GDR Status

CNES, NASA,
NOAA, EUMETSAT

OSTST meeting

From all 4 MSEs

Jason-2
GDR-C standards

- New J2 AMR processing (coastal area + new flags) and updates to work around the 34 GHz VFC anomaly
- Use of a null mispointing value in input of the C band retracking algorithm
- Use of LTM information filtered over X days
- New tide model (GOT00.2 ➔ GOT 4.7)
- Polar tide anomaly correction
- Long period non equilibrium tide anomaly correction
- SSHA on OGDRs computed when meteo grid are extrapolated
- NRT orbit quality flag in OGDR products
- Some complementary evolutions (specifications updates+ typos in the products + ...)
- Update of the altimeter characterisation file and impacts
- Ice Flag in SSHA products
- New parameters in SGDR products (including all MLE3 derived parameters)

Jason-2
GDR-C standards

Studies :

- MLE3 and MLE4 instrumental correction tables
- Rain flag from MLE3 estimations
- Wind speed and SSB : comparison MLE3/MLE4
- Assessment of the AMR correction

Analysis :

- Impact assessed on 3 cycles reprocessed mid September (64-66), by 4 project partners

- All evolutions have been implemented and validated on 3 test cycles.
- This has demonstrated that modifications were implemented as required, and allowed the validation of so called Jason-2 GDR_C standards.

Jason-2
GDR-C standards

• However, some additional evolutions should be implemented before Jason2 GDR_C processing start:

• The wind is overestimated, and the SSB could/should be computed with a wind derived from MLE3 estimates.
→ N Tran has proposed a solution that will be reviewed by a dedicated sub group in the coming weeks to provide final advice to the project

• The ionospheric correction is underestimated.
→ C band internal path delay will be reviewed to try to explain this bias. No artificial bias will be applied to align JA2 ionospheric correction to JA1

• An additional correction to account for the pseudo datation bias will be implemented on JA2

• MLE3 parameter estimates are required in the GDRs products

• Include JPL GPS altitude information in GDRs products ??

Jason-2
GDR-C tentative schedule

• Implement the above proposed additional evolutions in the coming weeks and start the processing early 2011. To be completed before summer 2011.

• Processing to be started with the JA1/JA2 tandem phase in order to derive relative bias estimates between both missions. This relative bias shall be widely published by all projects communication means (several users complain about the lack of available information on that topic)

Differences between JA1(Pos2) and JA2 (Pos3) range measurement

- **CalVal difference for Ku Band : 8.3 cm during tandem phase – same figure obtained by insitu sites**
- **2 major origins**
  - A wrong altimeter PRF is today used in ground segment (Truncate effect) **on both missions**
  - A wrong altimeter internal path delay value is used **on JA1** (derived from ground measurement)

Parameter	JASON1	JASON2	JAS-1/JAS-2 Difference
PRF truncate effect	-0.316 cm	-2.471 cm	-2.156 cm
Alti correction for Ku band	4.151466 m	4.268487142 m	11.70211423 cm

  - **Total difference for Ku band : 9.5 cm**
  - Remaining Difference in Ku Band ~ 1.2 cm
- **Conclusion :**
  - Poseidon2 and Poseidon3 are very close in term of hardware, the difference of range between JASON1 and JASON2 is artificial and explained ---->

Remaining difference in Ku band : ~ 1cm

  - Investigations are still in progress to explain:
    - The difference between Jason1/2 and Topex
    - To check the C band configuration values
  - **No artificial bias will be applied to align JA2 ionospheric correction to JA1**