

## XBT Profiles Dataset for Test and Development of Automatic Quality Control Procedures

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This dataset contain 100 expendable bathythermograph (XBT) temperature profiles specifically selected and modified in order to provide data to be used as a control to test automatic quality control (AQC) procedures as part of the International Quality controlled Ocean Database (IQuOD, <http://www.iquod.org/>).

Profiles in this dataset were selected visually from actual XBT observations, in some cases by taking good profiles and introducing specific modifications in order to test different AQC procedures. Since the quality of the data is known for each profile in this dataset, it is possible to test a large number of AQC procedures or different combinations of them to verify the performance of these procedures.

The dataset is organized as follows:

- **AQC\_IQUOD\_2018.dat**: contain the profile data in comma separated columns as: *Profile\_ID*, *Temperature\_(°C)*, *Time\_(s)*, *Depth\_(m)*.
- **AQC\_IQUOD\_2018.md**: contain the meta-data and additional information for each profile as: *Profile\_ID*, *Date\_(yyyymmdd)*, *Time\_(hhmm)*, *Longitude\_(°W)*, *Latitude\_(°N)*, *Ship\_Call\_Sign*, *Ship\_Name*, *Ship\_IMO\_Number*, *XBT\_Probe\_Type\_(WMO\_306\*)*, *XBT\_Recorder\_Type\_(WMO\_306\*)*.
- **AQC\_IQUOD\_2018.log**: contain notes identifying good profiles, location of bad points within profiles, profiles that contain good data but should fail specific AQC tests (for example location, or bathymetry). In this file, after the parenthesis, 'x' means that one or more (or all) points in this profile are bad, while 'v' means that this should be a good profile. This file is organized as: *Profile\_ID*, *Original\_File\_Name*, *Specific\_Region\_or\_Test*, *Comment*. The field *Specific\_Region\_or\_Test* refers to the geographical region (for which specific AQC tests may be designed), to other AQC tests that may depend on geographical location, or to other AQC specific tests. The possible values for *Specific\_Region\_or\_Test*s are:

NA - North Atlantic;	GM - Gulf of Mexico;
SA - South Atlantic;	MS - Mediterranean Sea;
TA - Tropical Atlantic;	BA - Bathymetry in the Atlantic;
NP - North Pacific;	BP - Bathymetry in the Pacific;
SP - South Pacific;	BI - Bathymetry in the Indian;
TP - Tropical Pacific;	IL - Impossible Location;
SI - South Indian;	BT - Bottom by Probe Type;
TI - Tropical Indian;	CP - Constant Profile;
HN - High Latitude North;	BD - Bad Date
HS - High Latitude South;	

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\*WMO\_306: WMO Publication 306, Volume I.1; Code table 1770.  
([https://library.wmo.int/doc\\_num.php?explnum\\_id=10235](https://library.wmo.int/doc_num.php?explnum_id=10235)).