5 | -640 | 9.7 |
| 25.0 | 83 | 6 | 71 | 4 | -620 | 9.9 |
| 27.5 | 85 | 3 | 73 | 1 | -560 | 10.2 |
| 30.0 | 96 | -2 | 78 | -3 | -5ro | 9.7 |
| 32.5 | $\square_{4}$ | 0 | 74 | -2 | -460 | 0.9 |
| 35.0 | 71 | 0 | 69 | 2 | -410 | 8.8 |
| 31.5 | 76 | -5 | 67 | -7 | -370 | 8.7 |
| 40.0 | 73 | -? | 63 | -5 | -340 | 8.7 |
| 42.5 | 69 | -4 | 60 | -6 | -300 | A. 6 |
| 45.0 | 66 | -4 | 57 | -6 | -290 | 8.5 |
| 47.5 | 6.3 | -2 | 55 | -5 | -250 | 8.3 |
| 50.0 | 72 | -2 | 52 | -5 | -230 | 8.2 |

/GLADYS/B40917/9980/715/1910-1950/0/24/64/173/


| radius | vat | var | VRT | VRR | o-values | tioj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 13 | 4 | 24 | 7 | -1500 | 19.3 |
| 7.3 | 32 | 3 | 30 | 6 | -1470 | 17.9 |
| 10.0 | 6.4 | -5 | 87 | -2 | -1410 | 16.1 |
| 12.5 | 96 | -8 | 102 | -2 | -1240 | 14.5 |
| 15.0 | 90 | -? | 96 | 3 | -1070 | 12.0 |
| 17.5 | 82 | -4 | 90 | 1 | -910 | 10.4 |
| 20.0 | 73 | -3 | ${ }^{80}$ | 2 | -810 | 9.9 |
| 2?.3 | 68 | -4 | 78 | 2 | -730 | 10.2 |
| 25.0 | 65 | -3 | 72 | ? | -670 | 10.3 |
| 27.5 | 62 | -4 | 70 | 1 | -620 | 10.1 |
| 30.0 | 61 | -4 | 66 | 1 | -550 | 10.1 |
| 32.5 | 57 | -3 | 63 | 2 | -500 | 10.7 |
| 35.0 | 53 | -3 | 61 | 1 | -460 | 9.5 |
| 37.5 | 53 | -4 | 61 | 1 | -420 | 9.4 |
| 40.0 | 56 | -7 | 64 | -2 | -380 | 4.7 |
| 42.5 | 60 | -5 | 70 | -1 | -360 | 8.9 |
| 45.0 | 55 | 2 | 63 | 7 | -340 | 9.0 |
| 17.5 | 53 | $-10$ | 59 | -5 | -310 | 8.9 |
| 50.0 | 54 | -8 | 66 | -3 | -290 | 8.3 |







| ramtus | vat | vas | VRT | vrr | o-values | tads | rantus | vat | vas | vRt | vrr | n-values | tanj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3.0 | 20 | -2 | 18 | 8 | 999 | 9.7 | 5.0 | 7 | 0 | 14 | -6 |  |  |
| 7.5 | 35 | $-3$ | 31 | 6 | 999 | 7.2 | 7.5 | 1. | 3 | 76 | -4 | 999 | 9.4 |
| 10.6 | 70 | -13 | 71 | -4 | 999 | 4.7 | 10.0 | 44 |  | 50 | 0 | 909 | 7.2 |
| 12.5 | 93 | -12 | 93 | -3 | 999 | 1.9 | 12.5 | 77 | 1 | 83 | -1 | 974 | 5.10 |
|  | $\because 9$ | -4 | 93 | 5 | 979 | 1.7 | 15.0 | 97 | 0 | 33 | -7 | 979 | 3.9 |
| 17.5 20.0 | ? 8 | $-7$ | 83 80 | $?$ | 979 | 1.0 | 17.5 | 77 | -1 | ${ }^{1} 4$ | -7 | 99.9 | 2.2 |
| ?2.5 | 9 | - | 71 | 5 | 999 999 | $\stackrel{.}{ } \cdot \mathbf{3}$ | 20.0 22.5 | 78 69 | -1 | 79 | - -9 | 99.1 | 1.8 |
| 25.0 | $7{ }^{3}$ | - | 71 | 3 | 997 | -. | 25.0 | 60 | -1 | 73 | -9 | 779 | $\stackrel{.7}{1.3}$ |
| 27.5 | 93 | $-9$ | 77 | 0 | 979 | -. 4 | 27.5 | 72 | 10 | 78 | - | $\bigcirc 9$ | +1.3 |
| 30.0 $3: 5$ | 78 | -1 2 | 73 | $1^{8}$ | 779 | -. ${ }^{\text {a }}$ | 31.0 | 65 | 15 | 71 | 8 | 979 | 1.0 |
| 3 3 .0 | - | $\rightarrow$ ? | 70 65 | 17 | 999 999 | -. 2 | 32.5 35.0 | 62 55 | 8 | 68 | - | 990 | . 1 |
| 37.5 | 8 | -5 | 59 | 4 | 999 | 0.0 | 37.5 | 60 | - 1 | $6{ }_{6}$ | -7 | 979 | $\rightarrow \cdot 3$ |
| 40.0 | 65 | -7 | 60 | 1 | 999 | 0.0 | 40.0 | 59 | 5 | 64 | -7 | 959 | 3.0 0.0 |
| 42.5 | 6.7 | 1 | 82 | 9 | 999 | -. 1 | 42.5 | 61 | 13 | 67 | 5 | 397 | -. 1 |
| 45.0 47.5 | 6,6 72 | -1 | 61 67 | $\stackrel{7}{\square}$ | 999 | -.3 -.2 | 45.0 47.5 | 5 | 3 | 61 59 | - -5 | 799 | - 1 |
| 5n.c | 6.6 | 0 | 61 | 9 | 999 | -. 1 | 50.0 | 53 5 | 3 | 59 | -5 |  | -. 3 |

146. 



STORM . 15 level


| store: | 2nte | zivi plyl | 1:7 ${ }^{T}$ | (ersal | - La | va | ${ }_{\text {cte }}^{\text {StCRM }}$ |  | on | ostm | ARL | 10 |  | ${ }_{\substack{\text { centige } \\ \text { pres }}}^{\text {che }}$ | vatx | RNW | vRTX |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ${ }^{6} 41001$ | 3740939 | 14.47 | 1512 | 24 |  | 310 | 180 |  |  |  |  |  |  |  |  |  |
| HLCA | buicol | 3240 <br> 3240 <br> 2007 <br> 907 | $\xrightarrow{1320}$ | 134, 14 | 24 |  | 310 | $5{ }_{5} 280$ | E | 4 | $8{ }^{5}$ |  | 9 | 950 950 | 110 | 12.0 | 104 104 |
| hilun | 641001 | 3240 907 | 1343 | 1407 | ${ }_{24}^{24}$ | 1 | 310 | $\begin{array}{lll}5 & 263\end{array}$ | ${ }_{6}^{5}$ | ${ }_{8}^{6}$ | ${ }_{260}^{180}$ | ${ }_{382}^{381}$ | ${ }_{9}^{10}$ | 950 950 | ${ }_{83}^{89}$ | 15.0 | ${ }_{86}^{94}$ |
|  |  | racius | UVSMODTH:O wfichter vortex averages |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | vas | var | VRT | VR |  | D-val.ues |  | TADJ |  |  |  |  |  |  |  |
|  |  | 5 | 35 50 | ${ }_{13}^{5}$ | ${ }_{5}^{33}$ | 4 |  | -1547 |  | 24.3 |  |  |  |  |  |  |  |
|  |  | 16.6 | 79 | 11 | 79 | 12 |  | - |  | 24.0 23.4 |  |  |  |  |  |  |  |
|  |  | 12.5 <br> 15.0 <br> 18.5 | 9\% | - | \% | -1 |  | -1173 |  | 22.7 | 90 |  |  |  |  |  |  |
|  |  | 11.5 | 87 | $\bigcirc$ | $8{ }^{8}$ | - |  | - -1021 |  | 22.1 | ${ }_{7}^{83}$ |  |  |  |  |  |  |
|  |  | 22.0. | ${ }_{8,}^{83}$ | 0 | ${ }_{8}^{8.2}$ | - |  | - 718 |  | ${ }_{21.5}$ | 69 |  |  |  |  |  |  |
|  |  | 25.0 | 80 | -2 | ${ }_{70}$ | -0 |  | -7683 |  | 21.2 21.9 20.9 | 69 |  |  |  |  |  |  |
|  |  | 37.3 | 76 75 | -9 | 75 74 | -9 |  | -633 |  | 20.8 | 59 |  |  |  |  |  |  |
|  |  | 32.9 | 10 | -11 | ${ }_{70}$ | -11 |  | -593 |  | 20.6 | ${ }_{5}^{58}$ |  |  |  |  |  |  |
|  |  | 34.0 37.5 | 67 | $-6$ | 67 | -6 |  | -515 |  | 20.5 | 46 |  |  |  |  |  |  |
|  |  | 48.6 | 60 6 | -6 | 66 | -8 -7 |  | -478 |  | 20.4 20.2 | 4 |  |  |  |  |  |  |
|  |  | ${ }^{4.2 .5}$ | 648 | -98 | ${ }_{6}^{63}$ | -5 |  | -416 |  | 20.0 | 41 |  |  |  |  |  |  |
|  |  | 41.3 | $\stackrel{63}{98}$ | ${ }_{-8}^{-7}$ | 62 60 | -7 |  | -395 |  | 19.9 <br> 9.9 | 4 |  |  |  |  |  |  |
|  |  | зс.6 | 54 | -11 | 52 | -11 |  | -350 |  | 20.1 | ${ }_{302}^{362}$ |  |  |  |  |  |  |



 /5/310/135/SE/5/135/9, $950 / 93 / 95 / 15.0$

| ramius | vat | var | vrt | ver | d-values | Inds |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 20 | -17 | 20 | -19 | -1340 | 19.9 |
| 7.5 | 37 | -11 | 47 | -i7 | -1290 | 17.5 |
| 10.0 | 73 | -21 | 70 | -26 | -1180 | 17.7 |
| 12.5 | 100 | 3 | 104 | -2 | -930 | 1.69 |
| 15.0 | 92 | -12 | 98 | -17 | -830 | 15.7 |
| 17.5 | 73 | -10 | 79 | $-14$ | -680 | 15.? |
| 20.0 | 63 | -10 | 72 | -14 | -560 | 15.1 |
| 22.5 | 63 | -5 | 69 | -8 | -4n0 | 14.3 |
| 25.0 | 61 | -9 | 67 | -11 | -470 | 15.2 |
| 27.5 | 58 | -8 | 63 | -11 | -3,0 | 15.6 |
| 30.0 | 57 | - | 59 | -9 | -320 | 15.3 |
| 32.5 | 49 | - | 58 | -7 | -270 | 14.2 |
| 35.0 | 54 | -1 | 58 | -4 | -7.40 | 13.3 |
| 37.5 | 50 |  | 55 | -3 | -210 | 13.6 |
| 40.0 | 49 | -1 | 53 | -4 | -197 | 13.7 |
| 42.5 | 47 | -2 | 51 | -5 | -150. | 13.7 |
| 45.0 | 46 | -1 | 52 | -4 | -130 | 13.4 |
| 47.5 50.0 | 47 | -4 | 53 52 | -7 | -120 -70 | 13.5 13.1 |



lever 3


STORM 16 LEVEL



| aterius | Vat | VAR | vet | vRr | d-values | tadj | radius |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ¢. 5 | 739 | -90 | $99 \%$ | 999 |  |  | Rantus | Vat | var | VRT | VR9 | n-values | tads |
| $7{ }^{7}$ | 773 | 27 | 999 | 999 | -460 -330 | 2.6 2.0 | 5.0 | 15 | 939 | 21 | 999 | -4.0 | 2.2 |
| 19.5 12.5 | 3, | \% 79 | 999 | 999 | -230 | ${ }_{1} .6$ | 7.5 10.0 | 36 <br> 46 | 499 -2 | 34 | 997 | -380 | 1.7 |
| 12.5 | - 489 | จาํา | 993 909 | 999 | -90 | 1.5 | 12.5 | 46 9 9 | -2 | 51 98 | 4 | -270 | 1.4 |
| 17.5 | 91. | ว9า | 999 | 959 | 20 | 1.0 | 15.0 | 72 | -? | 77 | 3 | -170 | $1 . ?$ |
| 20.0 | 70 | -14 | 61 | -13 |  | $\cdot 9$ | 17.5 | $?$ | 0 | 64 | 5 | 140 | $\stackrel{8}{6}$ |
| 27.5 | 67 | $-13$ | 59 | -12 | 250 | $\stackrel{8}{8}$ | 20.0 | 37 | -4 | 73 | 2 | 200 | 96 |
| 23.0 | ${ }_{6}$ | -10 | ${ }_{5}^{6}$ | $\rightarrow$ | 310 | .7 | 25.0 | 64 68 | -3 | $6{ }_{6} 6$ | 6 | 760 | - ${ }^{\text {d }}$ |
| 27.5 | 5? | -8 | 55 52 | -7 | 360 | . 7 | 27.5 | 56 | - 6 | 64 61 | -1 | 310 | . 5 |
| 32.5 | 51 | -? | 4.7 | -2 | 340 430 | .8 | 30.0 | 52 | -3 | 56 | - | 360 | 9 |
| 37.0 | is | $-9$ | 43 | -9 | 450 | .7 | 32.5 35.0 | 46 | $-4$ | 50 | 1 | 420 | 9 |
| 37.5 40.6 | $4{ }_{4}^{4}$ | -11 | 38 | -3 | 480 | . 6 | 37.5 | 43 42 | -1 | 48 45 48 | 4 | 470 | - 6 |
| 42.5 | ¢ | -10 | 43 | -9 | 510 530 | $\cdot 7$ | 40.0 | 43 | 5 | $4{ }^{4} 7$ | 10 | 740 500 | ${ }^{-6}$ |
| 45.0 | 93 | 9วา | 999 | 993 | 540 | 8 | 42.5 | 44 | 3 | 43 | 8 | 510 | $\cdot{ }^{2}$ |
| 47.5 | 377 | 9ッ) | 999 | 999 | 550 | .88 | 47.0 | 44 | 7 | 42 | 12 | 510 | 0.0 |
| 50.0 | 73 | $97 \%$ | 977 | 939 | 590 | . 8 | 50.0 | 47 | 1 | 45 47 | 6 | 420 530 | -. 4 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| qastus | vat | vas | VPT | VRR | d-values. | tadj | radius | var | var | Vki | vRr | D-valufs |  |
| \%.9 | $3 / 4$ |  |  |  |  |  |  |  |  |  |  |  |  |
| 7.9 | 6.5 | $-11$ | 41 | -4 | -150 -70 | 2.7 | 5.0 | 13 | -1 | 19 | 3 | -5.90 | iAdj |
| 10.0 10.5 | 55 | -4 | 52 | - | -70 30 | 2.3 2.2 | 7.5 10.0 | 32 | 4 | 37 | 8 | -5.0 -4.50 | 1.2 |
| 12.5 | 9.7 | -8 | 8 | -1 | 150 | ${ }_{1.8}$ | 10.0 12.5 | 70 77 | 16 | 75 81 | 20 | -290 | ${ }^{-5}$ |
| 17.5 | 76 | -11 -4 | 73 | -5 | 270 760 | 1.6 | 15.0 | 76 | -i | 181 81 81 | 13 | -190 -20 -100 | $: 4$ |
| $2 \mathrm{2n}$ - | 72 | -5 | 77 | $\stackrel{1}{1}$ | 360 430 | 1.0 .9 | 17.5 | 70 | ? | 74 | 6 | -20 | 8 |
| 27.3 | $\bigcirc 9$ | -6 | 68 | 1 | 470 | . 7 | 20.0 22.5 | ${ }_{64}^{64}$ | - ${ }^{1}$ | 67 | 5 | 150 | . 3 |
| 2\%.0 | AS an | -10 | 66 | $-3$ | 520 | . 6 | 22.5 25.0 | 64 57 | -2 | 69 | 3 | 210 | $\stackrel{3}{ }$ |
| 3 n . 3 | 98 | -5 | ${ }_{6}^{62}$ | -4 | 550 580 | $\stackrel{8}{8}$ | 27.5 | 53 | -2 | 58 | 2 | 260 370 | :3 |
| 32.5 |  | $-2$ | 52 | 4 | 6.20 | $\stackrel{.8}{8}$ | 30.0 | 52 | -6 | 57 | -2 | 320 | $\cdot 3$ |
| 35.6 37.5 | 59 5 5 5 | $-4$ | 54 | 3 | $\bigcirc$ | -8 | 35.5 15.0 | 55 58 58 | -9 | 60 | -5 | 360 | .3 |
| $4{ }_{4}$ | 55 55 | ${ }_{-}^{-3}$ | 51 | 4 | 670 690 | - 6 | 37.5 | 999 | $99 \%$ | ${ }_{9} 98$ | 989 | 400 499 | 949.3 |
| 42.5 | 53 | -4 | 49 | 3 | 690 710 | . 5 | 40.0 | 977 | 973 | 979 | 999 | 979 | 999.0 |
| 45.0 47.6 | 4. | -4 | 48 | 3 | 730 | .5 | 42.5 45.0 | 999 999 | 997 | 999 | 999 | 994 | 999.0 |
| 47.5 50.0 | 4.3 4 | n -5 | 41 41 | ${ }_{2}^{7}$ | 750 | . 4 | 47.5 | 999 999 | 999 | 999 | 999 999 | 999 | 999.0 |
|  |  |  |  | 2 | 770 | . 4 | 50.0 | 997 | 999 | 999 | 999 | 999 | 979.0 |



STORM 16 level 4



| zantus | vat | var | vri | vRR | d-values | tabj | radius | vat | var | vRt | vrr | b-values | TAl) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 11 | -2 | 18 | -8 | -370 | 4.4 | 5.0 | 34 | , | 30 | -3 | -170 | 3.0 |
| 7.5 | 34 | 2 | 35 | -3 | -320 | 3.7 | 7.5 | so | 14 | 59 | 8 | -40 | 1.4 |
| 10.0 | 79 | -15 | 94 | -20 | -260 | 1.6 | 10.0 | 90 | 994 | BC | 999 | 150 | -. 1 |
| 17.5 | 95 | -5 | 91 | -9 | -140 | 1.0 | 12.5 | 95 | 979 | 85 | 979 | 270 | -. 4 |
| 15.0 | 74. | 4 | 79 | 2 | -20 | 0.0 | 15.0 | 80 | nno | 80 | 997 | 330 | -. 6 |
| 17.5 | 70 | 6 | 75 | 3 | 110 | -1.0' | 17.5 | 75 | 979 | 75 | 997 | 460 | -. 9 |
| 20.6 | 67 | 2 | 76 | 0 | 180 | -1.3 | 20.0 | 69 | 999 | 68 | 949 | 520 | -. |
| 22.5 | f4 | -3 | 71 | -6 | 250 | -1.4 | 21.5 | 1.4 | ก99 | 64 | 971 | 570 | -.h |
| 25.0 | 62 | - | 6.7 | -6 | 290 | -1.7 | 23.0 | 60 | 999 | 60 | 999 | 610 | -.4 |
| 27.5 | 57 | -1 | 65 | -2 | 310 | -1.8 | 27.5 | 56 | -5 | 55 | -11 | 6.40 | -. 4 |
| 3 C .0 | 51 | -1 | 55 | -4 | 340 | -1.9 | 30.0 | 51 | 0 | 51 | -1 | heo | -. 7 |
| 32.5 | 51 | 5 | 56 | 4 | 390 | -2.0 | 37.5 | 4. | 1 | 51 | -5 | 700 | -. 3 |
| 35.0 | 57 | 5 | 6.4 | 3 | 410 | -7.2 | 35.0 | 47 | $-3$ | 50 | -9 | 730 | -1.0 |
| 31.5 | 5 ¢ | 7 | 64 | 7 | 450 | -2.0 | 37.5 | 49 | -? | 49 | -9 | 760 | -1.1 |
| 40.0 | 54. | 6 | 62 | 3 | 490 | -1.7 | 40.0 | 51 | -1 | 52 | -7 | 780 | -1.4 |
| 42.5 | 49 | 4 | 52 | 1 | 510 | -2.0 | 42.5 | 53 | 0 | 54 | -6 | H00 | -1.2 |
| 45.0 | 15 | 8 | 47 | 4 | 530 | -2.1 | 45.0 | 53 | 3 | 53 | -5 | 月20 | -1.1 |
| 47.5 | 45 | ? | 54 | -1 | 550 | -2.3 | 47.5 | 49 |  | 49 | -3 | 850 | -1.3 |
| 30.0 | 48 | 0 | 56 | -2 | 580 | -2.5 | 50.0 | 49 | 4 | 53 | -3 | 890 | -1.4 |

MILSA/B41001/18290/520/1526-1545/1/24/91/397 / $51.310 / 100 / \mathrm{NH} / 1 / 297 / 9$ /950/74/76/12.5

| anatus | vat | vap | vat | ver | d-valufs | tad |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 26 | 5 | 23 | -1 | -17 | . 9 |
| 7.5 | 3 | 11 | 38 | 4 | -13 | . 6 |
| 10.0 | 58 | 7 | 60 | 0 | -3 | . 6 |
| 17.5 | 74 | in | 76 | 3 | 16 | . 6 |
| 10.0 | 70 | 10 | 72 | 3 | 21 | . 7 |
| 17.5 | 74 | 10 | 76 | 3 | 30 | . 7 |
| 23.0 | 72 | 10 | 74 | 3 | 42 | - ${ }^{\text {¢ }}$ |
| 22.5 | A 7 | 12 | 67 | 5 | 49 | . 8 |
| 25.3 | 63 | 11 | 62 | 5 | 54 | - 8 |
| 27.5 | 59 | 12 | 58 | 6 | 60 | . 8 |
| 30.0 | 54. | 16 | $5 \cdot 1$ | - | 64 | .9 |
| 37.5 | 48 | 6 | 47 | 0 | 65 | . 9 |
| 35.0 | 46 | 8 | 47 | 1 | 68 | 1.0 |
| 37.5 | 4 | 10 | 45 | 4 | 70 | 1.1 |
| 413.0 | 4 | 月 | 47 | 2 | 73 | 1.0 |
| 42.5 | 43 | 10 | 42 | 3 | 75 | 1.0 |
| 45.5 | 44 | 5 | 47 | -1 | 77 | - 8 |
| 47.5 | 49 | 3 | 49 | -4 | 78 | . 6 |
| sc.o | 52 | 0 | 52 | -7 | 81 | . 4 |


| STス2" | OATE | ! $1 . \mathrm{vL}$ | 9LVL |  |  | 1-0 | lat | Loivg |  | $\begin{aligned} & \text { STORM } \\ & \text { ORR SPD } \end{aligned}$ |  | TH | ON | QSTM | ARL | 10 | RDR FYF radius | $\begin{aligned} & \text { CFiNT- } \\ & \text { PRES } \end{aligned}$ | vatx | $\mathrm{RH}^{\mathrm{H}}$ | VRTX |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| hiliza | bitcal | 10.720 | 520 |  | 635 | 1 | 24 | 91 |  | 310 | 5 | 230 | NE | 3 | 50 | 397 | $\bigcirc$ | 950 | 79 | 20.0 | 61 |
| milea | 541001 | 18298 | 520 |  | n:3 | 1) | 24 | 91 |  | 310 | 5 | 120 | SE | 5 | 120 | 393 | 9 | 950 | 90 | 12.5 | 86 |
| hilon | sitiont | 18208 | $3 ? 0$ |  | 134 | 1 | 74 | 91 |  | 310 | 5 | 355 | S | 6 | 175 | 394 | 9 | 950 | 81 | 12.5 | 86 |
| milea | stirgt | 19230 | 523 | 180 | 1212 | 1 | 24 | 91 |  | 310 | 5 | 0 | s | 6 | 180 | 395 | 9 | 950 | 77 | 12.5 | 87 |
| hidoa | 6.icot | 1980 | 520 |  | 791 | 0 | 24 | 91 |  | 310 | 5 | 245 | SW | 8 | 245 | 396 | 9 | 950 | 85 | 12.5 | 91 |
| Milda | butber | 19200 | 520 |  | 545 | I | 24 | 91 |  | 310 | 5 | 120 | NW | 1 | 297 | 397 | 9 | 930 | 74 | 12.5 | 75 |
| milien | sul0.: | 1390 | 520 | 181 | P35 | 0 | 74 | 91 |  | 310 | 5 | 305 | NW | 1 | 305 | 398 | 8 | 950 | ${ }_{5}$ | 12.5 | 85 |
| uasmogthed heighted vortex averages |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| - | asinius |  |  | vat | va |  | vRt |  | VR | d-values |  |  | tanj |  | vata |  |  |  |  |  |  |
|  |  | 5.0 |  | 25 | -1 |  | 25 |  | -1 | -301 |  |  |  | 2.7 | 774 |  |  |  |  |  |  |
|  |  | 7.6 |  | 44 | 1 |  | 43 |  | 1 | $\begin{array}{r} 328 \\ -228 \\ -130 \end{array}$ |  |  |  | 2.0 |  |  |  |  |  |  |  |
|  |  | 10.0 |  | 65 | -0 |  | 67 |  | 1 |  |  | 1.2 |  |  |  |  |  |  |  |
|  |  | 12.5 |  | $8{ }^{84}$ | 0 |  | 85 |  |  |  |  |  |  | $\begin{array}{r} -120 \\ 0 \end{array}$ |  |  | 1.0 |  | 77 |  |  |  |  |  |
|  |  | 15.0 |  | 77 | 0 |  | 18 |  |  |  | 103 |  |  | . 6 |  |  |  |  |  |  |  |
|  |  | 17.5 |  | 73 | 3 |  | 73 |  |  |  | 198 |  |  | . 2 |  |  |  |  |  |  |  |
|  |  | $2 \mathrm{2c} 0$ |  | 68 | -2 |  | $3{ }^{3}$ |  | -1 |  | 199264 |  |  | . 1 |  |  |  |  |  |  |  |
|  |  | 22.5 |  | 65 | -2 |  | ${ }_{5}^{59}$ |  | -2 |  | 264319 |  |  | . 1 |  |  |  |  |  |  |  |
|  |  | 25.0 |  | 62 | -2 |  | H2 |  | -2 |  | 362362 |  |  | -1 |  |  |  |  |  |  |  |
|  |  | 27.3 |  | 59 | -4 |  | 58 |  | -2 |  | 3389 |  |  | -1 |  |  |  |  |  |  |  |
|  |  | 3 O |  | 54 | -1 |  | ${ }_{5}{ }_{4}$ |  | -3. |  | 399426 |  |  | -1 |  |  |  |  |  |  |  |
|  |  | 32.5 |  | 51 | -1 |  | 51 |  | -1 |  | 460 |  |  | - 0 |  |  |  |  |  |  |  |
|  |  | 35.0 |  | 51 | -2 |  | 52 |  | -0 |  | 487 |  |  | -. 0 |  |  |  |  |  |  |  |
|  |  | 37.5 |  | 49 | -0 |  | $4 ?$ |  | -2 |  | 571 |  |  | -. 1 |  |  |  |  |  |  |  |
|  |  | 4 Cr \% |  | 43 | - |  | $\because 8$ |  | -0 |  | 542 |  |  | -. 1 |  |  |  |  |  |  |  |
|  |  | 4.5 |  | 49 | -0 |  | 47 |  | -0 |  | 558571 |  |  | -. 2 |  |  |  |  |  |  |  |
|  |  | 45.0 |  | 47 | 2 |  | 4 |  | -0 |  |  |  |  | -.? |  |  |  |  |  |  |  |
|  |  | 47.5 |  | 45 | 1 |  | 46 |  | 2 |  | 587 |  |  | -. 3 |  |  |  |  |  |  |  |
|  |  | 50.0 |  | 46 | -0 |  | 48 |  | $\stackrel{2}{0}$ |  | 587609 |  |  | -. 5 |  |  |  |  |  |  |  |

STORM 16 level 4
156.

/4ILRA/641001/40R7i/190/1552-1704/0/24/91/403/


| radius | $v_{\text {a }}{ }^{\text {t }}$ | var | VRT | vRr | d-values | TADJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 8 | -3 | 15 | -3 | 197 | -44.9 |
| 7.5 | 4 | -4 | 10 | -4 | 205 | -44.88 |
| 10.0 | 13 | -4 | 19 | -5 | 209 | -44.7 |
| 12.5 | 35 | 4 | 42 | 4 | 215 | -44.8 |
| 15.0 | 38 | 10 | 45 | 10 | 213 | -45.2 |
| 17.5 | 47 | -3 | 48 | -3 | 216 | -45.9 |
| 27.0 | 36 | -n | 40 | -9 | 215 | -46.9 |
| 22.5 | 29 | -25 | 38 | -25 | 216 | -47.5 |
| $2 \cdot .0$ | 33 | -30 | 40 | -30 | 217 | -48.6 |
| 27.5 | 36 | -27 | 42 | -27 | 217 | -49.7 |
| 31.0 | 4 ? | 17 | 48 | 17 | 216 | -5c.4 |
| 37.5 | 40 | -11 | 47 | -11 | 217 | -50.6 |
| 35.0 | 38 | -10 | 45 | -10 | 221 | -50.7 |
| 37.5 | 31 | -9 | 38 | -10 | 222 | -50.3 |
| 40.0 | 26 | -6 | 33 | -6 | 223 | -50.9 |
| 42.5 | 27 | 0 | 33 | -1 | 225 | -50.9 |
| 45.0 | 26 | 1 | 34 | 1 | 224 | -51.0 |
| 47.5 | 28 | 4 | 36 | 3 | 224 | -51.1 |
| 50.0 | 29 | -2 | 37 | -2 | 226 | -51.2 |





LEUEL 5


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | 10 | 15 | 193 |  | an，an | 70 ／？ 7 \％ 5 |
| ancius | vat | var | VRT | Vrr | o－values | TADJ | radius | vat | var | VRT | VRR | d－values | taij |
| 5.0 | 18 |  | 19 | 1. | －1400 | 25.3 |  |  |  |  |  |  |  |
|  | 27 | 3 | 23 | －2 | －1440 | 25.3 25.0 | 5.0 | 15 23 | -7 -9 | 19 22 | －-4 | -1410 -1380 -1380 | 24.8 |
| 10.0 12.5 | 43 | －1 | 39 54 | －6 | －1310 | 24.8 | 10.0 | 30 | －14 | 30 | －4 | -1180 -1340 | 24.5 24.2 |
| 15.017.5 | 64 | 13 | 54 59 | －38 | －12．40 | 24.2 | 12.5 | 39 | －15 | 39 | －11 | －1310 | 24.0 |
|  | 71 | 26 | 69 | 71 | －11100 | 23.8 23.2 | 15.0 17.5 | 45 | －14 | 47 | －9 | －1270 | 24.4 |
| 17.5 29.0 | 93 | 32 | 82 | 27 | －1000 | 22.7 | 27.0 | 62 | －18 | 49 65 | -11 -13 | －1240 | 25.2 26.4 |
| 23.9 22.5 | 㫛 7 | 29 <br> 29 | ${ }^{9} 9$ | 24 | －910 | 22.4 | 22.5 | 71 | －11 | 69 73 | -13 -6 | -1260 -1140 | 26.4 26.0 |
| 27．5 | no | 23 | 92 |  | -856 -780 | 22.3 | 25.0 | 78 | $-12$ | 78 | －6 | －11960 | 26.2 |
| 3 C .0 | 90 | 21 | 87 | 24 | -780 -700 | 22.2 21.4 | 27.5 | 80 | －22 | 79 | －16 | －990 | 24.5 |
| 32.535.577.5 | an | 30 | 8 A | 26 | － 640 | 21.9 | 36.0 | 78 | $-18$ | 76 | －12 | －890 | 23.4 |
|  | n3 | $\stackrel{17}{-7}$ | 89 | 13 | －650 | 21.4 | 32.5 39.0 | 76 74 | -14 -13 | 76 74 | -9 -7 | -820 -750 | 22.9 |
| 35.7 37.5 | 9\％${ }_{\text {P\％}}$ | $\xrightarrow{-7}$ | 97 | 5 | －550 | 21.3 | 37.5 | 74 71 | -13 -11 | 74 | －7 | －750 | 22.3 |
| 47.6 47.5 | 409\％ | 494 | 999 | 997 | 799 999 | 994.0 | 40.0 | 6.9 | －7 | 88 | －1 | －6， 6 | 22.2 22.1 |
| 45.0 | ワวง | 9ッフ | 979 | 997 | 999 | 999.0 | 42.5 | 67 | －8 | 65 | －3 | －600 | 22.0 |
| 47.39.0 |  | 979 | 979 | 999 | 999 | 799.0 | 47.5 | $\begin{array}{r}67 \\ 6.3 \\ \hline\end{array}$ | －2 | 63 | 4 | －560 | 31.8 |
|  | 494 | 999 | 979 | 999 | 999 | 999.0 | 50.0 | 62 | －9 | 61 | －3 | -519 -510 | 21.8 |




| ractios | vat | vai | var | VRR | o－vaiues | taoj | radius | vat | $v a$ | vet | VRU |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 19 | 7 | 18 |  |  |  |  |  |  |  |  | vatur | tios |
| 7.3 | 32 | 13 | 32 | 18 | -1430 -1400 | 24.8 24.8 | 5.0 | 37 | $-4$ | 37 | －1 | －14co | 24.6 |
| 15.0 | 40 | 15 | 40 | 21 | －1370 | 25．4 | 7.5 10.0 | 4 | －3 | 44 49 | －7 | －1340 | 34.3 |
| 12.9 | 41 | 10 | 47 | 15 | －1330 | 26.6 | 17.5 | 47 <br> 59 <br> 8 | -7 5 | 4989 | －7 | －1290 | 24.0 |
| 15．0 | S3 | 11 | 53 | 17 | －1770 | 26.6 | 15.0 | 59 89 | 5 6 | 39 80 80 | －1 | -1200 -1120 -1220 | 21.5 |
| $1 \cdot 3$ | 55 | 5 | 55 | 11 | －1210 | 26.4 | 17.5 | 96 | 6 | 96 | 0 | －1120 | 22.9 |
| 20 | 57 | 7 | 59 | 13 | －1160 | 26.5 | 20.0 | 103 | 1 | 104 | －4 | －1220 | 22.3 |
| 25.0 | $\stackrel{9}{7}$ | －5 | 69 77 | 12 | －1090 | 25.0 | 22.5 | 100 | －6 | 100 | －11 | －830 | 22.1 |
| $2 \cdot .5$ | $7 \%$ | ？ | 79 |  | －1010 | 23.5 | 25.0 | 74 | ？ | 49 | －3 | －7，0 | 21.9 |
| 3n．9 | $8:$ | 4 | 91 | 9 | －740 | 22.5 22.2 | 27.5 | 90 | 4 | 90 | －1 | －690 | 21．4 |
| 32.5 | 81 | 7 | 81 | 12 | －790 | 22.0 | 32.5 | 88 | 5 | 86 | － | －610 | 21.0 |
| 35.0 | 17 | 4 | 77 | 10 | －710 | 21.8 | 32.5 35.0 | 87 | 5 | 36 | 0 | －570 | 20.9 |
| 37.5 | 12 | 4 | 72 | 10 | －650 | 21.8 | 37.5 | 02 | ？ | －87 | －3 | －570 | 20.7 |
| $\cdots$ | ni | ； | 69 | 10 | －670 | 21.8 | 40.0 | no | 2 | 80 | －3 | － 470 | 20.4 |
| $4 \cdot 0$ | 67 | 1 － | 67 | 6 | －550 | 21.6 | 42.5 | 77 | 3 | 77 | －2 | －470 | 20.5 |
| 43.0 47.5 | 67 81 81 | －4 | 63. | 1 | －520 | 21.8 | 45.0 | 74 | 5 | 74 | 0 | －390 | 20.7 20.5 |
| 5 n .0 | $5 \%$ | －3 | 59 | I | －490 | 21.9 | 47.5 | 73 | 5 | 73 | 0 | －360 | 20.6 |
|  |  |  |  |  |  | 21.7 | 50.0 | 72 | 3 | 72 | －2 | －340 | 20.5 |



/HILDA /641002 / 9880/715/2027-2058/0/26/92/409/
15 / 0/ $10 / \mathrm{E} / 319019$ /956/87/183/37.5
raitius vat var vrt, vre d-values taits

| 5.0 | 19 | 5 | 14 | 1 | -1040 | 15.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7.5 | 27 | 2 | 22 | -2 | -1000 | 15.0 |
| 10.0 | 35 | 3 | 30 | 0 | -960 | 15.1 |
| 12.5 | 44 | 1 | 38 | -2 | -910 | 15.3 |
| 15.0 | 48 | 3 | 44 | 0 | -860 | 15.3 |
| 17.5 | 53 | 2 | 38 | -1 | -830 | 14.8 |
| 20.0 | 59 | 0 | 48 | -3 | -770 | 14.6 |
| 22.5 | 68 | 7 | 62 | 4 | -740 | 14.0 |
| 25.0 | 72 | 7 | 66 | 4 | -680 | 13.8 |
| 27.5 | 74 | 4 | 70 | 0 | -590 | 13.2 |
| 30.0 | 76 | 1 | 74 | -4 | -520 | 12.8 |
| 32.5 | 80 | -3 | 76 | - | -4.60 | 12.3 |
| 35.0 | 94 | -8 | 80 | -12 | -410 | 11.7 |
| 37.5 | 67 | -12 | 83 | -15 | -3:10 | 11.1 |
| 40.0 | 86 | -8 | 82 | -11 | -330 | 11.5 |
| 47.5 | nt | -10 | 81 | -13 | -260 | 10.6 |
| 45.0 | 81 | -16 | 77 | -19 | -210 | 10.5 |
| 47.5 | ${ }^{\text {a }}$ | -15 | 77 | $-18$ | -200 | 10.0 |




164.


```
/HILIDA / 641002 / 3R670/211/1549-1604/1 / 26/92/415/
```



```
rablus vat var vrt var d-values tadj
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline 5.0 & 10 & 12 & 17 & 16 & 1910 & -4.2. \\
\hline 7.5 & 15 & 11 & 19 & 15 & 1970 & \(-4.4 .4\) \\
\hline 10.0 & 13 & 12 & 21 & 15 & 1920 & -44.4 \\
\hline :2.5 & 2 & \& & 7 & 10 & 1940 & -45.4 \\
\hline 15.0 & 2 & 7 & 7 & 9 & 1930 & -4.4.5 \\
\hline 17.5 & 2 & 4 & 7 & 6 & 1840 & -4.4.6 \\
\hline 20.0 & -4 & 13 & 1 & 15 & 1700 & -44.4 \\
\hline 22.5 & -1 & 11 & 4 & 13 & 1870 & -4.4.5 \\
\hline 25.0 & 0 & 9 & 5 & 11 & 1930 & -4.4.7 \\
\hline 27.5 & 1 & 14 & 6 & 16 & 1930 & -44.8 \\
\hline 30.0 & 4 & 11 & 9 & 13 & 1940 & -4.9.7 \\
\hline 32.3 & 5 & 7 & 10 & 9 & 1930 & -45.0 \\
\hline 35.0 & 6 & 11 & 11 & 13 & 1890 & -45.2 \\
\hline 37.5 & 16 & 27 & 21 & 23 & 18,0 & -43.3 \\
\hline 40.0 & 14 & 23 & 20 & 24 & 1820 & -45.6 \\
\hline 42.5 & 18 & 21 & 24 & 23 & 1840 & -45.9 \\
\hline 45.0 & 21 & 12 & 26 & 14 & 1840 & -4.0.2 \\
\hline 47.5
50.0 & 23 & 10 & 29 & 11 & 1800 & -46.2 \\
\hline
\end{tabular}
```






| asers | vir | var | vRt | vkr | d－values | tadj | radius | vat | var | vRT | ver | d－values | tans | Ranils | vat | vak | VRT | vrr | n－values | taja |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5 \cdot$ | 41 | 10 | 59 | 7 | －1140 | 19.7 | 5.0 | in | －27 | 46 | －13 | －1120 | 25.4 | 5.0 | 98 | 37 | 43 | 21 | －700 |  |
| 7.5 | 73 | $\cdots$ | 31 | 36 | －970 | 11.4 | 7.5 | 36 | －46 | 75 | －32 | －470 | 25.0 | 7.5 | 43 | 30 | 89 | 14 | -700 -630 | 19.2 19.8 |
| 17.0 | 102 8 8 | 35 | 119 | 18 | -980 -750 | 19.2 | 10.0 | 96 | -53 -59 -59 | 85 | －40 | －860 | 24．${ }^{\text {a }}$ | 10.0 | 33 | 18 | 74 | 1 | -530 -530 | 19.8 in． |
| 15.0 | 74 | 42 | $?$ | 32 | －670 | 18.7 18.4 | 15.5 | $\stackrel{9}{7}$ | －59 -56 | 77 69 | -4.5 <br> -42 <br> -45 | -710 -670 | 24.1 | 12.5 | $8{ }^{81}$ | $-1$ | 76 | －19 | －450 | 18.0 |
| 17.9 | 65 | 33 | 77 | 21 | －5co | 17.8 | 17.5 | 70 | －49 | 60 | －35 | － 530 | 22.9 | 17.5 | 74 | 26 | 70 | 10 | －380 | 17.8 |
| 29.3 | ${ }^{3}$ | 43 | 75 | 30 | －420 | 17.8 | 2 C .0 | 58 | －47 | 49 | －35 | －470 | 21.0 | 20.5 | 73 | 27 | 65 68 | $\bigcirc$ | -290 -270 | 17.7 |
| 29.5 | 40 | 31 | 72 | 38 | －370 | 18.0 | 22.5 | 51 | －42 | 41 | －28 | －410 | 17.8 | 22.5 | 72 | 29 | 68 6,7 | 13 | － 270 -290 | 17.9 |
| 25.0 | ${ }^{1} 4$ | 31 | 76 | 18 | －360 | 18.1 | 25.0 | 50 | －36 | －41 | －27 | －340 | 19.8 | 25.0 | 5 | 17 | 59 | 0 | －270 | 17.8 |
| 87.5 | 52 | 219 | $6 \%$ | 17 | －300 | 17.9 | 27.5 | 47 | $-4.2$ | 37 | －29 | －3c0 | 18.4 | 27.5 | 71 | 18 | 67 | 1 | －240 | 17.8 |
| $3 \mathrm{3} \cdot 9$ | 53 | 35 | ${ }^{4} 4$ | 2 | －280 | 17.5 | 30.0 | 49 | $-4.5$ | 40 | －32 | －2\％0 | 18.0 | 3 n .0 | 96 | 10 | 63 | －6 | －200 | 19.0 |
| 3 3 | ris | 26 27 | 67 65 | $1 / 4$ 14 | -270 -240 | 17.5 17.4 | 32.5 35.0 | 47 | -49 -39 | 38 | -34 -24 -24 | －270 | 18.0 | 32.5 | 61 | 15 | 57 | －2 | －200 | 17.7 |
| 37.5 | ＋5 | 18 | 76 | 5 | －270 | 17.3 | 37.5 | 50 | －31 | 45 | －24 -16 | －220 | $1 \mathrm{R} \cdot 3$ | 35.0 37.5 | h1 50 $n$ | 23 -5 | 57 4,7 | －22 | -1.90 -190 | 17.5 |
| 4？．： | 7n | 970 | 979 | $\bigcirc 99$ | 949 | 999.0 | 40.0 | 49 | －30 | 39 | －16 | －190 | 18.4 | 40.0 | 58 | 4 | 54 | $-13$ | －180 | 17.2 |
| 43.5 | วา | 97\％ | ควา | 997 | 939 | 999.0 | 47.5 | 46 | －36 | 36 | －22 | －180 | 17.7 | 42.5 | 4.4 | 2 | 57 | －15 | －180 | 17.6 |
| 45.3 | $5 \cdots$ | －79\％ | 9＊9 | 999 | 999 | 999.0 | 45.0 | 4.4 | －36 | 33 | －：？ | －1／0 | 18.7 | 45.0 | 394 | 994 | 999 | 999 | 999 | 999.0 |
| 4．${ }^{5}$ | 909 | 979 999 | 979 | 999 | 979 | 999.0 | 47.5 | 4.3 | -34 -35 | 32 | －21 | －140 | 19.2 | 47.5 | カッフ | 437 | 997 | 999 | 979 | 999.0 |
| 50.0 | 979 | 999 | 989 | 999 | 999 | 999.0 | 50.0 | 44 | －35 | 33 | －2？ | －140 | 14.4 | 50.0 | 929 | 999 | 999 | 997 | 997 | 987.0 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2aves | vat | var | vrt | VRa | o－values | tadj | ranius | v＾t | var | vit | ver | o－valufs | ［A1）${ }^{\text {d }}$ | radius | vat | var | vRt | Vre． | d－values | ianj |
| 5.9 | 43 | 月 | 32 | 6 | －1070 | 20.2 | 5.0 | 0 | －35 | －1 | $-18$ | －1110 | 25.9 |  |  | $\bigcirc$ |  |  |  |  |
| 7.9 | 51 | －h | 42 | －7 | －1050 | 24.5 | 7.5 | 31 | －32 | 31 | －14 | －1100 | 27.5 | 3.0 | 28 | 12 | 12 67 | 17 | -990 -870 | 23.7 22.5 |
| $1 \because 0$ | ${ }_{10}^{104}$ | -14 -17 | 72 | -16 -20 | -850 -670 -870 | 22.6 17.5 | 11.0 | 44 | -20 -30 | 45 | －2 | －1090 | 23.7 | 10.0 | $3{ }^{3}$ | 31 | 53 | 38 | －8c0 | 20.1 |
| 12．5 | 107 | －189 | 42 75 | -20 -31 | -670 -570 | 17.5 18.6 | 12.5 15.0 | 66 60 | -30 -22 | 67 62 | -12 -5 | -960 -910 | 26.7 24.7 | 12.5 15.0 | 54 | 35 48 | 69 | 62 5 | －660 | 19.6 |
| 17．9 | 25 | －74 | 57 | －27 | －480 | 18.2 | 17．3 | 46 | －26 | 48 | －7 | －710 | 22.7 | 17.5 | 93 | 47 | 68 | 55 55 | －570 | 1.93 |
| ＜2．0 | 73 | － 2 ： | 61 | －34 | －390 | 18.2 | 20.0 | 4 | －17 | 47 | 0 | －6．30 | 20.7 | 20.0 | 48 | 42 | 64 | 49 | － 400 | 19.3 |
| 27.5 | 73 | －25 | 57 | －28 | －330 | $17 . \%$ | 22.5 | 51 | －16 | 53 | 1 | －510 | 17.0 | 22.5 | 45 | 43 | 61 | 4 B | －350 | 19.4 |
| 27．5 | 8 | -25 -15 | 60 53 | －23 | -260 $-2>0$ | 17.3 18.3 | 25.0 27.5 | 48 $4 ?$ 4 | －-4 | 51 4,4 | ${ }^{8} 8$ | -440 -350 | 13.7 14.0 | 25.0 | $4{ }^{4}$ | 42 | 60 | 48 | －210 | 19.0 |
| 30.0 | 75 | － | 59 | －13 | －180 | 18.2 | 30.0 | 4.8 | －4 | 4 | 15 | － | 14.0 14.7 | 27.5 30.0 | 36 37 | 31 | ${ }_{5}^{52}$ | 37 | － 260 | 19.0 |
| 3.75 | 74 | －is | 59 | －i9 | －180 | 18.0 | 32.5 | 45 | h | 48 | 23 | －740 | 18.8 | 31.5 | 37 | 24 | 55 | 29 | － | 14.1 |
| 34.0 | 8 | －i， | 53 | $-17$ | －160 | 17.8 | 35.0 | 41 | －3 | 4. | 17 | －270 | 13.7 | 35.0 | 31 | 27 | 47 | 27 | －180 | 17.0 |
| 37.5 | H2 8 | －27 | 46 | －24 | －150 | 17.9 | 37.5 | 36 | － | 40 | 17 | －170 | 1 H .6 | 37.5 | 29 | 19 | 45 | 75 | －160 | 1\％．7 |
| 40.4 | ${ }_{4}{ }^{1}$ | －18 | 51， | -11 <br> -20 <br> -20 | -130 -120 | 17.0 17.9 | 40.0 42.5 | 32 31 | －${ }^{-8}$ | 35 34 | $\stackrel{9}{4}$ | -160 <br> -150 <br> 150 | 18.1 | 40.6 | 29 | 25 | 45 | 30 | －150 | 17.1 |
| 4 | G2 | －17 | 4.6 | －16 | －1co | 17.4 | 45.0 | 35 | －14 | 24 29 | 3 | －150 | 18.3 19.1 | 42.3 45.0 | $\cdots$ | 22 25 | 4.4 | 27 30 | -140 -140 | 19.0 19.7 |
| 47.5 | 82 | －19 | 46 | －16 | －80 | 17.3 | 47.5 | 26 | －17 | 29 | －1 | －120 | 17.5 | 47.5 | 27 | 16 | 43 | 21 | -140 -120 | 19.7 |
| 50.0 | 54 | $-14$ | ${ }^{38}$ | －19 | －90 | 17.4 | 50.0 | 23 | $-1.3$ | 26 | 4 | －110 | 17.5 | 50.0 | 23 | 14 | 39 | 21 | －100 | 1 n .1 |


smcothen vortex averages


> DOEG AIT
> $\begin{gathered}\text { tTME } \\ \text { thtEPVA }\end{gathered}$
> STOPM, DATF, FFFT, MQ., TNTFPVAL /OUT/ LAT/ONR/ TD,
> STOPN TQUF DCTANT ATMTH TM PNO CENT MAX WYNOS DAOTIS



| parius | vat | vas | vRT | VR？ | D－values | TADJ | hadius | vat | var | VRT | ver | n－values | tand |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30 | an | 20 | 50 | 2 | －540 | 12.3 | 5.0 | 71 | －26 | ${ }_{5} 3$ | －6 | －150 | 19.4 |
| 7.9 | 97 | 35 | 24 | 22 | －320 | 11.6 | 7.5 | 57 | $-29$ | 51 | －9 | －350 | 19.4 |
| 1－\％ | $1{ }^{1} 1$ | 31 | 95 | 20 | －230 | 10.6 | 10.0 | 70 | －19 | 63 | －1 | －270 | 17.2 |
| 12.5 | 19 | 19 | 79 | 8 | －130 | 10.6 | 12.5 | 69 | －16 | no | 1 | － 230 | 15.5 |
| $1 \cdot 0$ | 29 | 5 | 82 | －4 | －110 | 10.6 | 15.0 | 72 | －20． | 63 | －2 | －190 | 15.3 |
| 12.5 | 9 | 0 | 79 | －9 | －180 | 10.6 | 17.5 | 76 | －24 | ${ }_{68}$ | －7 | －190 | 15.9 |
| 2）．0． | 13 | －6． | 77 | －14 | －30 | 9.6 | 20.0 | 67 | －27 | 57 | －10 | －110 | 15.0 |
| 27．， | 33 | －10 | 12 | －17 | －80 | 8.7 | 27.5 | n79 | วา | 994 | 997 | วํา | 99．0 |
| 25．\％ | $\because$ | －i1 | \％ | －18 | －50 | 2． 1 | 25.0 | $9 \%$ | 990 | 999 | 999 | $9 \% 9$ | 799.0 |
| 27.5 | 33 | －11 | to | －18 | －30 | 8.7 | 27.5 | วาก | 749 | 999 | 999 | 999 | 97.0 |
| 30.1 | $?$ | －11 | 63 | －19 | 30 | 8.7 | 30.0 | 979 | 9 9\％ | 994 | 499 | 499 | 949.0 |
| 17.5 | ？9 | －0 | $\mathrm{hr}^{2}$ | －16 | 40 | 8.8 | 32.5 | 997 | 9าง | 99า | 999 | 929 | 979.0 |
| 35．9 | ？ | －9 | 6.2 | －15 | 70 | 8.9 | 35.0 | 349 | 49 | 997 | 999 | 999 | 737 ． |
| 17.5 | 1 | －7 | 4 | －13 | 80 | 9.2 | 37.5 | $9 \%$ | $99 \%$ | $99 \%$ | 979 | 999 | 999.0 |
| 4．0 | $7{ }^{\prime \prime}$ | －？ | 53 | －8 | 9 | 9.7 | 40.0 | 9\％9 | －79 | 499 | 949 | 999 | 944.0 |
| 47.5 | 71 | $?$ | 54 | －5 | 100 | 9.8 | 42.5 | 37 | 997 | 979 | ว97 | วํา | 999.0 |
| 45.6 | $\because$ | 5 | 58 | －1 | 130 | 10.2 | 43.0 | 97\％ | 9า | 979 | $\cdots$ | 737 | 97．9 |
| $4 \%$ | 76 | － | 57 | 3 | 140 | 12.9 | 47.5 | n99 | 29\％ | 999 | 499 | 99 | 949.0 |
| 3：06 | 69 | 1 | 52 | －5 | 150 | 11.3 | 50.0 | 379 | 999 | 999 | 499 | 999 | 994.0 |




| 2atus | vis | var | VRT | vRb | d－values | tadj | railius | vat | var | vRt | vRr | d－valufs | ［adJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.9 | 20， | ตッフ | 999 | 99 | －570 | 22.4 | 5.0 | to | －10 | 45 | 2 | －410 | 17．） |
| 7．3 | － | 30 | 979 | 997 | －540 | 20.7 | 7.5 | 18 | 8 | 63 | 20 | $\rightarrow 70$ | $1 \times .7$ |
| 12.3 | 31 | $-15$ | 12 | $-13$ | －350 | 15.0 | 10.0 | 93 | －1 | 67 | 10 | －2？ | 15.1 |
| 12.5 | 102 | 1 | $\%$ | 1 | －740 | 13.5 | 17.5 | 37 | 1 | 72 | 12 | －210 | 15.1 |
| ：1．0 | 1in？ | 1 | 94 | －1 | －190 | 11.1 | 15.0 | 84 | －7 | 69 | 5 | －170 | 14.1 |
| 17.5 | 97 | －4 | 79 | －7 | －140 | 10.0 | 17.5 | 79 | －21 | 63 | －9 | －190 | 13.0 |
| 23.0 | $\cdots$ | 2 | 74 | －2 | －90 | 9.5 | 20.0 | 74 | －22 | 59 | －10 | －160 | 13.1 |
| 22.5 | $\bigcirc 3$ | b | 71 | 1 | －90 | 9.5 | 22.5 | 74 | －20 | 60 | －7 | －1／50 | 13.1 |
| － 25.5 | 9 | 0 | 58 | －6 | －50 | 4.7 | 25.0 | 71 | －24 | 27 | －10 | －110 | 12．1 |
| 27.3 | 93 | －1 | ne | －7 | －40 | 9.6 | 27.5 | 72 | －21 | 58 | $-14$ | －00 | 12.9 |
| 30.0 | 77 | －5 | 60 | $-12$ | －30 | 9.5 | 30.0 | 74 | $-20$ | 57 | $-9$ | －20 | 12.5 |
| 13．5 | 71 | －6 | 54 | －13 | －9 | 9.4 | 32.5 | 76 | －10 | 57 | －5 | 0 | 11.9 |
| 3．\％ | 72 | －5 | 55 | －13 | －13 | 9.2 | 35.0 | 74 | － | 55 | －6 |  | 11.3 |
| 17.5 | 6 | 13 | 34 | 4 | －10 | 9.2 | 37.5 | 74 | －9 | 55 | －9 | 19 | 11.5 |
| 4こ．j | $\mathrm{or}^{\circ}$ | ${ }^{13}$ | 53 | 3 | 0 | 10.2 | 40.0 | 74 | －11 | 55 | －11 | 20 | 11.9 |
| 42.5 | As | 15 | 52 | 3 | 30 | 10.3 | 42.5 | 11 | －10 | － 57 | $-10$ | 30 | 12.2 |
| 45.10 | 9\％ | $0 \cdot 9$ | $49 \%$ | 997 | 999 | 799.0 | 45.0 | 69 | － | 50 | －7 | 30 | 11.6 |
| 41.3 | 72： | 399 | 979 | 999 | 999 | 9990 | 47.5 | 67 | －3 | 50 | －5 | 90 | 11.5 |
| cues | $91 \%$ | 99. | 989 | 949 | 999 | 994.0 | 50.0 | 65 | 2 | 47 | －1 | 110 | 11.4 |



STORM 17
LEVEL 2

 STORM / DATF/ FFFT, MR., TNTFQVAL /OUT/IATMONE/IO/
 STORN TOHF OCTANT ATMTH TN DDR CFNT MAX WINDG RADIHS SPN/ DIR / LחR MMTH/CTM/ANGAF/FYFRAD/ PRFS/ACTUAL/RFL IMAX WR/


IISBFLL / $541014 / 15960 / 570 / 2140-2158 / 1 / 24 / 93 / 93$ /
11/ 35/265/55/3/145/13. 1970 / $87 / 71 / 20.0$

| Reiotis | vai | var | vrt | VRR | o-values | tads |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3.9 | 59 | 16 | 57 | 34 | -20 | 3.4 |
| 7.5 | th | 1 | 61 | 19 | 30 | 6.6 |
| 10.0 | 63 | 18 | 49 | 36 | 70 | 6.4 |
| 17.5 | 71 | -14 | 62 | -7 | 60 | 2.3 |
| 15.0 | 93 | -10 | 67 | -5 | 140 | . 5 |
| 17.5 | 84 | -2 | 65 | 2 | 200 | . 8 |
| 20.0 | 87 | 5 | 71 | 9 | 280 | . 8 |
| 22.5 | 96 | 8 | 65 | 12 | 350 | . 5 |
| 25.0 | 9s | -8 | 69 | -4 | 370 | -. 1 |
| 27.5 | 92 | -17 | 64 | -14 | 380 | -. 5 |
| 30.0 | 79 | $-17$ | 58 | $-14$ | 340 | -. 3 |
| 17.5 | 77 | -21 | 57 | -19 | 400 | -. 6 |
| 35.0 | 72 | $-20$ | 47 | -19 | 4 co | -. 7 |
| 31.5 | 69 | -20 | 49 | -19 | 420 | -. 9 |
| 40.0 | ns | -25 | 44 | -22 | 440 | -1.0 |
| 42.3 | 64 | -21 | 43 | -21 | 470 | -.8 |
| 45.0 | 02 | -17 | 42 | -18 | 56.0 | -. 5 |
| 47.5 | 51 | $-12$ | 41 | -12 | 530 | -. 6 |
| 50.0 | 6.0 | -16 | 40 | -18 | 540 | -1.0 |


173.




| 2. 110 s | vat | var | VPT | ver | d-values | tanj | raioius | var | var | virt | vor | o-values | An) | Rantus | VAT | VAR | VRT | VRr | o-values | tanj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ¢ 0 | $2 T$ | - | 40 | 9 | -1220 | 17.3 | 5.0 | 39 | 5 | 34 | 16 | -126.0 | 17.n | 5.0 | 22 | 6 | 33 | -15 | -1200 | 1 ta .3 |
| 7.3 | 33 | -11 | 63 | 7 | -1200 | 18.3 | 7.5 | 57 | 13 | 48 | 21 | -1150 | 17.1 | 7.5 | 39 | 7 | 37 | -14 | -1230 | 16.0 |
| ir.a | 72 | -17 | 80 | 9 | -1150 | 18.8 | 10.0 | 75 | 21 | 82 | 26 | -1040 | 15.4 | 10.0 | 8.5 | 9 | 51 | -17 -20 | -1140 | 15.3 |
| $1 ? .5$ | 76 | -7 | 79 | is | -1030 | 17.6 | 12.5 | 77 | 21 | 89 | 25 | -710 | 13.8 | 12.3 | 81 | 7 | 83 | -17 | -940 | $1 \% 6$ 14.2 |
| ! $\%$ | 74 | -6 | 76 | 10 | -960 | 16.0 | 13.5 | 72 | 27 | 88 | 35 | -710 | 13. ${ }^{\text {a }}$ | 17.5 | 84 | 12 | 83 | - | -870 | 14.1 |
| ! $\cdot$. ${ }^{\text {d }}$ | 74 | -11 | 74 | 7 | -910 | 14.6 | 23.0 | 73 | 37 | 87 | 34 | -6er | 13.3 | 20.0 | 31 | 19 | 89 | -? | -750 | 13.7 |
| :". | 29 | -13 | 8.6 | 19 | -320 | 13.7 | 22.5 | 81 | 0 | ? 9 | 4 | -6,0 | 12.5 | 22.6 | 34 | ¢ | 100 | -17 | -6,40 | 13.2 |
| 2.5 | 71 | 15 | 97 | 28 | -670 | 13.2 | 27.0 | 78 | 9 | 95 | 10 | -510 | 12.5 | 25.0 | 9 | 0 | 93 | -20 | -5.0 | 12.6 |
| ¢ ${ }^{\text {c }}$ | 30 | ¢ | ? | 22 | -530 | 12.6 |  | 75 | 15 | 91 | 17 | -440 | 12.4 | 27.5 | P. 7 | -9 | 91 | -19 | -490 | 11.9 |
| $\because$ | O! | 0 | 76 | 20 | -480 -420 | 12.2 11.3 | 30.0 | 72 | 14 | 90 | 19 | -390 | 12.0 | 30.0 | 98 | -5 | 90 | -22 | -630 | 11.0 |
| \% | \% | 5 | $\stackrel{7}{8}$ | 20 | -350 | 11.6 | 32.5 | 68 | 12 | 38 | 17 | -340 | 12.0 | 32.5 | 96 | 1 | $8^{88}$ | -18 | -350 | 10.7 |
| 34.0 | 92 | \% | 35 | 21 | -290 | 11.5 | 35.0 | 66 | 15 | 93 | ? | -30\% | 11.9 | 35.0 | R 7 | -4 | 82 | -22 | -360 -260 | 10.6 10.8 |
| 31.5 | 19 | 8 | ${ }^{1}$ | 21 | -240 | 11.6 | 37.5 | 63 | 13 | 78 | 17 | - 270 | 11.9 | 37.5 | 78 | -4 | ${ }_{78} 8$ | -14 | -260 | 10.8 11.7 |
| 60.) | 17 | 4 | 77 | 17 | -180 | 11.3 | 40.0 | 50 | -2 | 80 | 4 | -150 | 11.5 | 42.5 | $\bigcirc$ | 17 | 83 | - -1 | -150 | 17.2 |
| 42.5 | 3 | 0 | 74 | 13 | -140 | 11.0 | 45.0 | 52 | -5 | 82 | 4 | -120 | 11.2 | 45.9 | 79 | 13 | 85 | -6 | -120 | 12.0 |
| 478 | 59 | ? | 70 | 12 | -120 | 10.9 | 47.5 | 50 | $\bigcirc$ | 82 | 0 | - 80 | 10.9 | 47.5 | 69 | -1 | ${ }_{68}^{90}$ | -17 | -80 -50 | 11.3 10.7 |
| $\therefore 0.0$ | 67 | $\bigcirc$ | 69 | 14 | -90 | 10.9 | 50.0 | 50 | -1 | 70 | -i | -50 | . | 50.0 |  |  |  |  |  | 10.7 |



STORM 18
level 1



| zantus | v : r | vas | vor | VRr | o-values | tadj | ramius | vat | var | vRT | vRr | D-values | 190」 | ramius | vat | var | vRt | vre | D-values | talb |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| i.f | 32 | : | 20 | -? | -860 | 13.4 | 5.0 | 25 | -8 | 24 | 0 | -940 | 14.2 | 5.0 | 34 | 4 | 38 | 0 | -710 | 11.8 |
| $\bigcirc$ | 4.3 | ? | 31 | 0 | -850 | 12.5 | 7.5 | 37 | -3 | 37 | 5 | - bno | 13.8 | 7.5 | 47 | 10 | 59 | 5 | -670. | 16.3 |
| 10.0 | 6.1 | 6 | 63 | 5 | -790 | 11.5 | 10.0 | 55 | - | 56 | 2 | -930 | 13.5 | 10.0 | 59 | 0 | ${ }^{68}$ | $-4$ | -640 | 7.6 |
| $12 . ;$ | 4 | 3 | 74 | 2 | -780 | 10.2 | 12.5 | 69 | -3 | 75 | 6 | -790 | 13.3 | 12.5 | 05 | 7 | 72 | 3 | -5,40 | 4.2 |
| 15.3 | 29 | 3 | 81 | 1 | -550 | 8.9 | 15.0 | 30 | - | 31 | 1 | -6.20 | 12.4 | 15.0 | 6.5 | $\stackrel{0}{6}$ | 73 | 2 | $-400$ | 8.7 |
| 17.5 | 86 | 7 | 76 | 5 | -440 | 8.4 | 17.5 | 82 | -5 | 8 ? | 5 | -470 | 11.6 | 17.5 | 62 | 3 | 6.7 | -1 | $-280$ | 0.4 |
| ?n.f | 9 | 12 | 74 | 10 | -310 | 8.0 | 20.0 | 8.2 | -4 | 82 | 5 | $-420$ | 10.2 | 20.0 | 63 | ? | 67 | 5 | -2.0 | 8.5 |
| 22.5 | 46 | $\rightarrow$ | 97 | -3 | -270 | 7.6 | 22.5 | 24 | -10 | $n 4$ | n | -3+10 | 9.2 | 22.5 | 72 | 21 | 72 | 17 | -120 | 9.3 |
| '5.0 | \% | -4 | 95 | -6 | -210 | 6.8 | 25.0 | 92 | -1 | 94 | 9 | -260 | 8.7 | 25.0 | 15 | 19 | 78 | 14 | -50 | 7.7 |
| 27.5 | 94 | -1 | 90 | -7 | -90 | 6.1 | 27.5 | n) | 2 | 0 | 12 | -140 | 7.0 | 27.5 | 75 | 15 | 78 | 11 | 0 | 7.3 |
| 3 O .0 | 12 | \% | 83 | -2 | 10 | 5.8 | 30.0 | ? 7 | $-14$ | 86 | $-4$ | -70 | 7.3 | 30.0 | 68 | 0 | 73 | -4 | 20 | 7.0 |
| 32.5 | 9.7 | -4 | ro | -5 | 70 | 5.8 | 32.5 | 88 | -13 | 89 | -3 | 0 | 7.1 | 32.5 | 64 | 1 | 70 | $-3$ | 50 | 6.4 |
| 35.9 | 9. | -5 | 75 | -7 | 110 | 5.8 | 35.0 | 77 | 2 | 72 | 12 | 70 | 7.4 | 35.0 | A1 | 1 | 66 | $-3$ | 30 | 5.5 |
| 37.5 | 03 | -1 | 74 | -3 | 140 | 5.8 | 37.5 | 77 | 0 | 72 | 10 | 150 | 7.8 | 37.5 | 59 | 3 | 65 | -1 | 130 | 4.7 |
| 40.3 | ? | -3 | 73 | -4 | 180 | 5.7 | 41.0 | 79 | ¢ | 71 | 19 | 190 | 7.4 | 40.0 | 56 | -5 | 64 | -8 | 160 | 4.3 |
| $4 \cdot \cdot ;$ | 97 | n | 72 | -2 | 240 | 5.5 | 47.5 | 74 | 3 | 71 | 17 | 200 | 6.9 | 42.5 | 52 | -1 | 60 | -6 | $1: 0$ | 3.9 |
| 6r.? | 73 | 10 | 69 | 9 | 270 | 5.5 | 45.0 | 67 | -6 | 65 | 4 | 210 | 6.5 | 45.0 | 47 | 2 | 57 | -3 | 200 | 3.9 |
| 4.9 ${ }^{\text {c }}$ | 74 | . 20 | 60 | 19 | 270 | 5.9 | 47.5 | 6.5 | 3 | 65 | 13 | 740 | 6.4 | 47.5 | 46 |  | 52 | -1 | 250 | 3.9 |
| 50.0 | 71 | 11 | 60 | 9 | 280 | 5.8 | 50.0 | 65 | -10 | 65 | 0. | 2 BC | 6.8 | 50.0 | 46 | 4 | 52 | 0 | 260 | 4.0 |


 $10 / 315 / 330 / \mathrm{NW} / 1 / 330 / 15 / 752 / 87 / 85 / 22.5$

| 2n-us | vat | vir | VRT | vRr | d-values | TA: ${ }^{\text {d }}$ | rantus | vat | vai | vrt | vas | D-values | tans | ramius | vat | VAR | VRt | vRq | d-valufs | TAOJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \%os | 34 | - | 19 | 0 | -390 | 13.7 | 5.0 | 27 | -2 | 31 | 1 | -900 | 13.6 | 5.0 | 24 | 9 | 65 | 0 | -810 | 12.2 |
| 7.3 | 47 | -7 | 37 | -1 | -820 | 13.7 | 7.5 | 42 | 4 | 51 | \% | -92C | 12.2 | 7.5 | 70 | 19 | 73 | 9 | -700 | 9.5 |
| 12.0 | "9, | -ii | 61 | -6 | -790 | 13.6 | 10.0 | 83 | 7 | 70 | 10 | -720 | 15.6 | 10.0 | 72 | 11 | 72 |  | -620 | 8.6 |
| 12.3 | 15 | -i1 | 83 | -5 | -6.90 | 12.4 | 12.5 | 71 | 16 | 82 | 19 | -6,00 | 9.5 | 12.5 | 71 | 3 | 69 | -6 | -500 | 9.7 |
| : $\%$ ? | 9 | $-17$ | 81 | -7 | -560 | 10.6 | 15.0 | 70 | 9 | 79 | 13 | -450 | 4.4 | 15.0 | 74 | 7 | 74 | -3 | -400 | 9.6 |
| $1 \cdot \cdot 3$ | 27 | $-i^{\sim}$ | 7 h | -5 | -430 | 4.6 | 17.5 | 65 | 7 | 72 | 10 | -4n0 | 9.2 | 17.5 | 90 | 14 | 77 | 4 | -310 | 9.8 |
| $\cdots$ | 03 | -6 | 73 | 0 | -310 | 9.6 | 20.0 | 63 | 15 | 72 | 19 | -320 | 8.7 | 20.0 | 8.4 | 23 | 83 | 13 | -230 | 0.5 |
| 2 P | 95 | -i | 96 | 1 | -190 | 9.4 | 22.5 | 80 | 18 | 74 | 21 | -2c0 | 7.8 | 22.5 | P7 | 14 | $\begin{array}{r}85 \\ \hline 85\end{array}$ | 4 | -150 | 8.1 |
| 2-: | $1 \cdots$ | -1: | 95 | -6 | -100 | 7.7 | 25.0 | 63 | 21 | 80 | 26 | -70. | 7.2 | 21.0 | 97 | 17 | 35 | 7 | -110 | 7.6 |
| 31.7 | $\cdots$ | $-17$ | 97 | -11 | -40 | 7.0 | 27.5 | 7\% | 23 | 84 | 26 | -10 | 7.0 | 27.5 | 87 | 5 | 85 | -4 | -70 | 6.3 |
| 20.3 | ?? | $-\mathrm{i}$ | 86 | -11 | 40 | 6.5 | 30.0 | 74 | 23 | 82 | 26 | 70 | 7.4 | 30.0 | ค\% | 10 | 85 | , | -10 | 5.7 |
| $3) .5$ | 97 | -in | 73 | -13 | 80 | 6.1 | 32.5 | 73 | 20 | 78 | 23 | 130 | 7.6 | 32.5 | 97 | 4 | 84 | 0 | Ro | 5.7 |
| 35.0 | $0 \cdot 5$ | $-13$ | 75 | -7 | 140 | 5.7 | 35.0 | 68 | 14 | 74 | 17 | 170 | 7.3 | 35.0 | 84 | 5 | 80 | -5 | 120 | 5.7 |
| \% $\%$ | 4 | -1: | 14 | -4 | 130 | 5.6 | 31.5 | 81 | " | 11 | 12 | 210 | 6.0 | 31.9 | 41 | 1 | 11 | -8 | 1 tu | 0.2 |
| -6: | 91 | - | 73 | -2 | 220 | 5.7 | 40.0 | 55 | -1 | 69 | -2 | 250 | 5.5 | 40.0 | 79 | 9 | 73 | 0 | 170 | 6.5 |
| $4 \%$, | 78 | -7 | 72 | -i | 250 | 5.9 | 42.5 | 54 | 1 | 66 | 4 | 29.0 | 5.7 | 4.2 .5 | 77 | 11 | 72 | $?$ | 240 | 6.5 |
| 45.8 | 74 | $-19$ | 68 | $-4$ | 200 | 5.7 | 45.0 | 53 | 0 | 6.3 | 3 | 300 | 5.2 | 45.0 |  | $2 \cdot$ | 70 | 10 | 280 | 6.5 |
| 4.7 .5 30.0 | 70 68 | -13 -10 | 66 6 | -6 -3 | 330 350 | 5.4 5.3 | 47.5 50.0 | 49 4 4 | -9 -2 | 53 51 51 | -6 | 310 330 | 4.93 | 47.5 50.0 | 76 75 | 15 4 | 70 72 | 5 -5 | 320 330 | 6.5 6.5 |





| quaius | var | var | VRT | var | d-values | TADJ | racius | vat | var | VRT | vRr | d-valufs | tanj | radius | $\checkmark$ NT | var | vRt | vRr. | d-values | ranj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\because!$ | -i1 | 26 | $9 \% 9$ | -290 | 4.1 | 5.0 | 22 | 0 | 34 | 11 | 999 | 3.5 | 5.0 | 37 | 5 | 34 | $-9$ | -260 | $2 \cdot 10$ |
| 7.5 | 35 | -14 | 36 | 12. | -270 | 3.4 | 7.5 | 34 | -2 | 4 | 5 |  | ? 2.7 | $\begin{array}{r}7.5 \\ 10.0 \\ \hline 10.5\end{array}$ | 57 68 | 15 17 | 56 <br> 54 | -6 | -210 | 1.0 |
| 12.0 | 90 | -15 | 1.5 57 | 5 | -250 | 2.6 | 10.0 12.5 | 47 6,4 | -5 -10 | ${ }_{74}$ | 5 | 999 | 2.0 | 10.0 | 74 | 81 | 40 | -2 | -10 | 1.0 |
| ? $\%$ | 1.5 <br> 8.5 <br> 8 | -11 | 57 78 | 4 | -200 | 1.8 | 15.0 | 73 | -2 | Po | 6 | 999 | 1.4 | 15.0 | 83 | 23 | 45 | 24 | ${ }^{\text {RO }}$ | 1.4 |
| $\because 9$ | $\cdots$ | -i, | 87 | 7 | 0 | 1.5 | 17.5 | 77 | 2 | $0 \cdot 4$ | 10 | 949 | 1.6 | 17.5 | 89 | 26 | 89 | 13 | 170 240 3 | 1.0 |
| 23.0 | 98 | -2 | 96 | 7 | 90 | 1.6 | 20.0 | 78 | - |  |  | 35 | 1.7 | 23.0 | $\stackrel{3}{7}$ | 10 | 79 | $-7$ | 310 | $\xrightarrow{\text {. }}$ |
| $\because \cdot 5$ | 37 | -5 | R1, | 10 | 170 | 1.5 1.2 | 22.5 25.0 | 78 | -1 | 80 | $-4$ | $4{ }^{4}$ | 1.? | 25.0 | P1 | a | 75 | -3 | 390 | 1.0 |
| 20.0 | 9.9 <br> 9 <br> 9 | $\hat{i}$ | 42 80 | 12 | 340 | 1.7 | 27.5 | 59 | -9 | 6.7 | -5 | 54 | 1.1 | 27.5 | 9 | ${ }^{18}$ | 73 | -3 | 450 | 1.1 |
| $3: .0$ | $?$ | - 4 | 78 | 15 | 390 | . 7 | 30.10 | 55 | -5 | 67 | 8 | 64 | 1.1 | 30.0 | 16 70 | 25 | 74 67 | $?$ | 5100 | 1.0 |
| $\because \cdot 5$ | ? | -1 | 74 | 1 | 430 | $\cdot 5$ | 32.5 35.0 | 5,5 54 | 4 | 67 | 7 | 73 | 1.7 | 35.0 | 6,5 | 14 | 61 | 4 | 690 | . 9 |
| 3700 | $\bigcirc$ | - | 72 | 11 | 480 470 | . 3 | 35.0. | 54 | 0 | 64 | 3 | 76 | . 3 | 77.5 | 64 | 9 | 59 | -5 | 710 | $\cdot 6$ |
| 37.5 | $\xrightarrow{8}$ | -4. | 14 $n 3$ | 12 | 470 570 | -. 5 | 40.0 | 52 | -2 | ${ }_{6}^{64}$ | 4 | 80 | $\cdot 1$ | 40.6 | 65 65 | 10 | ${ }_{51}^{61}$ | 2 | 740 | $\cdot 3$ |
| 48 | 7 | -r | 61 | 7 | 590 | $-.9$ | 42.5 | 5 | -3 | 63 62 | 4 | ${ }_{71}$ | $\because$ | 42.5 45.0 4.5 | 65 6.5 | 20 19 | 57 | 5 | 770 | $\therefore$ |
| 45.0 | ¢9 89 | $-10$ | 60 | $\frac{1}{2}$ | 630 660 | -1.1 -1.4 | 4.7 .5 | 54 | 5 | 61 | 10 | 73 | c. 0 | 47.5 | 45 | 17 | 56 | 12 | 810 | -. 4 |
|  | S980 | - |  | ${ }_{4}^{2}$ | 670 | -1.5 | 50.0 | 53 | 13 | 60 | 11 | 73 | 0.0 | 50.0 | 84 | 16 | 56 | 13 | 840 | -. 7 |



STORM 18 LEVEL 3



# DDFG ALT <br> TTME <br> JN <br> STORM / MATF / FFFT, MQ. / TMTFYVAL /OUT/LATMONO/ TD/ <br> STOPM TDUF OCTANT ATMTH TM PND CFNT MAX WTMIC RADTUC SPI/ חIR/ HIG NNOTH/GTM/ANGIF/FYFRAD/ DUES/ACTUAL/REL ;MAX WD/ 

## LEVEL 5

/nETSY /65045, $3240 / 907,0-2810 / 29 / 75 / 270 /$


| ramius | vat | var | VRT | var | p-values | taju |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4.0 | 17 | 3 | 13 | 0 | 999 | 21.2 |
| 7.5 | 30 | 7 | 29 | 1 | 999 | 21.0 |
| 10.0 | 40 | 8 | 44 | , | 959 | 21.0 |
| 12.5 | 43 | 11 | 54 | 1 | 9 9\% | 20.8 |
| 15:0 | 4.7 | 6 | 56 | -? | 393 | 20.\% |
| 11.5 | 40 | 2 | 56 | -? | 994 | 20.4 |
| 20.0 | 42 | 7 | 56 | 2 | 999 | 20.3 |
| 22.5 | 45 | 3 | 57 | 0 | 999 | 20.3 |
| 25.0 | 49 | 0 | 58 | -4 | 949 | 20.3 |
| 27.5 | 54 | 7 | 60 | -3 | 999 | 20.2 |
| 30.0 | 60 | 10 | 66 | -3 | 949 | 2c.0 |
| 32.9 | 63 | * | no | -3 | 999 | 19.8 |
| 35.0 | 64 | -8 | 94 | -9 | 999 | 19.6 |
| 17.5 | 6t | -2 | 9 | -7 | 999 | 1.7 .5 |
| 40.0 | 66 | 0 | 96 | -6 | 9 99 | 19.6 |
| 42.5 | 71 | -7 | 92 | -11 | 979 | 19.6 |
| 45.0 | 64 | 1 | 87 | -4 | 999 | 13.6 |
| 47.5 | 63 | 6 | 83 | -2 | 999 | 19.6 |
| 50.0 | 60 | 1 | 84 | -1 | 997 | 19.6 |


| 131:80 | 5; / sk / 3 /230/ |  |  |  | $1{ }^{3} 1$ | 7137.9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ratius | v9「 | var | v2T | v2r. | D-values | tios |
| 5.0 | 6 | -8 | 13 | -2 | 999 | 21.5 |
| 7.5 | 21 | -8 | 29 | -1 | 999 | 21.1 |
| 18.0 | 43 | -4 | 44 | 2 | 999 | 21.0 |
| 17.5 | 53 | \% | 54 | 6 | 959 | 2 C .8 |
| 15.9 <br> 17.5 | 52 50 | 4 | 56 56 | $\stackrel{7}{9}$ | 979 | 20.7 20.6 |
| 20.0 | 63 | 15 | 56 | 16 | 999 | 20.5 |
| 22.5 | 52 | 6 | 57 | 14 | 999 | 20.5 |
| 25.0 | 50 | 7 | 58 | 11 | 979 | 20.3 |
| 27.5 30.0 | 54 | , | 60 | 9 | 949 | 20.3 |
| 32.5 | $\bigcirc 6$ | , | 80 | 12 | 999 | 20.5 20.6 |
| 35.0 | 91 | - 8 | 04 | -2 | 999 | 20.4 |
| 37.5 | 93 | -18 | 97 | -13 | 999 | 20.2 |
| 40.0 | no | -14 | 96 | $-10$ | 999 | 14.8 |
| 42.3 | 9 9 | -21 | 92 | -16 | 499 | 19.7 |
| 45 | 30 86 | -15 -13 | 87 83 | -11 -4 | 999 <br> 999 | 19.7 19.8 |
| 50.0 | 79 | -24 | 84 | -3 | 999 | 19.8 |



STORM 18
level


| 131180 | $35 / \mathrm{NE} / 7 / 35$ |  |  |  | 1751 | $80 / 40.0$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ramius | vat | VAR | VRt | vrr | D-valufs | tad |
| 5.0 | 11 | -5 | 16 | -1 | -890 | 19.2 |
| 7.5 | 19 | 3 | 29 | 7 | -850 | 18.4 |
| 10.0 | 36 | 1 | 46 | 4 | - 810 | 17.8 |
| 12.5 | 55 | $-3$ | 57 | 0 | -740 | 17.2 |
| 15.0 | 57 | -1 | 59 | 3 | -750 | 17.6 |
| 17.5 | 55 | 0 | 58 | 4 | -6.50 | 17.8 |
| 23.0 | 53 54 54 | 2 | 58 | ${ }^{6}$ | -600 | 17.2 |
| 22.5 | 54 | ${ }^{5}$ | 61 | 12 | -540 | 15.2 |
| 25.0 27.5 | 57 | 12 | 63 | 16 | -430 -440 | 15.8 |
| 30.0 | 6 | 15 | 72 | -14 | -440 -410 | 15.7 15.4 |
| 32.5 | 69 | 16 | 76 | 20 | -360 | 15.1 |
| 35.0 | 71 | 13 | 76 | 17 | -3c0 | 14.0 |
| 37.5 | 72 | 9 | 77 | 13 | -230 | 14.4 |
| 40.0 | 75 | 3 | 80 | 7 | -210 | 13.7 |
| 42.5 | 70 | $-3$ | 75 | , | -190 | 13.3 |
| 45.0 | 70 | 1 | 73 | 5 | -170 | 13.2 |
| 47.5 | 6s | -2 | 77 | 2 | -140 | 13.2 |
| 50.0 | 64 | -5 | 69 | 0 | -120 | 13.4 |



 GPI/ OIR / UNG NNOTH/STM/ANGIF/FYFQAN/ PRES/ACTUAL/REL OMAX WO/
/RETSY /650905/11780/667/1657-1715/0/25/13/274/


|  | ramius | vat | var | vrt | vir | d-values | tanj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5.0 | 10 | 1 | 13 | -2 | - 570 | 11.7 |
|  | 7.5 | $? 3$ | ${ }_{0}$ | 26 | -1 | -530 | 11.0 |
|  | 10.0 | 34 | 1 | 40 | 1 | -440 | 10.5 |
|  | 12.5 | 55 |  | 55 | 3 | -410 | 10.1 |
|  | 15.0 | 57 | 1 | 60 | 4 | -350 | 9.9 |
|  | 17.5 | 59 | 0 | 61 | 7 | -290 | 9.7 |
|  | 20.0 | 51 | 6 | 60 | 9 | -2,0 | 9.9 |
|  | 27.5 | 53 | 9 | 59 | 10 | -200 | 4.6 7.7 |
|  | 25.0 27.5 | 59 59 59 | 10 | 62 | 13 16 | -1c0 | 8.7 |
|  | 30.0 | 58 | 7 | 65 | 16 | -50 | 8.4 |
|  | 32.5 | 56 | 10 | 59 | 13 | -20 | 8.0 |
|  | 35.0 | 59 | 15 | 62 | 20 | 10 | 7.6 |
|  | 37.5 | 72 | 13 | 72 | 15 | 50 | 7.0 |
|  | 4 C .0 | 6.7 | 4 | 70 | 6 | 90 | 6.4 |
|  | 42.5 | 63 | -3 | 65 | 1 | 130 | 6.4 |
|  | 45.0 | 49 | 3 |  | ${ }^{5}$ |  | 6.3 |
|  | 47.5 | 56 | 4 | 57 | 117 | 170 200 | 6.1 6.1 |
|  | 50.0 | 50 | 13 |  | 17 |  | 6.1 |
|  | /fersy / 650005 / 11780/667/1635-1658/1/25/73/275/ |  |  |  |  |  |  |
|  | /3/180/60/5w/2/210/10, 968/70/67/50.0 |  |  |  |  |  |  |
|  | ratius | vat | VAR | VRT | VRR | o-values | tadj |
|  | 5.0 | 21 | 2 | 11 | -2 | -560 | 10.6 |
|  | 7.5 | 27 | 4 | 25 | - ${ }^{1}$ | -570 | 10.5 |
|  | 10.0 12.5 | 4.3 4.6 | -1 5 | 39 50 50 | -6 | -470 -430 | 10.4 9.9 |
|  | 15.0 | 57 | 10 | 54 | 4 | -380 | 9.7 |
|  | 17.5 | 56 | 7 | 54 | 3 | -330 | 9.0 |
|  | 20.0 | 61 | -1 | 57 | -6 | -290 | 4.7 |
|  | 22.5 | 54 | 0 | 54 | -5 | -240 | 9.3 |
|  | 25.0 | 61 | -3 -4 | 57 | -7 | -260 <br> -180 <br> 180 | 8.7 |
|  | 27.6 30.6 | 63 | -4 | 60 60 | -8 | -180 -150 | 8.1 |
|  | 32.5 | 6.2 | 12 | 61 | 8 | -110 | 7.7 |
| - | 35.8 | 49 | -2 | 58 | -7 | - 50 | 7.9 |
|  | 37.5 40.0 | 6,2 03 | 1 | 58 60 | -5 | -20 -30 | 7.9 |
|  | 47.0 | 6\% | -1 | 63 | -5 | 50 | 7.8 |
|  | 45.0 | 66 | 6 | 64 | 2 | 60 | 7.8 |
|  | 47.5 | 69 70 | 10 |  | 6 | 70 100 | 7.6 |
|  | 50.0 | 70 | 5 | 67 | 1 | 100 | 7.3 |





|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| rarius | vir | var | vot | VRR | o-values | tadj | - panius | vat | var | VRT | vRR | d-values | ravj |
| n.n | 12 | -3 | 11 | -2 | 999 | 999.0 | 5.0 |  |  |  |  |  |  |
| 7.5 | 26 | $-3$ | 25 | 0 | 120 | -. 2 | 7.5 | $3{ }_{3}$ | 12 | 315 | 12 2 | 130 160 | 0.7 0.0 |
| 12.9 12.5 | 37 47 | -9 | 36 | -5 | 160 | -. 5 | 10.0 | 46 | 11 | 47 | $\stackrel{2}{4}$ | 190 | -0.01 |
| 8 | 47 | -8. | $4{ }^{4,}$ | -3 | 270 250 270 | -1.9 | 12.5 15.0 | $4{ }_{4}$ | 15 | 49 | 3 | 200 | -. 4 |
| 17.5 | $5 \cdot 3$ | -3 | 52 | 1 | 270 | -1.0 | 15.0 17.5 | 58 54 | 19 | 52 55 5 | 11 | 250 | -. 9 |
| 20.0 | 52 | -5 | 51 | 1 | 300 | -. 2 | 20.0 | 56 | 14 | 55 57 | 5 | $\begin{array}{r}300 \\ 350 \\ \hline\end{array}$ | -1.2 -1.5 |
| $2 ? .5$ | 53 | -18 | 5.7 | -4 | 350 | . 6 | 22.5 | 58 | 15 | 59 | \% | 350 400 | -1.5 |
| 23.0 | 5. | -:1 | 53 | -5 | 390 | 1.0 | 25.0 | 57 | 19 | 58 | 11 | 440 | -1.6 |
| 37.5 | 5 | -11 -10 | 53 52 5 | -5 | $\begin{array}{r}430 \\ 470 \\ \hline\end{array}$ | 1.0 | 27.5 | 55 | 15 | 56 | ${ }_{8}^{11}$ | 4480 480 | -1.6) |
| 32.6 | 53 | -14 | 52 | - -8 | 470 500 | 1.0 | 30.0 | 52 | 18 | 53 | 11 | 480 | -1.9 |
| 35.9 | 52 | -17 | 51 | -11 | 520 | 1.0 | 37.5 35.0 | 52 54 54 | 17 | 52 55 5 | 11 | 510 | -2.0 |
| 37.5 | 52 | -19 | 51 | $-17$ | 550 | 1.0 | 37.5 | 54 55 5 | $\begin{array}{r}18 \\ 20 \\ \hline 8\end{array}$ | 55 56 58 | 12 | 540 <br> 570 <br> 80 | -2.0 |
| 40.9 | 53 | $-14$ | 52 | -8 | 580 | 1.0 | 40.0 | 54 | 19 | 56 55 | $\stackrel{1}{12}$ | 570 600 | -2.1 |
| 为: ${ }^{\text {a }}$ | $5{ }_{5}$ | -12 | 51 | -6 | 640 | 1.0 | 42.5 | - 50 | 22 | 60 | 16 | 6no $h 30$ | -2.3 -2.3 |
| 47.5 | 993 | -2 | 949 | 4 | 720 | $\stackrel{.8}{.3}$ | 45.0 47.5 | 56 6 6 | 27 | 57 | 20 | 670 | -2.5 |
| 3.0 | 习) | - | 997 | , | 720 | -. 3 | 90.0 | 8.4 | 24 | 68 6.5 | 18 | 7700 | $-2.5$ |





| 2.tus | Vir | var | v2t | VRR | o-values. | tadj | Rnolus | vat | var | VRt | VRR | n-values | 19nj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.3 | 20 | -1 | 19 | -3 | 140 | -. 2 | 5.0 | 14 | $\bigcirc$ | 15 |  |  |  |
| $\because \because$ | 37 | 3 | 28 38 | -2 | 160 | -. 2 | 7.5 | 23 | -2 | 24 | 6 | 1150 | $\cdots$ |
| $\cdots$ | 4.5 | i | 45 | - ${ }^{0}$ | 290 750 | -. 4 | 10.0 | 10 | -3 | 31 | 2 | 100 | . 2 |
| if. ${ }^{\text {\% }}$ | 50 | $-4$ | 40 | $-7$ | 270 | --9 | 12.5 15.0 | 34 36 38 | - | 35 | 5 | 250 | . 3 |
| :7.5 | 52 | ! | 51 | -2 | 370 | -. 3 | 17.5 | 39 | -6 | 39 | - | 310 | . 7 |
| $2 \cdot 3$ | $5{ }^{\text {c }}$ | - | 55 | -6 | 360 | -. 1 | 20.0 | 38 | -6 | 39 | 2 | 350 | $-21$ |
| 22.5 | \% | -3 | 59 | -6 | 400 | . 2 | 27.5 | 37 | -2 | 38 | 2 | 430 | $\because ?$ |
| $\cdots$ | ${ }_{54}^{4}$ | 3 | 5 | -í | 420 | $\cdot 3$ | 23.0 | 39 | -5 | 40 | 1 | 450 | -. 3 |
| 3 | 54 54 5 | ? | 53 52 | $-2$ | 450 400 | $\cdot 3$ | 27.5 30.5 | 398 | -6 | 40 | -2. | 490 | -. 0.4 |
| 3.5 | $4{ }_{6}$ | 1 | 53 | $\cdots$ | 530 | $\cdot 3$ | 32.5 | 40 | -88 | 40 | -4 | 910 510 | -. 5 |
| 35.4 | 55 | -? | 54 | -5 | 560 | . 3 | 35.0 | 41 | - | 42 | 1 | 530 | -0. |
|  | 37 | ${ }_{6}^{6}$ | 56 59 59 | $-3$ | 588 | - 3 | 37.5 | 41 | -3 | 42 |  | 570 | $-1.0$ |
| 4.95 | 69 | 9 | r, 9 | 3 | 610 | $\cdot 2$ | 40.0 | 41 | -8 | 42 | -5 | 590 | -1.5 |
| 45.9 | 59 | 17 | 59 | 15 | 680 | -. 2 | 45.3 | 5 | -5 | 48 | 1 | 640 | -1.9 |
| 47.5 | 59 | is | 53 | 13 | 670 | -. 6 | 47.5 | 49 | -14 | 5 | - ${ }^{-11}$ | 630 | -2.? |
| 53.0 | 97 | 11 | 59 | 8 | 690 | -1.2 | 50.0 | 49 | -17 | 50 | -14 -14 | 710 70 | -2.4 -2.3 |




STORM 18
level 9




| 2コロバ5 | vir | vir | vRT | VRR | D－values | tADJ | radius | vat | Var | VRT | Vra | （）－vasues | IAIJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | n） | 9 9\％ | 999 | 999 | 979 | 997.0 | 5.0 | 99\％ | 999 | 994 | 999 | 999 | 497.0 |
| 7.5 | 307 | 97 | 999 | 797 | 989 | 999.0 | 17.5 |  | 7717 | 990 | 497 16 | 1420 | －5\％． 4 |
| 1：－ | －15 | $1{ }^{10}$ | －10 | $\stackrel{15}{?}$ | 1330 1300 | -49.1 -49.5 | 10.6 | 4 | 14 | －2 | 16 | 1570 | －5c．0 |
| $\because$ | $\cdots$ | －17 | －3 | －19 | 12：30 | $-47.3$ | 15.0 | 5 | 3 | 0 | 5 | 1560 | －51．3 |
| 17.5 | －7 | $-12$ | $-3$ | －13 | 1370 | －50．0 | 17.5 | 5 | －3 | 0 | － | 1540 | －51．7 |
| ？$\%$ \％ | －5 | －12 | i | －i2 | 1370 | －50．2 | 22.5 | 13 | －9 | 8 | －9 | 1510 | －5．9．1 |
| $2 \cdot 5$ | －3 | －17 | 3 | －17 | 310 1390 | -50.2 -50.4 | 25.0 | b | －1 | 0 | －1 | 1580 | －52．9 |
| 2\％ | ！ | －1 | 7 | －1 | 1380 | －50．7 | 27.5 | 10 | －3 | 5 | －3 | 1570 | －52．4 |
| 32.0 | － 3 | $\cdots$ | 3 | －4 | 1390 | $-51.0$ | 30.0 | 10 | －17 | 4 | －17 | 1340 | －52．7 |
| 3.5 | 2 | $-2$ | 8 | $-{ }_{-5}$ | 1470 1400 1300 | -51.4 -55.7 | 35.0 | 14 | －26 | 8 | －26 | 1770 | －53．6 |
| 32.0 | -2 -4 | $\stackrel{-5}{5}$ | －3 | －5 | 1300 | －5i．9 | 37.5 | 13 | －33 | 7 | －34 | 1320 | －5．4．5 |
| 400 | $-1$ | 4 | －3 | 5 | 1440 | $-5.9$ | 40.0 | $?$ | －33 | 3 | -34 -34 -14 | 1270 | －94．2 |
| $4 \therefore 3$ | $-10$ | ， | $-4$ | － | 1480 | －59．2 | 4． 4.0 | 3 | －34 | －3 | －34 | 1240 | －54．1 |
| 4.0 | $-5$ | －2 | －1 | －3 | 1370 | －53．3 | 47.5 | －1 | －32 | $-7$ | －34 | 1150 | －54．3 |
| 59 | －7 | ， | 3 | 8 | 1390 | －53．5 | 50.0 | 3 | －30 | －2 | －30 | 1120 | －54．4 |


sncctheo virtex averagas

| 2ndius | vat | var | VRT | VRR | n-values | tads | varz |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 939 | 949 | 999 | 999 | 999 | 999.0 | 999 |
| 1.5 | 994 | 999 | $99 \%$ | 99. | 999 | 999.0 | 997 |
| 1 c .6 | - | 13 | -0 | 13 | 1432 | -49.8 | 68 |
| 12.5 | 1 | 10 | 1 | 10 | 1449 | -50.1 | 66 |
| 15.0 | 3 | 5 | 3 | 5 | 1454 | -50.4 | 65 |
| 17.5 | 3 | 3 | 3 | 3 | 1458 | -50.6 | 67 |
| 2 T .0 | 6 | 1 | 6 | 1 | 1445 | -50.9 | 109 |
| 22.5 | ${ }^{8}$ | -1 | 8 | -1 | 1436 | -51.0 | 151 |
| 25.0 | 7 | -0 | 7 | -1 | 1455 | -51.1 | 108 |
| 27.5 | 9 | -1 | 9 | -1 | 1469 | -5. 3 | 159 |
| 33.0 | 12 | -3 | 12 | -3 | 1471 | -51.6 | 304 |
| 37.3 | 14 | -5 | 14 | -5 | 1448 | -51.9 | 389 |
| 35.0 | 14 | -7 | 14 | -7 | 1424 | -52.3 | 470 |
| 37.'5 | 14 | -7 | 1/4 | -8 | 1417 | -52.6 | 5 n 2 |
| 4 CO | 14 | - | 13 | -8 | 1424 | -57.9 | 528 |
| 42.3 | 14 | -9 | 14 | -9 | 1421 | -53.1 | 597 |
| 45.0 | 14 | -10 | 14 | -10 | 1413 | -53.4 | 569 |
| 47.5 | 13 | -11 | 13 | -12 | 1395 | -53.7 | 505 |
| 50.0 | 13 | -11 | 13 | -11 | 1375 | -53.7 | 426 |





smgotheo vortex averages

| radius | vat | var | VRT | vRr | d-values | TADJ | vats |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 59 | 5 | 57 | 6 | -353 | 9.7 | 3931 |
| . 5 | 78 | 6 | 77 | 7 | -198 | 8.9 | 6564 |
| 10.0 | 79 | 5 | 78 | \% | -24 | 8.1 | 6537 |
| 12.9 | 75 | 7 | 73 | 12 | 108 | 7.3 | 5.548 |
| 15.9 | 70 | 6 | ¢8 | 17 | 208 | 6.8 | 5032 |
| 17.9 | 64 | 2 | 63 | 5 | 2ns | 6.7 | 4271 |
| 20.0 | 50 | -0 | 58 | 0 | 351 | 6.5 | 3597 |
| 22.5 | 55 | -3 | 54 | -2 | 400 | 6.2 | 3123 |
| 25.0 | 52 | -3 | 51 | -3 | 441 | 6.0 | 2851 |
| 27.5 | 50 | -2 | 47 | -2 | 471 | 5.8 | 2547 |
| 30.0 | 47 | -3 | 46 | -3 | 491 | 5.6 | 2261 |
| 32.5 | 44 | -4 | 4. | -4 | 509 | 5.5 | 2073 |
| 35.0 | 43 | -5 | 42 | -5 | 530 | 5.5 | 1954 |
| 37.5 | 41 | -5 | 40 | -5 | 544 | 5.5 | 1829 |
| 40.0 | 39 | -5 | 39 | -5 | 559 | 5.6 | 1689 |
| 42.5 | 38 | -4 | 33 | -4 | 569 | 5.6 | 1603 |
| 45.0 | 37 | -1 | 37 | -2 | 577 | 5.6 | 1537 |
| 47.5 | 37 | -0 | 37 | -0 | 590 | 5.6 | 1548 |
| 50.0 | 37 | -1 | 37 | -2 | 599 | 5.6 | 1536 |




| 2antus | vat | var | vRt | VRr | D-values | tad | radius | vat | var | VRT | VRR | D-Values | TADJ | qadius | vat | VAR | VRT | VRr | d-values | TADS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 59 | 5 | 50 | -? | 370 | . 2 | 5.0 | 32 | -8 | $4{ }^{4}$ | $\rightarrow$ |  |  |  |  |  |  |  |  |  |
| 17.5 | 70 | ${ }_{2}^{2}$ | 59 | $-4$ | 490 | -. 3 | 7.5 | 54 | -6 | 62 | - 2 | 490 | -1.6 | 5.0 7.5 | 10 56 | 14 20 | 39 68 | 14 | 370 | -1.1 |
| 10.0 | 70 | 16 | 60 | 12 | 610 | -. 2 | 10.0 | 51 | -19 | 58 | -9 | 600 | -2.5 | 7.5 10.0 | 56 48 48 | 20 10 | 66 57 | 14 | 960 570 | -2.0 -2.2 |
| $\begin{aligned} & 12.5 \\ & 15.0 \end{aligned}$ | 74 73 | -1 | 63 62 | -4 | 730 | $-1.2$ | 12.5 | 53 | -19 | 59 | $-9$ | 730 | -3.1 | 12.5 | 46 | 12 | 54 | 3 | 570 | -2.3 -2.3 |
| 17.5 | t | -1: | 50 | -13 |  | -2.5 |  | 52 50 | -15 -10 -15 | 57 | -5 | 810 | -2.4 | 15.0 | 41 | 19 | 49 | 11 | 760 | -2.5 |
| 20.9 | 67 | -9 | 56 | -11 | 930 | -2.7 |  | 4 | -10 | 56 54 5 | 0 | 850 | -1.4 | 17.5 | 56 | 10 | 64 | 2 | 800 | -2.9 |
| 27.5 | 51 | -12 | 40 | -13 | 96.0 | -2.7 | 22.5 | 49 | -14 | 55 | -4 | 890 920 | -.98 | 28.0 22.5 | $5{ }^{5 \%}$ | $\begin{array}{r}18 \\ 15 \\ \hline 15\end{array}$ | 62 | 10 | 873 478 | $-3.3$ |
| 25.0 | 47 | -12 | 38 | -13 | 960 | $-2.7$ | 25.0 | 45 | -14 | 50 | -6 | 950 | -. 6 | 25.0 | 42 | 15 | 49 | 7 | 950 | -3.2 |
| 219 | 40 | - -7 | 42 | $-4$ | 1010 1020 | $-2.7$ | 27.5 30.0 | 41 38 | -15 | 46 44 46 | $-5$ | 980 | -. 5 | 27.5 | 44 | 10 | 50 |  | 970 | -3.2 |
| 32.5 | 42 | -5 | 31 | -6 | 1050 | -3.4 | 32.5 | 41 | -9 | 4.4 46 | -1 | 1080 1020 | -. 5 | 30.0 | 36 | ${ }^{8}$ | 43 | -1 | 10.0 | -3.1 |
| 35.0 | 4.5 | -7 -13 | 3.4 | -7 -13 | 1060 | $-3.5$ | 35.0 | 37 | -13 | 46 42 | -4 | 1030 | -. -6 | 32.9 35.0 | 32 32 | 118 | 39 39 | $\stackrel{9}{9}$ | 1010 | -2.9 |
| $47 \cdot 9$ | 488 | -13 -13 | 35 31 31 | -13 -13 | 1070 | -3.5 | 37.5 | 36 | $-7$ | 41 | 3 | 1040 | -.7 | 37.5 | 35 | ${ }_{21}^{18}$ | 41 | 12 | 1020 1030 | -3.8 -3.9 |
| 1.2 .5 | 46 | -16 | 30 | $-17$ | 1090 | -3.6 | 40.0 42.5 | 22 | -12 | 27 | -2 | 1050 | -. 9 | 40.0 | 36 | 23 | 43 | 15 | 1030 | $-4.2$ |
| 95.0 | 4 | $-15$ | 32 | -14 | 1090 | -4.0 | 45.0 | 32 | -6 | 24 3 | 4 | 1066 1070 | -.:80 | 42.5 | 74 | 23 | 37 | 14 | 1040 | $-4.3$ |
| $\cdots$ | 4, | -14, | 33 | $-13$ | 1120 | -3.9 | 47.5 | 35 | -6 | 40 | $\%$ | 1080 | -. 9 | 47.5 | 36 | 15 | 43 | 16 | 1068 | -4.5 |
| 5.0. | 43 | -15 | 32 | -14 | 1130 | $-4.0$ | 50.0 | 48 | -? | 53 | $\bigcirc$ | 1090 | -1.1 | 50.0 | 37 | 19 | 44 | 10 | 1100 | -4.2 |




| R40:13 | vit | vas | vRT | vRr | d-values | tad | fadmes | vat | var | VRT | VRe | D-values | rans | radius | vat | vair | vRT | vrr | D-values | TADJ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathfrak{5}$ | 6 | -7 | 54 | -1 | 370 | 1.5 | 5.0 | 3 月 | 0 | 48 |  |  |  |  |  |  |  |  |  |  |
| 7.5 | 72 | $-7$ | 6.4 | -2 | 500 | 1.4 | 7.5 | 53 | 11 | ${ }_{6} 8$ | 14 | 350 <br> 480 <br> 80 | -1.4 -1.8 | 5.0 7.5 | 53 | 5 | 50 | -6 | 400 | -0.4 |
| 10.6 | 5 8 | -5 |  | ${ }_{14}^{2}$ | 610 740 | 104 | 10.0 | 40 | -3 | 51 | $\stackrel{1}{4}$ | 580 | -1.9 | 17.5 | ¢0\% | 9 | 50 85 | -2 | 520 620 | -1.1 -1.5 |
| 15.8 | 53 | 3 | $4 \%$ | 11 | 700 | 1.3 | 12.5 | 49 50 | ${ }^{2}$ | 59 | \% | 950 | $-2.3$ | 12.5 | 6.9 | -6 | 65 | -16 | 750 | -2.9 |
| 17.5 | 53 | 12 | 45 | 20 | 860 | .3 | 1775 | 50 | 15 | 61 60 | 18 | 780 810 80 | -2.2 | 15.0 | 72 | -3 | 68 | -20 | 8.10 | $-3.0$ |
| 20.0 | 62 | -8 | 54 | 0 | 920 | $\cdot 1$ | 20.0 | 41 | 19 | 51 | 21 | ¢170 | -2.8 |  | 31 | -8 | 58 | -19 | 830 | -3.2 |
| 23.5 | 0.1 | 1 | 53 | - | 950 | 0.0 | 22.0, | 44 | 9 | 54 | 11 | 970 | -2.9 | 20.0 | 54 | $-3$ | 51 | $-16$ | 210 | 3.1 |
| 23.0 | $5 \%$ | 4 | 48 | 11 | ${ }^{9} 909$ | 0.0 | 25.0 | 36 | 10 | 47 | 17 | 950 | -3.6 | 35 | 56 | -7 | 53 54 50 | -19 | 730 $0 \times 0$ | $-2.7$ |
| 3108 | 48 | $\cdots$ | 38 3 3 | 4 | 1010 1020 | -. 3 | 27.3 | 10 | 7 | 4 | ${ }^{9}$ | 910 | $-3.7$ | 27.5 | 53 | - | 50 | -11 | 990 | 2.7 -3.5 |
| 32.5 | 4 9 | $-2$ | 43 | 6 | 1050 | -. 0.7 | 32.5 | 29 30 | 12 | 40 | 12 | 990 1000 | $-3.7$ | 30.0 | 51 | -1 | 48 | -12 | 10 no | -4.0 |
| 35.0 | 43 | 2 | 35 | ? | 1080 | -2.1 | 35.0 | 21 | 12 | 32 | 14 | 1020 | -3.7 | 32.5 35.0 |  | 1 | 45 | -10 | 1010 | $-3.5$ |
| 17.5 60.0 | 40 | ${ }_{-3}$ | 32 76 | 16 | 1080 | -2.0 | 37.5 | 24 | -5 | 34 | -3 | 1030 | -4.3 | 35.5 | 59 47 | $\stackrel{1}{2}$ | \% 6 | -11 | 1020 1030 | -3.9 |
| 42.5 | 40 | -3 | 32 | 5 | 1100 | -2.0 | 42.5 | 24 | - 1 | 35 <br> 35 | -1 | 1050 | -3.9 | 40.0 | 47 | 6 | 45 | -4 | 1040 | -4.5 |
| 45.9 | 3. | $-7$ | 31 | 0 | 1110 | -2.2 | 45.0 | 2 | 4 | 33 | 11 | 1070 | -4.0 | 42.5 45.1 | 49 4 4 | 4 | 45 | - -1 | 1050 | -4.3 |
| $4 \cdot 5$ | 37 | $-7$ | 30 | 0 | 1120 | -2.4 | 47.5 | 21 | 6 | 32 | 7 | 1080 | $-3.9$ | 47.5 | 4 n | , | 4.3 | -2 | 1070 1080 | -4.2 |
| 5.0 | 36 | -9 | 28 | 0 | 1150 | -2.5 | 50.0 | 17 | 5 | 30 | 6 |  |  |  |  |  |  |  |  | -4.7 |

196. 







STORM 19
LEVEL

GPO，TDIIF OCTAAT ATMTH TM PNO CENT MAX WYNDS RAMIMS
LEvEL 1



| Ransus | vat | var | VRT | yRg | d－values | TADJ | raolus | var | var | ver | VRQ | o－values | rasj | raphus | vat | var | vrt | ver | o－values | rad． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $9 \cdot 0$ | ：4， | －1？ | $\cdot 173$ | $-16$ | －2110 | 26.1 | 5.0 | 123 | －15 |  |  |  |  |  |  |  |  |  |  |  |
| 7.9 | 121 | －7 | 108 | －11 | －1720 | 23.6 | 7.5 | 115 | -15 -19 | ${ }_{123}^{132}$ | -4 -8 | －206n | 26.4 24.5 | 5.0 7.5 | R0 111 | 37 49 | 69 121 | 28 30 | -2210 -1800 -1200 | 26.5 29.1 |
| 19.0 | 111 | －10 | 48 95 | －3 | － $14 \times 0$ | 23.2 | 10.0 | 103 | －-20 | 110 | －${ }^{-17}$ | －1150 | 23．6 | 10.0 | on | 39 | 110 | 27 | -1280 -1370 | 29.1 24.7 |
| 1.3 | 102 | －11 | 89 | －14 | －920 | 22.6 | 15.0 | 9 | －22 | 110 | $-17$ | －3iso | 22.3 | 12.5 | 41 | ${ }^{28}$ | 107 | 19 | －1050 | 23.8 |
| 17.5 | 73 | －7 | 80 | －8 | －7c0 | 22.5 | 17.5 | 83 | －28 | 99 | －15 | －760 | 22.3 22.2 | 15.0 17.5 | 37 78 | 15 10 | 97 | 5 | -890 -750 | 22.7 |
| 20.8 | $\stackrel{9}{7}$ | $-16$ | 75 | －17 | －540 | 22.2 | 20.0 | 73 | －32 | 80 | － 20 | － 590 | 22.2 | 17.5 20.0 | 67 | 10 10 | 86 77 | ${ }_{9}$ | -750 -630 | 22.4 22.2 |
| 25.0 | 80 | －is | 66 | －25 | －450 | 22.2 21.2 | 22．3 | 61 | -24 <br> -23 <br> -28 | 67 | －12 | －530 | 22.1 | 22.5 | 6.7 | 9 | 76 | －1 | －570 | 22.4 |
| 27.5 | $7{ }^{7}$ | －19 | 62 | －11 | －410 | 21.5 | 27.5 | 60 | －21 | 68 | －19 | －-1.50 | 22.0 21.8 | 25.0 <br> 27.5 <br> 8.0 | 56 58 48 | 12 | 65 | － | －5c0 | 22.5 |
| 30.0 | 72 | $-13$ | 57 | $-14$ | －380 | 21.1 | 30.0 | 54 | －22 | 61 | － 10 | －410 | 21.6 | 30.0 | 45 | ． 7 | 61 54 | －4 | －470 | 21.5 21.6 |
| 32．4 | li， 6 | －${ }_{-8}$ | 52 | －1？ | －350 | 21.4 | 32.5 | 53 | －24 | 59 | －12 | －370 | 21.6 | 32.5 | 43 |  | 51 | －8 | －390 | 21.5 |
| 37.5 | －5 | －9 | 51 | －9 | － 290 | 21.3 21.3 | 35.0 37.5 | 478 | -75 -32 | 56 59 59 | -13 <br> -20 | -350 -120 -180 | 21.5 | 35.0 37.5 | 36 | 3 | 44 | －9 | －360 | 21.7 |
| $4 \cdot 3$ | $5{ }^{5}$ | －9 | 51 | －9 | －2．80 | 21.1 | 41.0 | 4.5 | －24 | 52 | －12 | －290 | 21.6 | 470 | 15 | －2 | $4{ }_{4}^{48}$ | -9 -13 | -370 -710 | 21.9 |
| 4， | 53 5 | $-7$ | 49 | $-9$ | －270 | 20.9 | 42.5 | 43 | －23 | 50 | －11 | －290 | 21.2 | 42.5 | 14 | －3 | 42 | －14 | －290 | 21.8 |
| 吅． | 57 | －7 | 43 | － | －-750 | 21.3 | 45.0 | 42 40 10 | －20 | 49 | －88 | －260 | 21.3 | 45.0 | 33 | 2 | 41 | －10 | －270 | 10.6 |
| いい | 1；9 | －6 | 43 | －7 | －250 | 21.0 | 50.0 | 35 | －24 | $4{ }^{4}$ | －11 | -2640 -230 | 21．5 | 47.5 50.0 | 32 31 | $\frac{1}{5}$ | 40 | －11 | －270 | 21.4 |




\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 2nilus \& yat \& var \& vet \& vrr \& o－values \& tad \& radius \& vat \& vas \& vrt \& ver \& 0－values \& tald \& radius \& vat \& VAR \& ver \& VRR \& n－values \& TADS <br>
\hline $\bigcirc$ \& 118 \& 0 \& 114 \& 13 \& －2170 \& 26.0 \& 5.0 \& 32 \& －5 \& 47 \& －2 \& －2070 \& 26.5 \& ${ }_{5} .0$ \& \& \& \& \& \& <br>
\hline 7.5 \& 173 \& $-1$ \& 120 \& 6 \& $-1700$ \& 24.4 \& 7.5 \& $1 \%$ ． \& －2 \& 134 \& － \& －1950 \& 24.9 \& 7.5 \& 123
.102 \& 14
17 \& 119
97 \& 0 \& -1910
-1550 \& 24.4
24.1 <br>
\hline \％ \& 117 \& $-1 / 4$ \& 115 \& －1 \& －1220 \& 23.3 \& 19.5 \& $3{ }^{\circ}$ \& －4 \& 119 \& －1 \& －1！co \& 24．9 \& 17.5 \& 102 \& 17 \& 107
102 \& 4 \& -1550
-1140 \& 24.1
23.4 <br>
\hline 12．5 \& i： 2 \& －is
-71 \& $10 \%$ \& $-2$ \& －990 \& 22.4 \& 12.5 \& 21 \& －20 \& 105 \& －19 \& －670 \& 22.4 \& 12.5 \& 97 \& 10 \& 93 \& －3 \& －960 \& 23.4
22.7 <br>
\hline 17.5 \& 73 \& -71
-24 \& $\xrightarrow{96}$ \& －7 \& －750 \& 22.6 \& 15.0 \& mon \& $-5.2$ \& \％ \& －53 \& －tor \& 22.9 \& 15.0 \& 94 \& 4 \& 90 \& －9 \& － 210 \& 22.7
22.3 <br>
\hline 20.9 \& $\because ?$ \& －22 \& 79 \& －9 \& － 570 \& 21.4 \& 20.0 \& 8.2 \& － $\begin{aligned} & -38 \\ & -20\end{aligned}$ \& $\stackrel{93}{76}$ \& -34
-30 \& －5．0 \& 21.3 \& 17.5 \& 96 \& ${ }_{5}$ \& $2 ?$ \& －14 \& －670 \& 22.0 <br>
\hline 2 P .5 \& 1 \& $-18$ \& 72 \& －4 \& －510 \& 21.3 \& 22.5 \& ， 6 \& － 30 \& 70 \& －3： \& － \& 310 \& 20.0 \& 14
74 \& 5 \& 72
70 \& －9 \& -570
-510 \& 22.2 <br>
\hline 25.0 \& or \& －${ }^{\text {a }}$ \& 65 \& －5 \& －44， \& ？ 1.5 \& 25.0 \& 50 \& －20 \& 6.4 \& －22 \& －390 \& 21.0 \& 24.0 \& 14
6.8 \& ${ }_{3}^{6}$ \& 86 \& －9 \& －510 \& 21.6
21.5 <br>
\hline 27.5 \& 30 \& $-23$ \& 66 \& －9 \& －390 \& 21.4 \& 27.5 \& 45 \& $-19$ \& 59 \& －21 \& － 330 \& 21.9 \& 27.5 \& 62 \& 3 \& 5 \& －10 \& －480 \& 21.5
21.9 <br>
\hline \％－6 \& 5 \& -31
-28 \& 5 \& $-18$ \& －360 \& 21.6 \& 30.0 \& 4 \& －17 \& $6 ?$ \& －19 \& －240 \& 21.7 \& 37.0 \& 52 \& 1 \& 48 \& －13 \& －400 \& 21.9
21.8 <br>
\hline 34.0 \& 5 \& $\because$ \& 4 \& －19 \& -350
-380 \& 21.2

12.0 \& 32.5
35.0 \& 3， \& －18 \& 52 \& －20 \& －290 \& 21.6 \& 32.5 \& 5 ？ \& 7 \& 49 \& －7 \& －330 \& 21.7 <br>
\hline $\bigcirc$ \& 53 \& －30 \& 48 \& －17 \& －360 \& 2 i .0 \& 17.5 \& 35 \& －19 \& 49 \& -16
-20 \& -270
-250 \& 21.6 \& 35.0 \& 49 \& 3 \& 45 \& $-11$ \& －340 \& 21.3 <br>
\hline  \& 51 \& $-20$ \& 46 \& －17 \& －290 \& 20.7 \& 40.0 \& 33 \& －12 \& 4 \& －13 \& －250 \& 21.5 \& 37.5
40.0 \& 40
50 \& 1 \& 44 \& －14 \& －310 \& 21.7 <br>
\hline 42.5 \& 53 \& －27 \& 43 \& －14 \& －260 \& 20.7 \& 42.5 \& 31 \& －16 \& 45 \& －17 \& －250 \& 22.0 \& 42.5 \& 41 \& 10 \& 47 \& －3 \& -300
-290 \& 21.8 <br>
\hline 45.0 \& 53
53 \& -32
-20 \& 47
48
48 \& －9 \& －220 \& 20.8 \& 45.0 \& 31 \& $-13$ \& 46 \& －14 \& －240 \& 22.2 \& 45.0 \& 43 \& 17 \& 39 \& 3 \& －280 \& 21.2 <br>
\hline $5 \cdots .0$ \& 4. \& $-21$ \& 43 \& － 8 \& －190 \& 20.4 \& 41.5
50.0 \& 25 \& $-13$ \& 34 \& －14 \& － 220 \& 22.8 \& 47.5 \& 4 \& $\stackrel{1}{4}$ \& 43 \& －5 \& －270 \& 21.4 <br>
\hline
\end{tabular}



STORM 20 ABUEL I

GPI/ ПIR / HחG /NOTH/GTM/ANGIF/FYFRAO/ DUES/ACTUAL/REL /MAX WO/



| 41.01 u | vat | var | vrt | vRr | d-values | YAOJ | radius | vat | var | VRT | vRr | o-valufs |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| b.0 | 109 | -7 | 101 | 4 |  |  |  |  |  |  |  | o-valurs | raid | Radus | vat | var | vRt | vrr | o-values | IADJ |
| 7.5 | 15.3 | -5 | 143 | 4 | -1780 -1370 | 14.0 | 5.0 | 75 | -7 | 85 | 1 | -1810 | 17.6 | 5.0 | 78 | -10 | 91 | -8 | -1870 |  |
| 16.0 | 127 | -11 | 120 | 1 | -1000 | 13.3 | 10.0 | 116 | - ${ }^{9}$ | 118 | 17 | -1790 | 11.10 | 7.3 | 97 | -17 | 110 | -15 | $-1.20$ | 16.? |
| 12.5 | 108 | $-12$ | 100 | -1 | -680 | 13.7 | 12.5 | 116 | -10 | 123 102 | \% | -770 | 14.0 | 10.0 | 36 | -5 | 110 | -4 | -490 | 14.0 |
| 17.9 | 107 | -6 | 85 | 6 | -490 -320 | 13.2 | 15.0 | 8n | -12 | ${ }^{18}$ | 0 | -700 | 12.6 12.7 | 12.5 | 80 72 | 1 | $4{ }^{4} 4$ | 1 | -710 | 13.5 |
| 20.0 | 95 | -2 | 79 | 10 | -3.0 -250 | 12.7 | 17.5 | 76 | $-13$ | 83 | -1 | -370 | 12.9 | 17.5 | 04 | -2 | 77 | -2 | -560 -770 | 13.3 |
| 22.4 | 73 | -9 | 66 | 4 | -160 | 11.9 | 22.5 | 6 | -12 -19 | 78 | -7 | -290 | 12.2 | 20.0 | 55 | -6 | 68 | -6 | -200 | 12.4 |
| ? | $\bigcirc$ | -6 | 63 | 7 | -130 | 12.3 | 25.0 | $\mathrm{H}_{4}$ | -14 | 71 | -2 | -160 | 11.9 | 72.3 | 45 | -3 | 67 | -3 | -1:0 | 12.3 |
| 3 C .0 | ¢ | -4 -1 | 62 56 | 1 | -90 | 11.7 | 27.5 | 55 | -9 | 62 | 3 | -150 | 11.4 | 27.5 | 47 | - | 69 63 | , | -140 | 12.5 |
| 32.5 | 58 | -10 | 51 | 2 | -50 | 11.5 | 30.0 | 5 | -12 | 60 | 0 | -90 | 11.9 | 30.0 | 40 | -8 | 53 | -8 | -1.0 | 12.4 12.3 |
| 34.0 | 57 | $-2$ | 52 | 10 | 0 | 11.4 | 35.0 | S4, | -19 | 58 | - | -70 | 12.1 | 32.5 | 46 | -6 | 60 | -b | -50 | 12.2 |
| 37.5 4.0 | 5 | $-7$ | 50 | 4 | 20 | 11.3 | 37.5 | 47 | -18 | ${ }_{53}$ | -6 | -40 | 12.0 | 35.0 37.5 | 42 | -10 | 56 | -10 | -30 | 11.7 |
| 42.5 | 56 | -6 | 49 | 4 | 40 | 11.3 | 41.0 | 44 | -11 | 50 | 1 | -10 | 11.3 | 40.0 | 36 | -7 | 54 50 | - | 10 | 11.6 |
| 47.0 | 56 | -3. | 49 |  | 60 | 12.1 | 45.0 | $4{ }_{3}$ | -10 | 47 | ? | 10 | 11.4 | 42.5 | 32 | -? | 45 | $-3$ | 50 | 11.3 |
| 47.5 | $5 ?$ | -10 | 45 | 2 | 70 | 11.6 | 47.5 | 34 | -11 | 45 | -1 | 40 | 11.2 | 45.0 | $: 7$ | -n | 41 | -9 | 60 | 11. ${ }_{1}$ |
| B.o? | s? | -11 | 44 | 0 | 80 | 11.4 | 57.0 | 36 | -16 | 42 | -4 | 50 | 11.5 | 47.5 | ? ${ }^{\text {R }}$ | -4 | 41 | -5 | 70 | 11.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 50.0 | 28 | -R | 41 | -8 | 70 | 11.3 |




| 24.105 | var | var | vrt | vrr | o-values | IAdj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 113 | -4 | 100 | -2 | -1740 | 17.7 |
| 7.5 | 14.0 | 3 | 132 | 2 | -1370 | 15.6 |
| 10.0 | 111 | 5 | 117 | 3 | -940 | 13.8 |
| 12.5 | $1: 7$ | 3 | 103 | 1 | -700 | 13.6 |
| 15.9 | 104 | 3 | 91 | $?$ | -490 | 13.8 |
| 17.5 | 48 | * | 24 | $?$ | -390 | 13.9 |
| 20.0 | 3 | ; | 82 | 4 | -300 | 13.0 |
| 22.5 | 86 | 5 | 72 | 4 | -220 | 12.0 |
| 2i.0 | 78 | 6 | 65 | 5 | -160 | 11.6 |
| 27.5 | 71 | ? | 57 | 7 | -130 | 11.7 |
| 3.10 | 70 | ? | 57 | 1 | -60 | 11.8 |
| $3 \cdot .5$ | ${ }^{5} 5$ | 0 | 52 | -1 | -40 | 11.4 |
| $3 \mathrm{3r} 0$ | 1,7 | $\bigcirc$ | 54 | -1 | -20 | 11.2 |
| 3.5 | $0 \cdot 3$ | -2 | 50 | -3 | 0 | 11.3 |
| 4.0 | 4.2 |  | 48 | 2 | 10 | 11.9 |
| 42.5 | n1 | $\stackrel{8}{ }$ | 47 | 7 | 30 | 12.3 |
| $4{ }_{4} 4.0$ | ${ }_{5}{ }^{\text {a }}$ | 7 | 48 | 7 | 50 | 12.? |
| 47.5 50.5 | 55 | 13 | 42 | 13 | 50 | 11.5 |


| Raintus | vat | var | vrt | VRR | D-values | ranj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 116 | -6 | 104 | - | -1790 |  |
| 7.5 | 14.4 | -3 | 131 | -4 | -1330 | 15.7 |
| 10.0 | 124 | -4 | 111 | -6 | 900 | 14.2 |
| 12.5 | 107 | - | 94 | -10 | -670 | 13.4 |
| 15.0 | 105 | 1 | 92 | -1 | $-470$ | 13.0 |
| 17.5 | 92 | $?$ | 79 | -1 | -370 | 12.9 |
| 22.5 | 81 84 | 3 5 | 70 | ${ }^{0}$ | -300 | 12.7 |
| 25.0 | 79 | 5 | 66 | - ${ }^{-3}$ | -210 | 12.7 |
| 27.5 | 75 | 1 | 63 | -2 | -110 | 12.2 |
| 30.0 | 68 | -1 | 55 | $-4$ | -10 | 11.7 |
| 37.5 | 67 | 5 | 53 | , | -20 | 11.9 |
| 35.0 | 58 | -1 | 45 | -3 | -10 | 11.5 |
| 37.5 | 62 | 0 | 49 | -3 | 40 | 11.9 |
| 40.0 42.5 | 62 | 1 | 49 | -2 | 40 | 11.7 |
| 42.5 450 | 6.5 58 58 | 6 | 52 45 | 1 | -40 | 11.9 |
| 47.5 | 55 | 10 | 4 | 7 | 130 | 11.9 11.6 11.8 |
| 50.0 | 56 | 14 | 4 |  |  | 11.6 |


| radius | vat | var | vrt | var | o-values | ranj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 87 | $\bigcirc$ | 94 | -3 | -1690 | 17.5 |
| 7.5 | 124 | 5 | 132 | -6 | $-1.330$ | 15.0 |
| 10.0 | 403 | 4 | 111 | -7 | -950 | 14.0 |
| 12.5 | 87 | 9 | 96 | -2 | -650 | 13.8 |
| 15.0 | $\bigcirc$ | 14 | 90 | 3 | -510 | 13.9 |
| 17.5 | 72 | 15 | 77 | 4 | -420 | 14.1 |
| 23.0 | 17 | 11 | 77 |  | -270 | 13.0 |
| 22.5 | on | 13 | 73 | ? | -240 | 12.5 |
| 25.0 | n 2 | 15 | 69 | 4 | -170 | 12.2 |
| 27.5 | 67 | 15 | 67 | 4 | -170 | 12.2 |
| 30.0 | 57 | 15 | 65 | 3 | -140 | 12.2 |
| 32.5 | 53 | 12 | 60 | 1 | -70 | 12.0 |
| 35.0 | 42 | 9 | 49 | -2 |  |  |
| 37.5 | 33 | B | 45 | -3 | -40 | 12.7 |
| 49.0 | 38 | n | 45 | -3 | 10 | 12.6 |
| 42.5 | 34 | 1 | 41 | -11 | 30 | 13.0 |
| 45.0 47.5 | 34 | -3 | 41 | -14 | 40 | 12.8 |
| 50.0 | 36 | -1 | 43 | -11 -12 | 50 60 | 12.9 |



CTORM 20
LEVEL


| 12185 | 51 | 413 | 51 | / $934 / 122 / 109 / 5.0$ |  |  | 1275 | 120 | E 16 | 120 | , | +1101 | 1 | /275 | 235 | W 18 |  | / | /100 1 | 115. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| zailus | v , r | var | VRT | vrr | o-values | [AI) 3 | radius | vat | var | VRt | VRR | d-values | tans | radius | Vit | VAR | VRT | VRR | d-values | tanj |
| ¢.0 | 172 | -7 | ion | -3 | -1240 | 11.9 | 5.0 | 87 | 23 | 91 | 37 | -1460 | 12.5 | 5.0 | 100 | $\hat{*}$ | 112 | $-1$ | -1780 | 12.0 |
| $\bigcirc \cdot 5$ | 118 | ? | 105 | 11 | -8400 | 9.9 | 7.5 | 110 | 19 | 114 | 32 | $-410$ | 8.7 | 7.5 | 89 | $-7$ | 101 | -14 | -860. | 11.0 |
| 10.0 | $1: 2$ | $?$ | $9 \%$ | 9 | - 5.40 | 6.9 | 10.0 | 74 | - ${ }^{2}$ | 98 | 11 | -600 | 8.0 | 10.0 | 89 | -6 | 100 | -13 | -600 | 8.0 |
| 17.9 | 103 | 4 | 8.8 | 7 | - 340 | 7.1 | 12.5 | $? 8$ 34 | -13 | 93 | ! | -430 -260 -100 | 7.7 | 12.5 | 77 | -10 | 98 <br> 82 <br> 8 | -18 -15 | -400 | 7.8 6.7 |
| 17.5 | as, | 13 | $\stackrel{8}{87}$ | 14 | -120 | 6.3 | 17.5 | 68 | -15. | 74 | -3 | -190 | 6.3 | 17.5 | 61 | $-7$ | 71 | -17 | -110 | 5.7 |
| 20.0 | $8 \cdot$ | 17 | 70 | 13 | - 50 | 6.5 | 20.0 | 64 | -12 | 70 | 0 | -30 | 5.6 | 20.0 | 50 | -2 | 67 | -13 | -80 | 5.8 |
| 2.3 | 74 | 13 | 60 | 14 | -30 | 6.8 | 22.5 | 63 | -23 | 69 | -10 | -20 | 5.3 | 22.5 | 54 | 3 | 63 | -7 | -10 | 6.4 |
| - | Ti | $2 \cdot$ | 57 | 20 | 00 | 5.3 | 25.0 | 57 | -25 | 63 | -13 | 60 | $4 \cdot 3$ | 25.0 | 50 | 1 | 58 | -10 | 80 | 5.9 |
| 27.5 | 69 | $1{ }^{\circ}$ | 55 | 17 | 100 | 5.5 | 27.5 | 49 | -23 | 56 | -11 | 10 | 5.2 | 27.5 | 48 | -3 | 54 | -14 -14 | 100 | 5.4 |
| 37.6 | :1 | $\stackrel{7}{5}$ | 4. | 7 | 140 | 4.3 | 30.0 | 4.7 | -20 | 56 | - 0 | 100 | 5.4 | 30.0 | 4.4 | -3 | 51 | -14 | 110 | 5.0 |
| 27.5 | 8 | 5 | 47 | - ${ }^{3}$ | 180 | 4.7 | 32.5 | 50 | -17 | 57 | -5 | 110 | 5.9 | 32.5 35.6 | 4.4 | - - | 51 | -14 -12 | 120 | 4.5 |
|  | 53 | 6 | 30 | - 3 | 220 | 4.9 | 35.0 | 48 | -22 | 54 | -10 | 170 | 6.1 6.4 | 35.0 | 44 37 | -1 -3 | 4 | -12 -14 | 130 140 170 | 4.4 |
| 37.3 40.0 | 51 5 5 | 3 | 37 39 | 1 | 230 240 | 4.3 4.6 | 37.5 40.0 | 42 | -26 <br> -27 <br> 17 | 49 51 | -14 -15 | 190 190 | 6.4 3.0 | 37.5 40.0 | 37 38 | -3 -5 | 44 | -14 -16 | 140 170 | 4.3 4.9 |
| 42.5 | 57 | ¢ | 39 | 4 | 250 | 4.6 | 42.5 | 43 | -19 | 50 | -7 | 210 | 4.7 | 47.5 | 35 | -6 | 42 | -17 | 190 | 5.1 |
| 4 4 \% 0 | $\cdots$ | 970 | 9วก | 397 | 260 | 4.7 | 45.0 | 4.4 | -26 | 51 | -14 | 270 | 4.6 | 45.0 | 39 | -8 | 45 | -20 | 190 | 5.5 |
| 4.75 | non | 979 | 498 | 949 | 260 | 4.4 | 47.5 | 34 | -22 | 40 | $-10$ | 270 | 4.3 | 47.5 | 30 | $-7$ | 37 | -10 -10 | 220 | 5.8 |
| ¢n.a | (\%) | 19. | 499 | 989 | 270 | 4.6 | 50.0 | 35 | -15 | 4 ? | $-3$. | 270 | 4.5 | 50.0 | 33 | -6 | 40 | $-18$ | 230 | 5.2 |




| ractus | Vnt | v^a | vat | vrr | d-values | tanj | ramtus | Vit | vir | vRT | VRR | d-values | тan. | ratius | vat | var | VRT | vRr | d-valufs | tanj |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 115 | -b | 175 |  | -1490 | 11.2 | 5.0 | 65 | -16 | 78 | -19 | -1450 | 11.7 | 5.0 | 110 | -12 | 102 | -24 | -1270 | 12.3 |
| 7.5 | 126 | 0 | 115 | 9 | -9:0 | 8.3 | 7.3 | 73 | $-17$ | 106 | $-19$ | -910 | 3.1 | 7.5 | 105 | $-9$ | 98 | - 21 | -760 | ?.? |
| 11.0 | 117 | 1 | 107 | , | -580 | 7.3 | 10.0 | 93 | -19 | 106 | -19 | -580 | 6.9 | 10.0 | 34 | $-2$ | 87 | -15 -15 | -4.60 | 8.2 |
| 12.5 | 107 | ? | 96 | 10 | -3, ${ }^{\text {a }}$ | 7.2 | 12.5 | 17 | $-19$ | 91 | -17 | -310 | 5.0 | 12.5 | $9{ }^{1}$ | -2 | 85 | -15 | -320 | 7.8 |
| 15.0 | 191 | 7 | 20 | 15 | -240 | 7.0 | 15.0 | 74 | -15 | 37 | -14 | -200 | 7.0 | 15.0 | 81 | -1 | 75 | -13 | -200 | 7.6 |
| 17.5 | 86 | -8 | 75 | -2 | -140 | 5.9 | 17.5 | 64 | -14 | 77 | -13 | -110 | ¢. ${ }^{\text {¢ }}$ | 17.5 | 77 | 4 | 71 | -? | - 0 | 7.7 |
| 2:-0 | $?$ | -7 | 76 | $\bigcirc$ | -90 | 8.4 | 20.0 | 54 | -19 | 68 | $-17$ | -10 | 4.9 | 20.0 | 76 | \% | 71 | -5 | -20 | 6.7 |
| ? 3 ; | 77 | -7 | 64 | -1 | -20 | '.5 | 22.5 | 92 | $-17$ | 65 | -15 | 70 | 3.0 | 22.5 | 70 | 6 | 65 | -1 | 0 | 6.6 |
| 25.0 | 1.9 | -11 | 57 | -5 | 10 | 5.0 | 25.0 | 47 | -11 | 6 ? | - | 60 | 4.7 | 25.0 | 64 | 6 | 59 | -7 | 80 | 6.1 |
| 27.5 | 63 | 3 | 55 | 9 | 50 | 5.4 | 21.5 | 43 | -4 | 55 | -3 | 90 | 4.4 | 27.5 | 80 | 4 | 55 | -9 | 120 | 5.6 |
| 3.0 | ? | 0 | 53 | 6 | 100 | 5.1 | 30.0 | 41 | -8 | 54 | -8 | 140 | 4.2 | 30.0 | 5 s | 6 | 51 | -7 | 1 ¢0 | 5.0 |
| 32.5 | ns | 4 | 53 | 10 | 150 | 4.9 | 32.5 | 35 | -2 | 43 | 0 | 190 | 4.3 | 32.5 | 54 | 9 | 49 | -4 | 130 | 5.2 |
| 35.0 | $\bigcirc$ | $-3$ | 45 | 3 | 160 | 5.5 | 35.6 | 12 | 0 | 46 | 2 | 200 | 4.1 | 35.0 | 51 | ${ }^{9}$ | 46 | -3 | 200 | 4.7 |
| 37.9 | $5 \cdot$ | 0 | 41 | \% | 100 | 4.7 | 37.5 | 34 | -12 | 37 | $-10$ | 2.10 | 4.9 | 37.5 | 53 | 12 | 48 | -1 | 230 | 4.4 |
| 4 n \% | 52 | 0 | 40 | 6 | 220 | 4.3 | 40.0 | 25 | $=12$ | 39 | -11 | 230 | 4.9 | 40.0 | 53 | 15 | 48 | 2 | 250 | 4.5 |
| 43.5 | 54 | 3 | 4 | 10 | 230 | 4.5 | 42.5 | 25 | -12 | 39 | -11 | 240 | 4.7 | 42.5 | 47 | 10 | 42 | -3 | 270 | 4.4 |
| 45.0 | 53 | 4 | 41 | 10 | 250 | 4.4 | 45.0 | 24 | $-7$ | 38 | -5 | 250 | 4.6 | 47.0 | 45 | 12 | 40 | -1 | 270 | 4.3 |
| 4.95 57.0 | 53 43 | 0 -5 | 40 31 | ? | 290 290 | 4.4 | 47.5 50.0 | 32 | $-3$ | 36 45 | $-1$ | 260 270 | 4.1 4.2 | 47.5 50.0 | 43 48 | 7 | 39 43 | -6 | 290 310 | 4.5 4.6 |

## 204.



## sumothen vortex ayerages

| qactus | vat | vas | vet | vrr | o-values | ta | valz |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 201 | -0 | 101 | -0 | -1192 | 11.0 | 10623 |
| 7.3 | 103 | -1 | 103 | -0 | -973. | $9 \cdot 2$ | 10917 |
| 1 n .c | 98 | -3 | 97 | -3 | -595. | 7.9 | 4791 |
| 12.5 | 90 | -4 | эо | -4 | -395 | 7.4 | 3314 |
| 15.6 | 83 | -4 | 93 | -3 | -234 | 7.0 | 7162 |
| 17.3 | \% | -4 | 75 | -4 | -127 | 6.4 | 5914 |
| 2 c .0 | 70 | $-4$ | 70 | -4 | -57 | 6.1 | 5090 |
| 22.5 | 64 | -4 | 64 | -4 | -4. | 5.8 | 4321 |
| 25.0 | 5. | -3 | 59 | -4 | 50 | 5.5 | 3695 |
| 31.8 | 56 | -2 | 55 | -3 | 89 | 5.2 | 3252 |
| 30.0 | 53 | -2 | 53 | -3 | 123 | 5.0 | 2956 |
| 3.5 | 50 | -1 | 50 | -2 | 152 | 5.0 | 26.95 |
| 35.6 | 47 | -2 | 47 | -3 | 176 | 5.0 | 2359 |
| ${ }^{37} \cdot 9$ | 45 | -4 | 44 | -5 | 175 | 4.9 | 2142 |
| 42.0 | 43 | -4 | 43 | -5 | 214 | 4.7 | 2027 |
| 42.5 | 42 | -3 | 42 | -4 | 231. | 4.7 | 1933 |
| 45. | 43 | -3 | 42 | -4 | 249 | 4.7 | 1843 |
| 47.5 | 3.7 | -3 | 40 | -4 | 265 | 4.6 | 171 |
| 5 c .6 | 34 | -3 | 39 | -4 | 273 | 4.6 | 1612 |




| このn*s | vat | vas | vet | vrr | n-values | tad | ranlus | vat | VAL | vRT | VRR | 0-values | tan, | Ranlus |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | 33 | -23 | 91 | -17 | -400 | 3.7 |  |  |  |  |  |  |  | RAnıus | vat | var | VRT | VRR | D-values | tanj |
| 1. 5 | 104 | -23 | $9 ?$ | -16 | 40 | -. 9 | 7.5 | 115 | 27 | 120 | 35 | $-520$ | 1.8 | 5.0 | 4 | 7 | 89 | -5 | -850. | 2.0 |
| 12.9 | $1{ }^{\text {in }}$ | -? | 83 | -7 | 530 | -2.6 | 17.0 | 102 | -4 | 115 | -7 | - 220 | -1.3 | 7.5 | 116 | 6 | 110 | -7 | -590 | 2.3 |
| 15.0 | 198 9 | -4 | 90 | $-3$ | 520 | -2.7 | 12.5 | 90 | -6 | 103 | -9 | 440 | -1.8 | 120.0 | 104 97 | 11 | $\underline{104}$ | -9 | -200 | $-\mathrm{i} \cdot \mathrm{F}$ |
| :17.) | 73 | 7 | 60 | ${ }_{-8}$ | $7 \geqslant 0$ | -2.2 -1.5 | 15.0 17.5 | 74 | $-3$. | 13 | -6 | 570 | -2.2 | 15.0 | 90 | 26 | 97 | -2 | 150 | -1.7 |
| 23.3 | 69 | $\rightarrow$ | 47 | -1 | 760 | -2.7 | 27.0 | $5{ }_{5}$ | 0 | $\bigcirc 6$ | - | 670 | -2.9 | 17.5 | 91 | 30 | 81 | 17 | 250 | -2.4 |
| $2 \cdot \mathrm{~b}$ | 6 | -4 | 48 | -4 | 840 | -3.5 | 22.5 | 46 | 1 | 59 | -2 | 710 | -3.4 | 20.0 | 73 | 2.3 | 73 | 16 | 340 | -2.6 |
| 27.5 | 5 | -4 -3 | 43 | -4, | 350 860 | -3.9 | 25.0 | 45 | 2 | ${ }_{5}{ }^{\text {R }}$ | - | 830 | -4.2 | 22.5 25.0 | 72 | 33 <br> 26 | 72 | 20 | $3{ }^{3} 0$ | -3.4 |
| 11.0 | 31 | 0 | 38 | -4 | 860 930 | -4.1 | 27.5 30.0 | 47 | -1 | 60 | -4 | 890 | $-4.4$ | 27.5 | 58 | 20 | ${ }_{57}$ | 12 | 410 | -3.6 -3.7 |
| 32.5 | ${ }^{5} 2$ | 0 | 39 | -1 | 940 | -4.7 | 37.5 | 41 | 7 | 54 | -1 | 890 | -4.6 | 30.0 | 56 | 19 | 55 | 6 | 490 | -4.0 |
| 35.0 | 54 | $\bigcirc$ | 40 | -1 | 970 | -4.4 | 35.0 | 40 | 11 | 53 | 10 | 910 | -4.7 | 32.5 35.0 375 | 53 59 | 20 | 51 | 7 | 510 | -3.9 |
| $4 \% 3$ | 4 | -? | 30 30 3 | -3 | 780 | -4.7 | 37.5 | 38 | 17 | 53 | 11 | 920 | -4.4 | 35.0 37.5 | 59 59 59 | 22 21 | 56 54 54 | $\stackrel{\square}{8}$ | 59 550 550 | -3.8 |
| $\cdots$ | 52 | -1 | 39 | -2 | 990 | -4.8 | 42.0 | 17 | 11 | 40 45 | ${ }^{9}$ | 420 | $-4.5$ | 40.0 | 53 | 20 | 51 | 7 | 550 570 | -4.1 |
| $4 . ?$ | $4{ }^{3}$ | -7 | 41 | -8 | 1000 | -4.6 | 45.0 | 36 | 11 | 45 50 | 10 10 | 920 980 | $-4.7$ | 42.5 | 55 | 18 | 52 | 5 | 590 | -4.5 |
| 47.3 | 47 | $-11$ | 34 | -14 | 1060 | -4.8 | 47.5 | 3.9 | 13 | 53 | 13 | 930 | -5.1 | 45.0 47.5 | 52 | 17 | 49 | 4 | 600 | -4.9 |
| 3 | 53 | -10 | 40 | $-15$ | 1010 | -5.1 | 50.0 | 41 | 11 | 55 | 11 | 940 | -5.7 | 50.0 | 5 | 16 | 49 47 | 4 | 610 610 | -4.9 |




| 2.ntus | VAT | var | var | var | d-values | tadj | ramius | vat | var | VRT | vere | D-values |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5.0 | ? | -11 | ?9 | -12 | -500 |  |  |  |  |  |  |  |  |
| 7.5 | 137 | 21) | 125 | 24 | -210 | 0.7 | 7.5 | ${ }_{6}^{61}$ | -1 | 173 | " | -500 | 3.4 |
| 10.1 | 13 | - | 112 | -3 | 90 | -2.6 | 10.0 |  |  | 115 | 13 | -210 | -1.5 |
| 12.5 | 107 | - | 93 | ? | 350 | $-2.3$ | 12.5 | 75 | $10^{\circ}$ | $\begin{array}{r}1184 \\ 87 \\ \hline 8\end{array}$ | 1 | 160 | -2.5 |
| i.o | 9 | -5 | 97 | 3 | 510 | -2.6 | 15.0 | 85 | 11 | $\stackrel{87}{77}$ | 5 | $3 \times 0$ | $-3.0$ |
| 17.5 | r's | -9 | 76 | -i | 580 | -2.7 | 17.5 | ¢7 | 12 | 8 | 4 | 430 | -1.? |
| $\cdots$ | is | -5 | on | 4 | 660 | -2.9 | 20.0 | 64 |  | 75 | 1 | 5 | -3.0 -2.0 |
| $\cdots$ | 72 | - | * | 3 | 750 | -3.\% | 22.5 | 5.9 | ¿ | t. 4 | -7 | bea | -2.0, |
| 27.5 | 4 | -6 | 50 | ? | 820 | $-3.4$ | 25.0 | 41 | 4 | 60 | -6 | 810 | -4.7 -4.4 |
| 12.9 | G/ | -9 | 54 | $\stackrel{5}{0}$ | 330 860 | -3.8 | 27.5 | 43 | 4 | 52 | - 7 | 980 | -4.4 |
| 12.5 | 84 | , | 55 | 11 | 890 | $-4.3$ | 30.0 | 42 | 6 | $5!$ | -4 | 990 | -4. ${ }^{\text {a }}$ |
| 3.0 | 51 | 2 | 51 | 12 | 900 | -4.4.4 | 35.0 | 44 | \% | 5 | 4 | 90.0 | -4.9 |
| 37.5 | 51 | ? | 42 | 11 | $910^{-}$ | -4.4 | 77.5 | 45 | 9 | 52 54 | - -1 | 96 | $-4.7$ |
| $4{ }^{4}$ | 2.8 | 4 | 30 | ; | 970 | -4.3 | 40.0 | 46 | 9 | 54 | -1 -2 | 710 910 | -5.3 |
| 4.9 | 46 | - | 37 | 4 | 980 | -4.9 | 42.5 | 53 | 17 | 6. | - | 920 | -5.4.4 |
| 45.0 | 4 | -6 | 38 | 4 | 1000 | -5.0 | 45.0 | 50 | 19 | 58 | 9 | 920 | -5.9 -5.7 |
| 57.0 | 50 | -13 | 40 | $-4$ | 1010 1020 | -5.1 | 47.5 | 45 | 18 | 53 | 0 | 930 | -5.3 |



STORM 20
LEVEL






|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rartus | vat | VAR | vet | VRr | o-values | tanj | ramius | vat | var | vet | visk | d-valufs | ramj |
| 5.7 | 10 | 4 | 15 | 10 | -1190 | 24.1 | 5.0 | 21 | -11 | 13 | -19 | -1270 | 24.3 |
| 7. ${ }^{\text {a }}$ | 13 | $?$ | 15 | 9 | -1180 | 21.1 | 7.5 | 48 | $-10$ | 39 | -12 | -1170 | 24.0 |
| 10.9 | 26 | ${ }_{5}^{6}$ | 29 | 13 | -1170 | 24.2 | 10.0 | ${ }^{5} 5$ | $\rightarrow$ | 57 | -11 | -1140 | 23.4 |
| 12.5 | $4{ }^{4}$ | 5 | 50 | 12 | $-1140$ | 23.7 | 12.5 | 69 | -10 | 62 | -13 | -1060 | 23.3 |
| 15.4 | 17 | 20 | 77 | 27 | -1050 | 23.6 | 15.0 | 6, | -6 | 56 | $-9$ | -960 | 23.2 |
| 17.5 | 12 | 14 | 77 | 20 | -980 | 23.3 | 17.5 | 74 | 2 | 67 | -1 | -890 | 33.1 |
| 20.0 | ${ }^{88}$ | 1 | 73 | 7 | -810 | 23.4 | 20.0 | 73 | $-13$ | 66 | -17 | - P 10 | 21.0 |
| $2 ? .5$ | ¢ | - 2 | 78 | 4 | - 230 | 22.9 | 22.5 | 76 | $-11$ | 69 | $-14$ | $-160$ | 27.8 |
| 25.0 | [.2 5 | -3 -3 | 68 63 | 3 2 | -789 -780 | 22.9 22.9 | 25.0 27.5 | 78 74 | -7 -10 | 71 | -10 | -730 | 22.6 |
| 35,0 | 58 | -7 | 64 | $\rightarrow$ | -770 | $\rightarrow 2.4$ | 3 mos | 70 | -0 | 67 | -17 | - -7.70 | 22.9 |
| 32.5 | no | -6 | 66 | -1 | -700 | 22.3 | 32.5 | 72 | -10 | 65 | -13 | $-6.30$ | 23.3 |
| 35.9 | A1 | -6 | 67 | -1 | -670 | 22.0 | 35.0 | 67 | $-10$ | 60 | -13 | -6,00 | 22.3 |
| 37.3) | 80, | -9 | 67 68 | - ${ }^{-1}$ | -610 | 21.7 | 37.5 | 72 | -16 | 65 | -19 | -530 | 21.9 |
| 41.3 4.9 | 57 59 59 | -6 -13 | $\xrightarrow{69}$ | - ${ }_{-1}$ | -580 -570 | 21.6 | 410.0 | 74 76 | -14 | ${ }_{6}^{65}$ | -17 -14 | -480 | 21.7 |
| 45.0 | S. | -7 | 67 | -2 | -530 | 21.6 | 4.5 45.0 | 75 | -11 -7 | 68 | -14 | -460 -410 | 21.6 |
| 47.5 | 31 | $-15$ | 59 | -11 | -4,90 | 21.5 | 47.5 | 74 | -5 | 6.7 | -8 | -380 | 17.9 |
| 53.9 | 57 | $-10$ | 66 | -5 | -470 | 21.6 | 50.0 | 71 | -2 | 64 | -5 | -320 | 19.7 |








## Smadthfo vortex avfrages

| panius | vat | vas | vit | vrr | d-values | tanj | vati |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9.7 | 15 | -1 | 16 | 2 | -269 | 14.2 | 275 |
| $7 . \%$ | 22 | -0 | 23 | 0 | -233 | 14.2 | 551 |
| 1 c .0 | 30 | -1 | 30 | -0 | -204 | 13.8 | 495 |
| 17.5 | $3{ }^{3}$ | -1 | 39 | -1 | -169 | 13.0 | 15988 |
| 15.0 | 48 | -2 | 48 | -2 | -136 | 12.1 | 2398 |
| 17.5 | 56 | 0 | 56 | ${ }_{7}$ | -101 | 11.2 | 3273 |
| 2 CO | 60 | ${ }^{6}$ | ${ }^{36}$ | 7 | -52 | 10.3 | 4507 |
| ?i.0 | 72 | 14 | 72 | 14 | 4 | 9.6 | 5404 |
| 27.5 | 70 | 12 | 71 |  | 61 | $9 \cdot 1$ | 5457 |
| 32.0 | 65 | 5 | 6.6 | 12 5 | 121 | 8.7 | ${ }_{4} \mathrm{CO}_{44}$ |
| 32.5 | 62 | 2 | 63 |  | 205 | 7.0 | 4442 |
| 35.\% | 62 | 1 | 62 | 1 | 230 | 6.3 | 4097 |
| 37.\% | 5.7 | 1 | -59 | , | 251 | 6.0 | 378 B |
| $4 \mathrm{C.0}$ | 56 | 2 | 56 | 2 | 272 | 5.8 | 3419 |
| 42.5 | 54 | 5 | 54 |  | 296 | 5.5 | 3123 |
| 43.0 | 54 | 6 | 54 | 6 | 324 | 5.2 | 3159 |
| 47.5 | 47 | 1 | 51 | 3 | 348 | 5.2 | 2580 |
| sç.c | 47 | 2 | 49 | 3 | 359 | 5.0 | 2426 |








STORM 22 LEVEL 2


W. M. GRAY'S FEDERALLY SUPPORTED RESEARCH PROJECT REPORTS ON TROPICAL CYCLONES SINCE 1967

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CSU Dept. of
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[^0]:    ${ }^{\text {I }}$ In 1960 the name was changed to the National Hurricane Research Jaboratory (NHRL).

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[^2]:    $\qquad$

[^3]:    rans

