



GAMBLE - Operators' Workshop

Monday May 19th

0900-1230

<http://www.altimetrie.net>





Agenda

1. *Workshop Aims / The GAMBLE Project* (D. Cotton, SOS)
2. *Overview of Altimeter Missions –2003-2010 and beyond* (Y. Menard, CNES)
3. *Recent and expected future developments in altimeter derived data products*
 - 3.1 Ocean Currents (Fabien Lefevre, CLS)
 - 3.2 Operational Products from Mercator (V. Tourmazou, Mercator)
 - 3.3 Ocean Waves (Jim Gunson, UKMO)
 - 3.4 Investigating multiple altimeter sampling - short case study of the 12/01/03 Schiehallion event. (D Cotton, SOS)
4. *User Priorities for ocean current and sea state data over the next decade.*
 - 4.1 Offshore renewable energy, and other sectors of interest- (M. Calverley Fugro-Geos)
 - 4.2 Observations, short term forecasts and technology for increased user confidence – (M. White, Nowcasting International)
5. *Discussion:* (Moderated by Tom Allan, SOS)
 - Can we identify common priorities?



Local Arrangements



GAMBLE

Global Altimeter Measurements By Leading Europeans

A “Thematic Network” supported by the European Community under Framework 5

PARTICIPANTS - *Research and operational user communities.*

COORDINATORS - *CNES, SOS*

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GAMBLE

Brings together European experts to consider future developments in satellite altimetry, aiming to:

- Coordinate developments so that the best use is made of data from altimeter missions that are already approved.
- Make recommendations for the optimisation of forthcoming altimeter missions (orbits, tracking, orbit maintenance, payload specifications, scheduling) to best satisfy user needs.

A priority of Gamble is to consider the needs of offshore operators along with those of the scientific community.

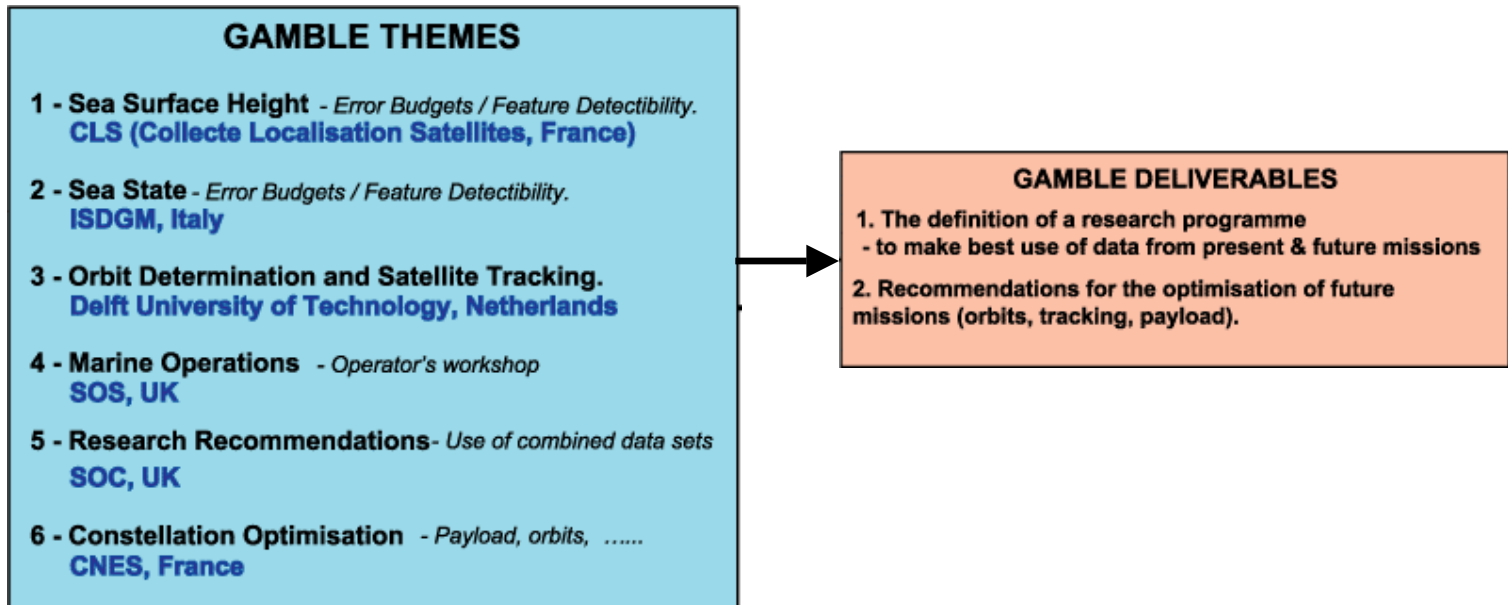


Altimeter Data

- Range - Sea Surface Height
 - Sea level monitoring, tides, (variability in) large scale ocean circulation, dynamics - (geostrophic velocities, eddy mapping), operational applications (through assimilation into models).
- Significant Wave Height
 - Climate variability, statistics for offshore operations, real time applications (assimilation into models, direct to users).
- Ocean surface backscatter
 - Wind speed,
 - With wave height - sea state bias, wave period, joint wind/wave distributions
 - Dual frequency - rain, air sea gas transfer, surface wind stress.



The GAMBLE Approach





Aims for this Workshop

- Identify users' priorities for future improvements in information derived from satellite altimeters
- What new developments in altimeter systems will best suit these requirements?
 - Do altimeter data provide the best solution?
 - How are altimeter data best employed?



User Priorities - EuroGOOS Users Survey

1. ***Current velocity***
2. ***Current direction***
3. ***Significant wave height***
4. ***Wave period***
5. Sea surface temperature
6. ***Wave direction spectrum***
7. ***Wind stress***
8. ***Wave spectra***
9. ***Wave swell***
10. Coastal bathymetry

(Ten most requested variables from EuroGoos Users Survey - Fischer and Flemming, Eurogoos No 12. SOC, 1999)



Operational Oceanographic Needs for the Offshore Oil and Gas Industry

Grant and Shaw, 2001, GOOS products and services bulletin, Vol 1

1. Statutory Requirements
2. Operations support
3. Short Term Forecasts (usually up to 3 to 5 days)
4. Design and Operational Planning
5. Lifetime Performance Monitoring

“Most important parameter for offshore operations is wave height,” followed by wave period, wind speed and ocean currents.



Priorities?

- Improved real time delivery.
- Improve resolution (time/space).
- Improve reliability / accuracy.
- Improve measurement of high waves/winds.
- Understanding / predicting “rogue” waves.
- More sea state parameters (swell, wave period and direction)?
- Improve forecasts of surface / sub-surface currents.
- Better performance close to coasts.
- Improve accessibility.



Who is involved in GAMBLE?

25 members are part of the original proposal
(8 UK, 9 FR, 2 IT, 3 NL, 1 DE, 1NO, 1 Int.).

CURRENT GAMBLE PARTNERSHIP

	UK	France	EU, Italy, Germany, Netherlands, Norway
Research organisations	<ul style="list-style-type: none"> - Southampton Oceanography Centre - University of Newcastle - Proudman Oceanographic Laboratory - Environmental Systems and Science Centre 	<ul style="list-style-type: none"> - Centre Nationale d'Etudes Spatiales - Collecte Localisation Satellites - Centre Nationale de la Recherche Scientifique - Service Hydrographique et Oceanographique de la Marine - Universite Joseph Fourier - Institut national Polytechnic de Grenoble - Universite Versailles 	<ul style="list-style-type: none"> - Istituto per lo Studio delli Dinamica della Grandi Masse - ENEA*, San Terenzo - Max Planck Institute - Delft University of Technology - Nansen Environmental and Remote Sensing Ctr.
Commercial companies	<ul style="list-style-type: none"> - Satellite Observing Systems - Surrey Satellite Technology Ltd. - Oceanroutes * - BP * 	<ul style="list-style-type: none"> - Alcatel Space Industries - Meteo France* 	<ul style="list-style-type: none"> - Shell* - Dockwise*

** Member of Steering Committee*

“GAMBLE” is an open forum - we welcome contributions from all with an interest

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