WP 15
Historical Product for V3-V4

Joint SeaDataNet2- WP10    MyOcean2-INSTAC Meeting
15th April 2013
## Products evolution in V3

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Creation / Update</th>
<th>Update description</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSITU_GLO_TS_REP_OBSERVATIONS_013_001_b</td>
<td>Update</td>
<td>Increase Time coverage (1990-2011)</td>
</tr>
<tr>
<td>INSITU_ARC_TS_REP_OBSERVATIONS_013_037</td>
<td>Creation</td>
<td>First Version including some SDNII and ARCTIC ROOS data</td>
</tr>
<tr>
<td>INSITU_BAL_TS_REP_OBSERVATIONS_013_038</td>
<td>Creation</td>
<td>First Version including some SDNII and BOOS data</td>
</tr>
<tr>
<td>INSITU_NWS_TS_REP_OBSERVATIONS_013_043</td>
<td>Creation</td>
<td>First Version including some SDNII and NOOS data</td>
</tr>
<tr>
<td>INSITU_IBI_TS_REP_OBSERVATIONS_013_040</td>
<td>Creation</td>
<td>First Version including some SDNII and IBI- ROOS data</td>
</tr>
<tr>
<td>INSITU_MED_TS_REP_OBSERVATIONS_013_041</td>
<td>Creation</td>
<td>First Version including some SDNII and MONGOOS data</td>
</tr>
<tr>
<td>INSITU_BS_TS_REP_OBSERVATIONS_013_042</td>
<td>Creation</td>
<td>First Version including some SDNII and BLACK SEA GOOS data</td>
</tr>
</tbody>
</table>
## Products evolution in V4

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Creation/Update</th>
<th>Update description</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSITU_GLO_TS_REP_OBSERVATIONS_013_001_b</td>
<td>Update</td>
<td>Increase Time coverage (1990-2012) + Regional Data</td>
</tr>
<tr>
<td>INSITU_ARC_TS_REP_OBSERVATIONS_013_037</td>
<td>Update</td>
<td>Second version including SDNII aggregating product</td>
</tr>
<tr>
<td>INSITU_BAL_TS_REP_OBSERVATIONS_013_038</td>
<td>Update</td>
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<td>INSITU_BS_REP_OBSERVATIONS_013_042</td>
<td>Update</td>
<td>Second version including SDNII aggregating product</td>
</tr>
</tbody>
</table>
Report on the Joint Meeting
MyO-SDN

S. Simoncelli (INGV)
S. Pouliquen (IFREMER)

Rhodes 19 Sept 2012, SeaDataNet2 First Planetary Meeting
Time Schedule

**SDN2**

- Common specifications, selected parameters, definition of QC, aggregation and analysis procedures
- SDN release of “raw” aggregated

**MyO2**

- Sept 2012: Data from SDN2 have to be received (early enough to perform the scientific assessment on the T&S product and deliver in time to the modellers)
- Dec 2012: First Version observation products have to be ready
- Apr 2013: Release of V1 AGGREGATED DATASET
- Sept 2013: 1° QC feedback to RCs MyO Alerts

**QC feedback to NODCs and MyO + reply to MyO Alerts**
SDN2

Release of examples of data product: gridded fields or climatological profiles and relative std

Sept 2014

Joint Meeting on aggregation and QC procedures experience

Sept 2015

V2 AGGREGATED DATASET
The Final Version of aggregated data set exploits all QC joint experience and the SDN statistical products

MyO2

Apr 2014
First feedback on the V1 AGGREGATED

Sept 2015
END MyO
QC strategy

NODCs QC of profiles through FLAGS

How do RCs feed back to NODCs?
Effective feedback loop:
1) between D10.1 and D10.2
Alerts log MyO + ODV logs + reply to MyO alerts
2) between D10.2 and D10.4
ODV logs + MyO alerts (?)

ANALYSIS CENTERS (ACs)
QC of a pool of profiles

1.Duplicates
2. Outliers
3. Gross Range Check

+ Statistical Check

Report to describe the aggregated (checks and performed to produce it and statistics to describe it)
• **What?**
  – observation must have a **date**, a **location** and a level of **immersion** (pressure or depth) and **Quality flags**
  – a set of observations belong to an **unique platform**
  – each profile / time-serie must be identify with a **unique SDN ID**
  – One observation available in different NODCs is provided once (the best quality)

• **How?**
  – file format can be ODV or **netCDF** as long as the previous information are available (Distribution format close to MyOcean format is preferred)
  – In the dataset a unique variable name should be used for Temperature (TEMP) and Salinity (PSAL) even if NODCs use different variable names
  – The data are provided manually to MyO on FTP
Feedback

- Report on anomalies from validation at MyO INS TAC regional centres will be sent to SDN RC
- After Analysis SeaDataNet RC will confirm or not the changes proposed by MyO

<table>
<thead>
<tr>
<th>Date</th>
<th>02/05/2002 13:15:48</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station ID (SDN ID+New MyOcean ID)</td>
<td>2924240  ABC123</td>
</tr>
<tr>
<td>Parameter</td>
<td>TEMP</td>
</tr>
<tr>
<td>NODC</td>
<td>SISMER</td>
</tr>
<tr>
<td>Platform</td>
<td>FABB</td>
</tr>
<tr>
<td>Previous flag</td>
<td>1</td>
</tr>
<tr>
<td>Immersions</td>
<td>(153:158)</td>
</tr>
<tr>
<td>New flag (suggestion)</td>
<td>4</td>
</tr>
<tr>
<td>Precision about the type of alert</td>
<td>Duplicate with .../far from climatology/spikes</td>
</tr>
</tbody>
</table>
UPDATE Process

• SDN should provide to MyO an update dataset that contains the data
  – That are new
  – That have been modified

• SDN should inform
  – on what data were deleted
  – When the update was generated
The status
Building regional historical product

Data Provider 1 → WOD from US NODC → OceanSites GDAC → ARGO GDAC → GTSPP → NODC → SeaDataNet → Best Version of Historical dataset → MyOcean Global

Data Provider 2 → NODC → SeaDataNet

Data Provider 3 → NODC

Feedback on anomalies

T&S & other parameters

MyOcean Global → T&S & other parameters

T&S & other parameters
Collaboration with SDNII

- Data provided to MyOcean INS TAC by SDN
- Anomalies detected by MyOcean INS TAC
System changes in V3

- The importance of historical observations input dataflow is increased.
  - New data providers in ROOS
  - SDN link is implemented

- Adding to the FTP portal a new branch to provide INS historical product without additional validation at INS TAC level (V3)
A new branch on the FTP for V3

index_latest.txt
latest

/root
myo_index_platform.txt

index_monthly.txt
monthly

Drifters

Moorings

Profilers-Gliders

Vessels

One directory /day
One file/ day/platform

One directory /month
One file/ month/platform

One directory /month
One file/ month/platform

One directory /month
One file/ month/platform
Input from SDNII

- T&S data extracted from SDN network in December 2012-January 2013
- Data validated using ODV by AWI (Reiner Schlitzer) and split in MyOcean regions packages
- Data transmitted to SDNII WP5 coordinators February-March 2013
- A first study by SDN coordinators showed data with flag 1 (good) which should be clearly changed to 4 (bad) because they are out of reasonable ranges
Data provided to MyOcean INS TAC by SDN

Anomalies detected by MyOcean INS TAC

REP – Regional products are the History directory updated for T&S after validation
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Data provided to MyOcean INS TAC by SDN.

Anomalies detected by MyOcean INS TAC.
Data provided to MyOcean INS TAC by SDN

Anomalies detected by MyOcean INS TAC
MyOcean / EuroGOOS

Data Provider

OceanSites GDAC

ARGO GDAC

GTSPPP

NODC

WOD from US NODC

Coriolis

MyOcean Global

Feedback on anomalies

SeaDataNet

Best Version of Historical dataset

MyOcean / EuroGOOS

Feedback on anomalies
• **Data Aggregation**
  – Each DU defined how they handle duplicates between NRT (monthly directory observations) and delayed mode (SDN or ROOS providers, Global DU)
    • For V3 only new data are considered
    • XBT are discarded because missing instrument type and fall rate
    • IF we have historical data directly from ROOS partner and From SDN we choose the ROOS route because of the lack of metadata
  – Each region has to be prepared to ingest Update from SDN, validated by SDN RC coordinators, that will be provided in September 2013

• **FEEDBACK:**
  – Implement feedback to SDN (and providers) on anomalies detected during validation
  – Implement Feedback to Global DU when observations are provided by Global DU

• Define the REP product format for V4 after discussion with MFCs (WP18)
What additional steps need to be performed for V4

- The REP product is separated from History directory on INSTAC because
  - During the next version of the REP product the previous one must be kept unchanged
  - History contains all parameters even those which haven’t gone through scientific validation
  - History may be updated more often than the REP products
What additional steps need to be performed for V4

• Clarify MFCs need at WP18 meeting (Thursday)
  – The product for reanalysis is **frozen** at a certain date and no new observations can be added
  – Are the data organized by platform as for V3 fine for reanalysis?
  – Would MFCs prefer data organized by date to facilitate assimilation as system can ingest the observation based on temporal schedule

• If organized by date, do we need to
  – also organize the data by type of platform according to the sensor accuracy to be able to discard datasets with insufficient accuracy
  – or is the instrument type enough as a metadata in the platform file is enough
Questions ?