What is an Argo Float and how do we accept a new sensor

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http://www.argo.ucsd.edu/guidelines_Argo_data_stream_v5.docx

What is an Argo Float?

- The **goal of the Argo Program is to collect well-calibrated, accurate data** for use in critical scientific analyses of the state of the ocean.
- **Argo Data team over-stressed** to develop and maintain entries for every new sensors in the parameter and sensor tables
- The **decision** on including a float in the Argo Data System **lies with each country DAC**. The AST and ADMT are providing the scientific and data management advice and oversight for the integrated system.

- Data in the Argo Data Stream should come from floats that follow the **Argo Governance conventions**
  - Notification
  - Real-time availability
  - Transparency
    - All scientifically relevant available
    - Appropriate engineering data to monitor array available
- Pathway to highly accurate data identified
  - **profile samples stable water** masses to allow for DMQC
  - Credible **DMQC operator assigned**
- **Targets** are:
  Profile to **2000 dbar, every 10 days**
  Data from floats that extends coverage and statistical estimation of the state of the global ocean but **do not exactly meet the target mission are still valuable** and can be included in the Argo Data Stream.

Steps for a sensor to become an approved Argo sensor

- Sensor should:
  - improve on or replace an existing approved sensor
  - Measure an important parameter that should eventually be applied to a significant fraction of the global array
- Stages of sensor development:
  - Experimental
  - Pilot
  - Approved

Experimental Stage

- Sensor is mounted on:
  1. An Argo **float that has at the least an Argo Approved CTD** and follows Argo governance procedures. **A country DAC has given approval** that this sensor can be included on an Argo float.
  2. A **float that is deployed outside the Argo Program**
- At the GDACs:
  - **data is contained in the 'aux' directory**
  - 'aux' directory is not curated, but the file structure and access of the data must be fully documented.
- At the end of this stage, a sensor has demonstrated that it has the potential to satisfy the criteria to be an approved sensor:
  - **stable and accurate measurements**
  - **DMQC procedures developed**

Pilot Stage

- Sensor has passed the experimental stage
- Demonstrated potential for global deployment
- Proposal for Pilot Study has been **approved by the AST**
- Proposed **sensor and parameter descriptions have been approved by the ADMT**
- **Deployment over different oceanographic regimes** to demonstrate global performance
- At the GDACs:
  1. Data is included in the Argo Netcdf files
  2. The data for the pilot **sensors are included in the grey list and their QC flag is set to 3**.
  3. In DMQC the QC flag can be set to a lower value after approval of the ADMT.

Approval Stage

- Sensor has passed the pilot stage
- AST and ADMT have endorsed the sensor
- At the GDAC:
  Sensor data is treated the same as other sensor

Next Stage

- Document finalized
- AST approves proposed criteria for
  What is an Argo Float?
  Process to demonstrate that a new sensor can be included in the Argo Data Stream.
- Document published on the Argo websites and distributed to the DACs.