DORIS / Jason-2 : less than 10 cm orbits (soon) available for Near Real-Time Altimetry

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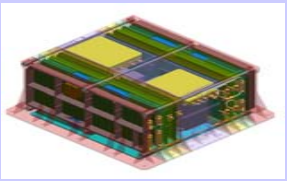
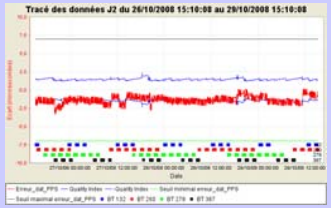
An improved DORIS receiver …

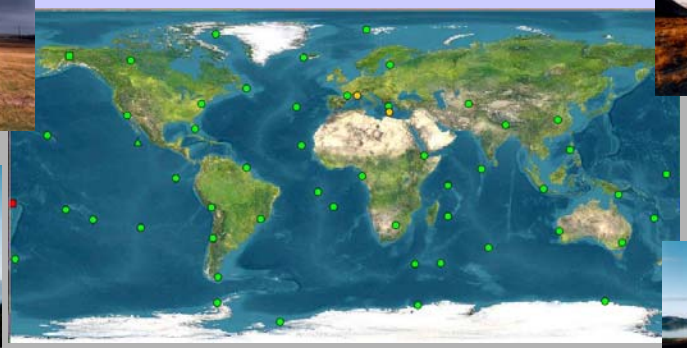
- New DORIS DGXX receivers
  - First flight on-board Jason-2, future flights : CryoSat-2, Pléiades, Saral/Altika and HY-2
  - Number of channels increased from 2 to 7
  - New spectral analysis mode (improving cold start)
- A LOT OF SYSTEM IMPROVEMENTS, including :
  - DORIS is now able to program the altimeter by delivering the expected height of the sea surface in real-time, allowing reduction of tracking loops .
  - DORIS measurements now available under a clear RINEX format
  - New EGSE now allow ground-demonstration of the DORIS receiver centimeter capability before the launch.
  - …
- First results : the very first Jason-2 Precise Orbit Ephemeris already show a near-one-centimeter accuracy.

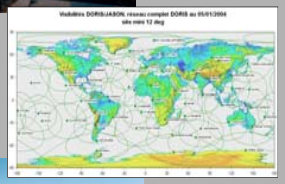


Datation capability



A dense and active DORIS beacon network …

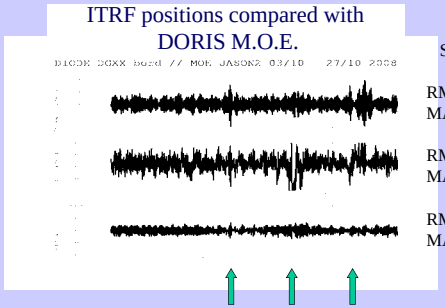




An accurate DIODE Navigation Tool

- Before the flight, it was shown that the navigation tool was compliant with 1 cm instrumental errors. Of course 1 cm was not expected in-flight.
- On Jason-2, the specifications were “below 10 cm RMS on the Radial component “ when compared to the the Precise Orbit Ephemeris (POE)
- The real-time DIODE orbits are delivered in the OGDR products and their accuracy is being improved as tunings of the on-board software progress
- 100% availability, even during large manoeuvers = a very robust function

ITRF positions compared with DORIS M.O.E.



- **OGDR ALTITUDE IS WITHIN SPECIFICATIONS NOW : accuracy < 10 cm RMS, rather 5 or 6 cms today**
- **This will hopefully open the door to a fairly precise Near Real-Time Altimetry.**