

CNES Perspectives in Altimetry

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CNES Strategy in Oceanography

- Contribute to operational outcome of altimetry :
(TOPEX/POSEIDON => JASON1 => JASON2/OSTM =>?)
+ CORIOLIS, MERCATOR/COO/ECOMF, ...
- Continue research activities for future altimetry missions/instruments (AltiKa, WSOA, ...)
- Contribute to space measurements of other ocean physical parameters :
 - salinity (SMOS)
 - directional wave spectrum (SWIMSAT)
 - ocean colour (VGT1 & 2, POLDER1 & 2, ...)
- Prepare ocean applications of ORFEO (Cosmo SkyMed/Pleiades) : mainly coastal applications

Status of altimetry missions/activities

- TOPEX/POSEIDON : more than 11 years of ocean observations : total success
- Jason/ TOPEX tandem mission : success !
- GFO : recent alert ; seems solved now.
- ENVISAT : excellent synergy with Jason1, (T/P and ERS complementarity further improved)
- DORIS : 6 DORIS receivers simultaneously in flight : earth reference system strengthened
- MERCATOR (inter Agency structure for the implementation of an oceanographic forecasting center in Europe in the mid term) ; next step : C2O (Center for Operational Oceanography) in 2006
- What 's next :
 - JASON2-OSTM
 - AltiKa : Preliminary Design Review in July 2003
 - Next Step : O³ = Operational Ocean Observer (phase A planned in 2004/2005)



JPL

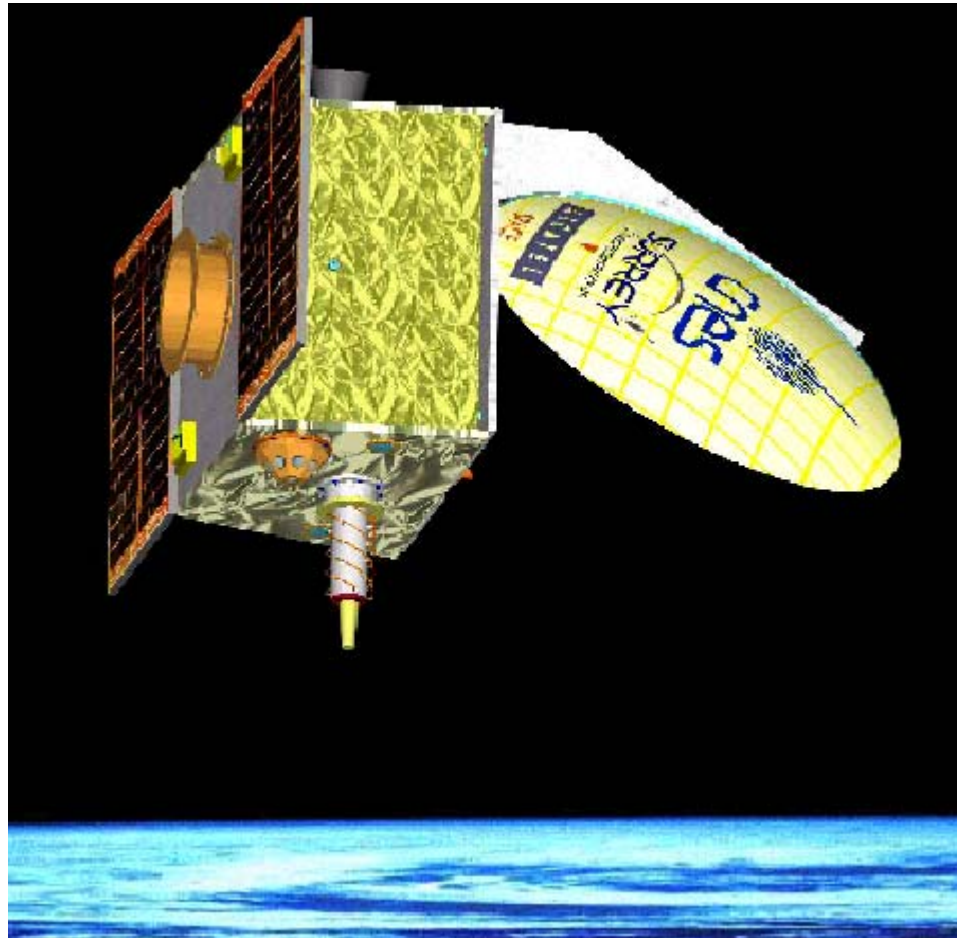


JASON-2



Jason2/OSTM

- JASON2/OSTM Status :
 - basic mission, continuation of Jason1 : core mission
 - Major new feature under analysis : Wide Swath Ocean Altimeter
 - 4-party (CNES/EUMETSAT/NOAA/NASA) MOU is being prepared
 - Program approved at NASA & EUMETSAT
 - CNES decision to be taken early 2004
- Formal decision to embark WSOA will be taken at satellite PDR
- Launch date : first semester of 2008



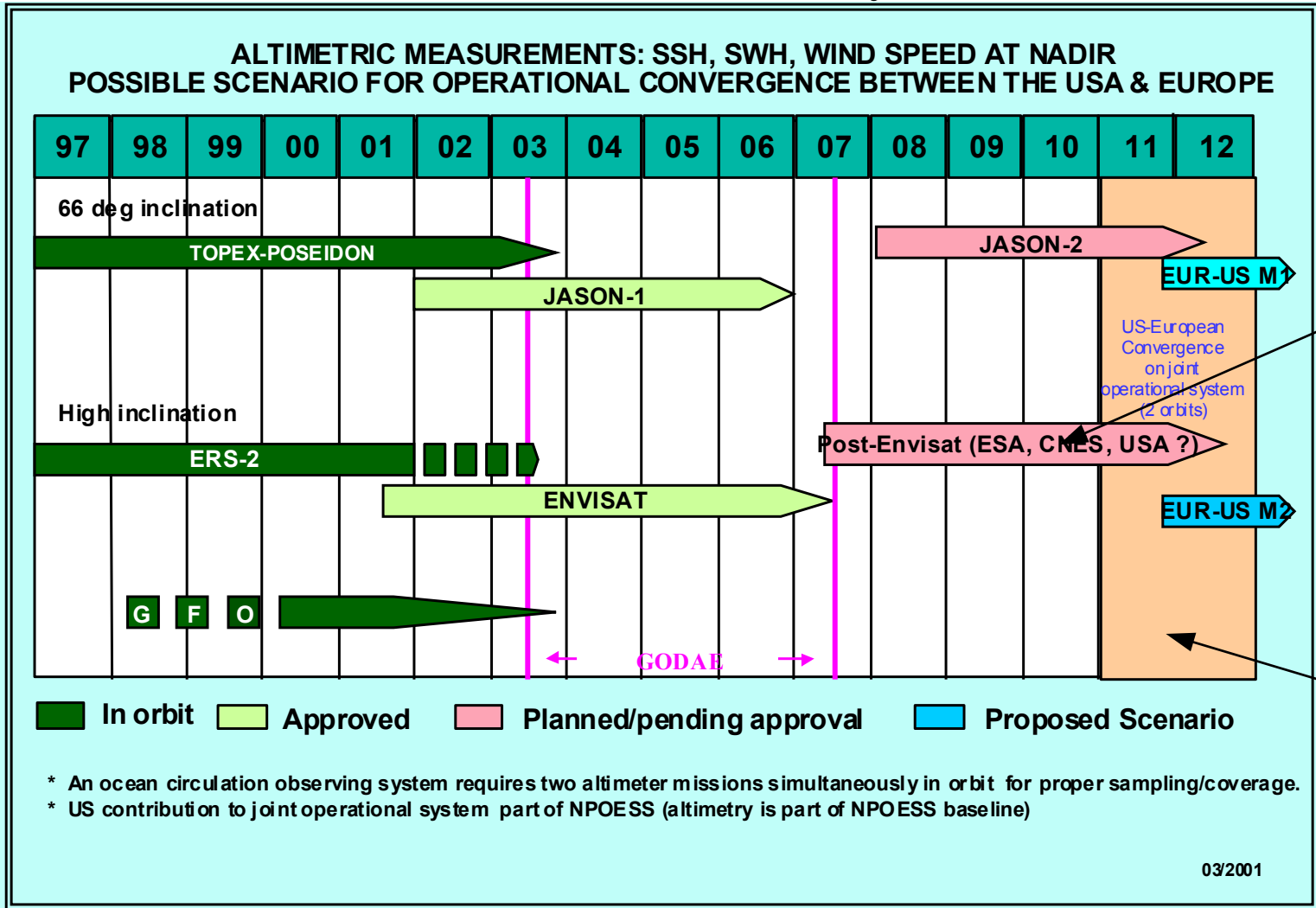
AltiKa

AltiKa Status

- Instrument Preliminary Design Review took place in July 2003 : no show-stopper
- Phase 0 satellite study done with both CNES MYRIADE and UK SSTL platforms : ok
- Phase A satellite study envisioned in 2004 (need for a cooperative framework, under study).
- Intrinsically, the current definition of AltiKa demonstrates the ability of the AltiKa payload to be embarked on microsatellites or as a passenger of other larger platforms, and a very high level of performance making possible to answer science and application objectives
- In the frame of a future « High Resolution Altimetric System », AltiKa may then be a candidate to answer the user requirements if considering a constellation of AltiKa microsatellites or a constellation of multiple platforms



Scenario of Altimetry Missions



???

O³

Next step : O^3 = Operational Ocean Observer

- O^3 is a concept dedicated to the operational observation of the oceans for the 2010-2020 period. It is clearly an Environment Observatory
- it includes satellite and ground segment studies
- it includes altimetry but is not restricted to altimetry (ocean colour,...)
- it takes into account :
 - existing or planned missions (NPOESS, JASON2, ...)
 - needs/recommendations/studies by other entities : GAMBLE, MERCATOR, MERSEA, GMES, ESA, EUMETSAT, WMO, GOOS...)
- Phase A is foreseen in 2004/2005. It will be dedicated to design the minimum constellation answering the input requirements
- It may include low cost solutions (JASON2B, ...) or mature concepts (AltiKa, ...)
- Results will be presented to other entities (public, and possibly private, operational partners) in 2005.