CLIVAR Data Access Survey
Tropical Moored Buoy Arrays
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1. Program Definition

The Tropical Moored Buoy Array program consists of TAO/TRITON in the Pacific, PIRATA in the Atlantic, and an incipient array in the Indian Ocean referred to as RAMA (Research Moored Array for African-Asian-Australian Monsoon Analysis and Prediction). These arrays provide high quality moored time series data for improved description, understanding and prediction of climate variability and climate change. The arrays consist of surface moorings that measure a variety of meteorological and oceanographic variables plus subsurface moorings instrumented with ADCPs and in some cases conventional current meters. Data from the surface moorings is both internally recorded and transmitted in real-time via Service Argos. The subsurface moorings only record internally. Additional information on these programs can be found in the report of the first meeting of the CLIVAR GSOP.

2. Data Flow and Quality Control

Surface mooring data are typically transmitted in real-time via Service Argos as either hourly or daily averages and, for some meteorological data, as spot samples. After checking for gross errors, Service Argos places subset of the data on the GTS for distribution to operational weather, climate, and ocean forecasting centers. The real-time data are also delivered directly to buoy array operators by Service Argos. Buoy array operators monitor these data to ensure they meet minimum requirements for accuracy. If any obvious or gross errors are detected, data are flagged and Service Argos is alerted to stop future insertion onto the GTS.

Moorings are typically deployed and recovered on a one-year schedule. Internally recorded data are available for post-processing on recovery. These data are quality controlled by the individual buoy operators.

3. Timeliness of Distribution

Typically, about 80% to 90% of the real-time Service Argos data stream makes it onto the GTS. GTS dropouts vary with time and the causes of these dropouts are not well known. For data on the GTS, over half are available within 3 hours or less and over 90% are available within 7 hours. GTS lags are due to a combination of the mooring sampling and transmission schedules, the frequency of satellite overpasses, and Service Argos processing time.

Service Argos makes real-time data directly available to the TAO and TRITON Project Offices. These data are available to users via TAO/TRITON and PIRATA World Wide Web sites with a delay of one day (2 days for TRITON data). Delayed

mode data can typically be post-calibrated, post-processed, and distributed via the Web within 6 months of recovery.

Several web sites serve data from tropical moored buoy arrays as listed below:

TAO/TRITON
http://www.pmel.noaa.gov/tao/
http://www.jamstec.go.jp/jamstec/TRITON/

PIRATA
http://www.pmel.noaa.gov/pirata/
http://www.brest.ird.fr/pirata/piratafr.html
http://satelite.cptec.inpe.br/imagens/dadospcd/pirata/
http://www.funceme.br/

RAMA
http://www.pmel.noaa.gov/tao/
http://www.jamstec.go.jp/(under construction)
http://www.incois.gov.in/Incois/iogoos/home_indoos.jsp
http://www.nio.org/data_info/deep-sea_mooring/oos-deep-sea-currentmeter-moorings.htm