Format Descriptions

▼ CSV Format Description

CSV Format Description

Date Time Format

The date and time are presented in the following format mm/dd/yyyy hh:mm UTC and mark the beginning of the wave sampling period.

Latitude/Longitude

Positions are presented in decimal degrees with latitudes north of the equator represented as positive values and longitudes west of the Prime Meridian represented as positive values.

Depth

The depth values are presented in metres.

Quality Codes

The quality codes are based on the IGOSS quality codes. For data posted before 2 April 2020, quality codes were assigned subjectively to individual spectral records based on the shape of the spectral curve and

relative values of significant wave height (VCAR) and peak period (VTPK) as recomputed from the spectra by MEDS. No assessment of any additional reported parameters is implied by the quality code. Spectra-based QC was discontinued on 2 April 2020, but the off-position check (QC flag of 7) is still carried out.

0

Blank - No quality control (QC) has been performed

1

Good - QC has been performed: record appears correct

3

Doubtful - QC has been performed: record appears doubtful

4

Erroneous - QC has been performed: record appears erroneous

5

Changes - The record has been changed as a result of QC

6

Acceptable - QC has been performed: record seems inconsistent with other records

7

Off Position - There is a problem with the buoy position or mooring. Data may still be useful.

8

Reserved

9

Reserved - indicates missing elements

Parameter Codes

Parameter codes are GF3 standard where applicable. For data posted before 2 April 2020, significant wave height and peak period were recomputed from the spectra by MEDS; this was discontinued on 2 April 2020, and only values reported by the buoy are provided.

Wave Height Codes

VCAR
Characteristic significant wave height (calculated by MEDS) (m)

VWH$
Characteristic significant wave height (reported by the buoy) (m)

VCMX
Maximum zero crossing wave height (reported by the buoy) (m)

Wave Period Codes

VTPK
Wave spectrum peak period (calculated by MEDS) (s)

VTP$
Wave spectrum peak period (reported by the buoy) (s)

Meteorological & Oceanographic Codes

WDIR
Direction from which the wind is blowing (° True)

WSPD
Horizontal wind speed (m/s)

WSS$
Horizontal scalar wind speed (m/s)

GSPD

Gust wind speed (m/s)

ATMS

Atmospheric pressure at sea level (mbar)

DRYT

Dry bulb temperature (°C)

SSTP

Sea surface temperature (°C)

SLEV

Observed sea level

SST1

Average sea temperature from the non-synoptic part of WRIPS buoy data (°C)

HAT$

Water temperature from high accuracy temperature sensor (°C)

▼ FormatB for Non-Directional Spectral Wave Data

FormatB for Non-Directional Spectral Wave Data

ASCII FormatB provides heave spectra and the observed or derived parameters for all types of wave instruments producing non-directional wave data.

For each wave record there will be several 80 character records as follows:

1. **Station Identification Record**
   FORMAT (A10,5X,A20,5X,A10)

Station Type 10 character field A10 - See Wave Instrument Type Codes

Station Name 20 character field 5X,A20 e.g. West Sea Otter

MEDS Station Identifier 10 character field 5X,A10 e.g. C46204

2. **Administrative Information Record**

   FORMAT (2F10.4,F8.1,I4,2I2,I6,F8.1,E12.3,2X,A2,I4,2I3,I4)

   Latitude, Real F10.4 (degrees), Negative is south latitude

   Longitude, Real F10.4 (degrees), Negative is east longitude

   Depth of Water, Real F8.1 (meters)

   Year of Observation, Integer I4

   Month of Observation, Integer I2

   Day of Observation, Integer I2

   Time of Observation, Integer I5 (HHMM)

   Observation date and time are recorded in UTC and mark the beginning of the wave sampling period.

   Length of Recording, Real F8.1 (Minutes)

   Sampling Frequency, Real E12.3 (Hz)

   Quality Code (spectra, VCAR & VTPK), 2 character field 2X,A2 - See Quality Codes

   Number of Additional Parameters, Integer I4

   Number of Wave Heights, Integer I3

   Number of Wave Periods, Integer I3

   Number of Spectral Estimates, Integer I4

3. **Additional Parameters Record(s) (Optional)**

   FORMAT (5(E12.5,A4))

   Parameter 1, Real - See Parameter Codes for parameters

   Parameter Code 1, 4 character field

   Parameter n, Real

   Parameter Code n, 4 character field

4. **Wave Heights/Periods Record(s)**

   FORMAT (8(F6.2,A4))

   Wave Height 1, Real (m)

   Wave Height Parameter Code 1, 4 character field - See Parameter Codes for parameters

   Wave Height n, Real (m)

   Wave Height Parameter Code n, 4 character field - See Parameter Codes for parameters

   Wave Period 1, Real (sec)

   Wave Period Code Parameter 1, 4 character field - See Parameter Codes for parameters

   Wave Period n, Real (sec)

   Wave Period Code Parameter n, 4 character field - See Parameter Codes for parameters

5. **Frequency/Bandwidth/Spectral Density Records**

   FORMAT (6E12.4)

   Frequency 1, Real (Hz)

   Bandwidth 1, Real (Hz)

   Density 1, Real (m^2/Hz)

   Frequency n, Real (Hz)

   Bandwidth n, Real (Hz)

   Density n, Real (m^2/Hz)

Wave Instrument Type Codes

12

MSC Non-directional ODAS buoy. 12m Discus

3D

MSC Non-directional ODAS buoy. 3m Discus

6N

MSC Non-directional ODAS buoy. 6m NOMAD

AE

MSC Non-directional ODAS buoy. (6m NOMAD, 12m Discus, 3m Discus or 1.7m Watchkeeper)

AW

MSC buoy data with bad Watchman payload. (Truncated spectra, VCAR=VWH$, VTPK=VTP$)

EN

Directional Buoy, Endeco

HX

Hexoid buoy

KG

Kelk Pressure cell

MI

Miros Radar

PC

Pressure cell

ST

Staff gauge

SW

Swartz gauge

TG

Toga buoy

TR

Directional buoy, TriAxys

WC

Directional buoy, WAVEC information processing system (Datawell)

WD

Directional Waverider buoy, standard information processing system (Datawell)

WK

MSC Non-directional ODAS buoy. 1.7m Watchkeeper

WP

Non-directional Waverider buoy, WRIPS system (Datawell)

WR

Non-directional Waverider buoy, standard system (Datawell)

Quality Codes

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Characteristic significant wave height (calculated by MEDS) (m)

VWH$

Characteristic significant wave height (reported by the buoy) (m)

VCMX

Maximum zero crossing wave height (reported by the buoy) (m)

SHE1

WES sea height (m)

SWHT

Swell height (m)

VAV1

Average heave from the non-synoptic part of WRIPS buoy data (m)

VMNL

Depth of the deepest trough (m)

VMXL

Height of the highest crest (m)

VMX1

Maximum zero crossing wave height from the non-synoptic part of WRIPS buoy data (m)

VST1

Maximum wave steepness

Wave Period Codes

VTPK

Wave spectrum peak period (calculated by MEDS) (s)

VTP$

Wave spectrum peak period (reported by the buoy) (s)

SEP1

WES sea period (s)

SWPR

Swell period (s)

VTD1

Dominant period (s)

VTZA

Average zero crossing wave period (s)

VZA1

Average zero crossing period from the non-synoptic part of WRIPS buoy data (s)

Spectral Codes

BAND

Bandwidth of spectral estimates

FREQ

Frequency of spectral estimates

LCF$

Low frequency cut-off for wave spectra, calculated from the dispersion relation

VCXX

Autospectrum of north-south tilt (C22)

VCXY

Cospectrum of north-south and east-west tilt (C23)

VCYY

Autospectrum of east-west tilt (C33)

VCZX

Cospectrum of heave and north-south tilt (C12)

VCZY

Cospectrum of heave and east-west tilt (C13)

VQXY

Quadspectrum of north-south and east-west tilt (Q23)

VQZX

Quadspectrum of heave and north-south tilt (Q12)

VQZY

Quadspectrum of heave and east-west tilt (Q13)

VSDN

Spectral density (equivalent to C11)

VSMB

The ratio of spectral moments 0 and 1 (m0/m1)

Meteorological & Oceanographic Codes

WDIR

Direction from which the wind is blowing (° True)

WSPD

Horizontal wind speed (m/s)

WSS$

Horizontal scalar wind speed (m/s)

GSPD

Gust wind speed (m/s)

ATMS

Atmospheric pressure at sea level (mbar)

DRYT

Dry bulb temperature (°C)

SSTP

Sea surface temperature (°C)

SLEV

Observed sea level

SST1

Average sea temperature from the non-synoptic part of WRIPS buoy data (°C)

HAT$

Water temperature from high accuracy temperature sensor (°C)

Direction and Position Codes

LTG$

GPS latitude (reported by the buoy) (°)

LNG$

GPS longitude (reported by the buoy) (°)

MAGN

Magnetic variation from true north (°)

SED1

WES sea direction (°)

SWDR

Direction from which swell is coming (° true)

VPED

Wave spectrum peak energy direction (° true)

VSPR

Wave directional spread from cross spectra

Other Codes

ADNB

Number of fourier transform blocks in analysis

ADST

DIWAR receiver signal strength

ADSV

DIWAR receiver signal strength variance

AST1

Internal temperature from the non-synoptic part of WRIPS buoy data

AST2

Internal temperature from the synoptic part of WRIPS buoy data

NBD1

The number of bad samples in a surface elevation time series

QCF$

The indicator encoding which MEDS QC tests have failed

QCP$

The indicator encoding which MEDS QC tests have been performed

RECD

The record number of the tape containing the raw data

SIDE

The side number of the tape containing the raw data

TAPE

The tape number of the tape containing the raw data

UPD$

The update date of the record as YYYYMMDD

WOI$

The WAVEOB indicator group 00IaImIp from code section 0 of the code.

▼ Directional Co-Quad Format (.CQ)

Directional Co-Quad Format (.CQ)

Co-Quad files are comprised of 2 header records, 3 parameters records and 64 data records by frequency (Hz).

Two Header Records

1. Line number, MEDS Station Identifier, Station Name, UTC Date Time (YYYYMMDD HHMM), Latitude(+N), Longitude (+W), Depth (m)
   FORMAT(1X,I2.2,1X,A10,1X,A20,1X,A8,1X,A4,2(1X,F10.3),1X,F7.2)
2. Line number, Wind Direction (from ° True), Wind Speed (m/s), Sampling Period (s), QC Flag, Sampling Rate (Hz)
   FORMAT(1X,I2.2,3(1X,F6.1),1X,A1,1X,F10.4)

Three Parameter Records

3. Line number, Zeroth Spectral Moment (m**2), First Spectral Moment (m**2/s), Second Spectral Moment (m**2/s**2), Fourth Spectral Moment (m**2/s**4), Significant Wave Height (m), Peakedness Parameter, Spectral Minimum (m**2/Hz), Period of SPMIN (s), Spectral Maximum (m**2/Hz), Peak Period (s)
   FORMAT(1X,I2.2,10E11.4)
4. Line number, Minimum Wave Height (m), N-S Slope of Minimum Wave, E-W Slope of Minimum Wave, Maximum Wave Height (m), N-S Slope of Maximum Wave, E-W Slope of Maximum Wave, Minimum N-S Slope, Minimum E-W Slope, Maximum N-S Slope
   FORMAT(1X,I2.2,10E11.4)
5. Line number, Maximum E-W Slope, Minimum Slope, Maximum Slope, Direction of Peak Energy, Spectral Width Parameter, Average Period (s), Average Apparent Period (s), Apparent Crest Period (s),

Spectral Narrowness Parameter (m/s**(.5))
FORMAT(1X,I2.2,10E11.4)

64 Spectral Records by Frequency

6 to 69 Line number, Frequency Number (1 to 64), Frequency (Hz), Spectral Density (m**2/Hz) (C011), Spectral Density from the N-S Slope (m**2/Hz) (C022), Spectral Density from the E-W Slope (m**2/Hz) (C033), Quad-Spectral Value between Heave and N-S Slope (QD12), Quad-Spectral Value between Heave and E-W Slope (QD13), Co-Spectral Value between N-S and E-W Slope (C023), Mean Direction at this Frequency, Angular Spread at this Frequency, Cosine spread factor at this Frequency FORMAT(1X,I2.2,1X,I2,9E11.4,F8.2)

Date modified:
2020-06-30