README for
m-TRITON Buoy Surface Meteorology Data during the R/V Mirai MR20-E01 (YMC-BSM 2020)

Oct. 19, 2021

< Basic information >

Surface meteorological data were obtained by JAMMET (consists of Y50203 (precipitation) at 3.0m MSL, MP103A (air temperature, relative humidity) at 2.3m MSL, EPSP (shortwave radiation) at 2.9m MSL, and Y85000 (wind) at 3.1m MSL, whose sensors were assembled with A/D conversion print circuit board made by JAMSTEC, and Paroscientific Inc. Digiquartz Floating Barometer 6000 Series (pressure) at 2.2m MSL). Oceanic surface temperature and salinity were taken by Sea Bird Electronics Inc. SBE-37 IM MicroCAT deployed at -1m MSL. Data were collected every 10-min. By considering deployment/recovery procedures of mooring system (it took about 5-7 hours), we adopted data taken from 06:10 UTC, Aug. 7, 2020 through 22:00 UTC, Sept. 7, 2020, when the sensors both at the surface float and at 500m depth were settled stable.

< Quality Control >

We did not see any significant errors, biases, or drifts in pre-/post-cruise calibration done at the Mutsu Institute of Oceanography / JAMSTEC (done by the technical staff of Marine Works Japan Co. Ltd.). Drifts between two are; 0.04 degC for temperature, 0.63 % for relative humidity, 0.02 hPa for pressure, 0.25 mm for precipitation, 0.19 m/s and 4.07 deg for wind speed and direction, respectively, and all are within the criteria for their valid range.

< Data Format >

Data are stored in ASCII as (1x,a12,f8.3,2f8.2,9f8.1,f8.2) for the following parameters. Missing values are expressed as “9999.”

Nominal time in UTC as YYYYMMDDHHmm
Julian Day
Longitude in degree East
Latitude in degree North
Pressure in hPa
Air Temperature in degree Celsius
Relative humidity in %
Precipitation in mm/hr
Zonal wind component in m/sec
Meridional wind component in m/sec
Downward shortwave radiation in W/m^2
*Downward longwave radiation in W/m^2
Sea Surface Temperature in degree Celsius
Sea Surface Salinity in PSU

* ... Note. Although we did not deploy a longwave radiation sensor, we intentionally put missing values (9999.0) here.

< Contact >

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