

Topex, Jason-1/2/3 and SARAL GDR Status

**CNES, NASA,
NOAA, EUMETSAT**



OSTST meeting

From all 4 MSEs



CENTRE NATIONAL D'ÉTUDES SPATIALES



Mission Product Status



- **Topex still in MGDR format defined in 1996.**
- **Jason-1 GDR_C since 2006.**
- **Jason-2 GDR_D since March 2013.**
- **Jason-3 to come soon with GDR-D standard**
- **SARAL with GDR-D (Patch 2) – new version planned in 2015**



- **Topex reprocessing :**

- Efforts are ongoing on JPL side to analyze the retracking
- Still works to be done to assess the long term stability of the retracking estimates and observed hemispheric bias
- The tool to be developed for Jason-1 reprocessing will be reused also for the Topex reprocessing. This will insure a good consistency with Jason-1.





CENTRE NATIONAL D'ÉTUDES SPATIALES



JA2&3 GDR Status



- For the CalVal phase, Jason-3 will be based on GDR_D standard with orbit in GDR-E. Fully inline with Jason-2 standard.
- Next product version to be defined after the CalVal phase



- Tool development has been initiated as planned.
- Products will be provided using Version 3 NetCDF formats, and include the Native, Sensor, and Reduced product files.
- **Reprocessing includes the following:**
 - Ice-1 retracking parameters.
 - The known time-tag bias and altimeter range bias errors corrections.
 - Radiometer data recalibrated, and all radiometer parameters recomputed
 - New sea state bias model (derived in 2012)
 - Current-state-of-the art geophysical models including:
 - Ocean tides from FES2012 and GOT4.10
 - Mean sea surface from DTU and CNES/CLS 2012
 - Mean dynamic topography from CNES/CLS 2013
 - Geoid from EIGEN6
 - Troposphere corrections from both the operational ECMWF and ERA Interim
 - An updated user handbook and detailed note on the quality of the data from GDR-C to GDR-E.



- **Validation of tool and input auxiliary data (JMR updated file, geophysical fields, orbit) ongoing. Calval analysis anticipated on some corrections.**
- **Schedule :**
 - Orbit reprocessing completed mid 2014
 - JMR reprocessing will start in Dec 2014
 - Mission reprocessing will start early 2015



FUTURE PRODUCT VERSION UNDER DISCUSSION

Following the in depth data quality analysis, PIs feedbacks and also PEACHI prototype, we anticipate a further version which could include the following evolutions :

Radiometer wet tropo correction :

- New neural network algorithm
- Correction in the coastal area (ENVISAT approach)
- Correction of the saturation impacts

SSB and Wind models :

- New look up tables computed on 1 year of data

Atmospheric attenuation :

- Add the atmospheric attenuation derived from the model (as proposed by J. Lillibridge and co)

GDR-E orbit standard

FUTURE PRODUCT VERSION UNDER DISCUSSION

Tide models :

- Updated with the GOT 4.10 and FES 2014 (currently under dev ...)

Land Ice and sea-ice flags :

- New flags added to the products to better characterize the ice

Waveform classification :

- New indicator, particularly useful for inland water and sea ice studies

Land ice retracking 'ice2' :

- Updated version which better accounts for the altimeter antenna gain

Implement the distance to the closest coast information and modify the product format for the peakiness parameter