The 2019 Ocean Surface Topography Meeting will occur 21-25 October 2019 and will include a variety of science and technical splinters. These will include a special splinter on the Future of Altimetry (chaired by the Project Scientists), a splinter on Coastal Altimetry, and a splinter on the recently launched CFOSAT. In anticipation of the launch of Jason-CS/Sentinel-6A approximately 1 year after this meeting, abstracts that support this upcoming mission are highly encouraged.
List of event’s sessions

**Monday, October 21 2019**

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>09:00</td>
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<td>Coastal Altimetry</td>
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<td>Quantifying Errors and Uncertainties in Altimetry data</td>
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<td>Science III: Mesoscale and sub-mesoscale oceanography</td>
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Thursday, October 24 2019

09:00 - 10:30
The Geoid, Mean Sea Surfaces and Mean Dynamic Topography
The Monroe Hub

09:00 - 10:30
Tides, internal tides and high-frequency processes
The Forum

11:00 - 12:30
CFOSAT
The Monroe Hub

11:00 - 12:30
The Future of Altimetry
The Forum

14:00 - 15:45
Poster session part 2
The Gallery

16:15 - 18:00
Science IV: Altimetry for Cryosphere and Hydrology
The Forum

Friday, October 25 2019

09:00 - 12:30
OSTST Closing Plenary Session
The Forum
## Programme at a Glance

**October 2019**

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<tr>
<th>Time</th>
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<th>Tuesday (Oct 22)</th>
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<td>08:00 Application development for near Real-Time Operations The Monroe Hub</td>
<td>08:00 Regional and Global CAL/VAL for Assembling a Climate Data Record (part I): The Forum</td>
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<tr>
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<td>Coffee break</td>
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<td>15:30</td>
<td>Science keynotes The Forum</td>
<td>14:00 Instrument Processing (part II): Cross fertilization, Wind Speed and Edna Marie’s Sky The Monroe Hub</td>
<td>Science II: Large Scale Ocean Circulation, Variability and Change The Forum</td>
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<td>15:45 Coffee break</td>
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Oral sessions

Monday, October 21 2019

08:00 - 09:00: Registration and Presentation upload

OSTST Opening Plenary Session

Session chairs: Pascal Bonnefond, Craig Donlon, Eric Leuliette, Remko Scharroo, Josh Willis
(Mon, Oct 21 2019, 09:00 - 12:30)

The Forum

09:00 - 09:05:
Welcoming remarks and meeting overview
Josh Willis (JPL, United States)

09:05 - 09:30:
NASA/CNES/EUMETSAT/NOAA/ESA program status
Program Managers (NASA/CNES/EUMETSAT/NOAA/ESA, )

09:30 - 09:45:
Jason-2 mission overview
Christophe Maréchal (CNES, France)

09:45 - 10:00:
Jason-3 mission overview
Christophe Maréchal (CNES, France)

10:00 - 10:15:
SARAL/AltiKa mission overview
Nadège Queruel (CNES, France)

10:15 - 10:30:
Sentinel-3 mission overview
Craig Donlon (ESA/ESTEC, Netherlands)

10:30 - 11:00: Coffee break

11:00 - 11:15:
CFOSAT: A new satellite for the observation of wind and waves
Cédric Tourain (CNES, France)

11:15 - 11:30:
Sentinel-6/Jason-CS news and developments
Pierrick Vuilleumier (ESA/ESTEC, Netherlands), John Loving (NOAA, United States), François Parisot (EUMETSAT, Germany), Parag Vaze (NASA/JPL, United States), Gilles Tavernier (CNES, France)

11:30 - 11:45:
SWOT status
Lee-Lueng Fu (JPL, United States), Rosemary Morrow (LEGOS, France)

11:45 - 12:00:
Topics to be discussed in the splinters
Eric Leuliette (NOAA, United States)

12:00 - 12:20: Keynote/invited
How accurate is accurate enough?
Benoit Meyssignac (CNES/LEGOS, France)

12:30 - 14:00: Lunch
Science Keynotes Session

Session chairs: Pascal Bonnefond, Craig Donlon, Eric Leuliette, Remko Scharroo, Josh Willis
(Mon, Oct 21 2019, 14:00 - 15:45)

The Forum

14:00 - 14:25: Keynote/invited
Does the large-scale ocean circulation drive coastal sea level changes in the North Atlantic?
Denis Volkov (NOAA-AOML/University of Miami, United States), Sang-Ki Lee (NOAA-AOML, USA), Ricardo Domingues (NOAA-AOML / University of Miami, USA), Marlos Goes (NOAA-AOML / University of Miami, USA)

14:25 - 14:50: Keynote/invited
Marine heat waves in eastern boundary upwelling systems: the roles of oceanic advection, wind, and air-sea heat fluxes in the Benguela system, and contrasts to other systems
Melanie R. Fewings (Oregon State University - College of Earth, Ocean, and Atmospheric Sciences, United States), P. Ted Strub (Oregon State University - College of Earth, Ocean, and Atmospheric Sciences, United States), Craig Risien (Oregon State University - College of Earth, Ocean, and Atmospheric Sciences, United States), Corinne James (Oregon State University - College of Earth, Ocean, and Atmospheric Sciences, United States), Carlos Moffat (University of Delaware - School of Marine Science and Policy, United States), Kevin S. Brown (Oregon State University - Department of Pharmaceutical Sciences and School of Chemical, Biological, and Environmental Engineering, United States)

14:50 - 15:15: Keynote/invited
Surface Films: Is it possible to detect them using Ku/C band sigmaO relationship
Jean Tournadre (IFREMER, France), Douglas Vandemark (University New Hampshire, USA)

15:15 - 15:40: Keynote/invited
Sea Level Anomaly from a multi-altimeter combination in the ice covered Southern Ocean
Matthis Auger (CLS, France), Pierre Prandi (CLS, France), Jean-Baptiste Sallée (LOCEAN, France), Amandine Guillot (CNES, France), Gerald Dibarboure (CNES, France), Yannice Faugère (CLS, France)

15:45 - 16:15: Coffee break

Science I: Climate data records for understanding the causes of global and regional sea level variability and change

Session chairs: Benjamin Hamlington, Benoit Meyssignac
(Mon, Oct 21 2019, 16:15 - 18:00)

The Forum

16:15 - 16:30:
Estimation and impact of Sentinel-3a GMSL drift on climate-driven studies
Michael Ablain (Magellium, France), Rémi Jugier (Magellium, France), Meysignac Benoit (CNES/LEGOS, France), Matthias Raynal (CLS, France), Sylvie Labroue (CLS, France)

16:30 - 16:45:
Uncertainty in Satellite estimate of Regional Mean Sea Level trends
Pierre Prandi (CLS, France), Benoît Meyssignac (CNES/LEGOS, France), Jean-François Legeais (CLS, France), Yannice Faugère (CLS, France), Michael Ablain (Magellium, France), Jérôme Benveniste (ESA, Italy)

16:45 - 17:00:
Contributions of atmospheric forcing and chaotic ocean variability to global and regional sea level changes over 1993-2015
William Llovel (LEGOS CNRS/CNES/IRD/UPS, France), Benoit Meyssignac (LEGOS, France), Nicolas Kolodziejczyk (LOPS, France), Thierry Penduff (IGE, France), Jean-Marc Molines (IGE, France)
17:00 - 17:15:  
Why sea-level swings in the Pacific  
Y. Tony Song (JPL/NASA, United States)

17:15 - 17:30:  
Validating Arctic Sea Level Change in the GRACE-era  
Carsten Ludwigsen (DTU, Denmark)

17:30 - 17:45:  
Extrapolating Satellite Data Records for Short-Term Sea Level Projections  
Robert Steven Nerem (University of Colorado, United States), John Fasullo (NCAR, United States), Benjamin Hamlington (Jet Propulsion Laboratory, United States), Thomas Harvey (University of Colorado, United States), Surendra Adhikari (Jet Propulsion Laboratory, United States)

17:45 - 18:00: Discussion
Instrument Processing: Measurement and Retracking

Session chairs: Francois Boy, Phil Callahan, Robert Cullen, Jean-Damien Desjonqueres, Alejandro Egido, Marco Fornari, Cristina Martin-Puig, Walter H.F. Smith
(Tue, Oct 22 2019, 09:00 - 12:30)

The Forum

09:00 - 09:15: TOPEX Data Reprocessing using a Numerical Retracking Approach
Jean-Damien DESJONQUERES (NASA Jet Propulsion Laboratory, United States), Matthieu TALPE (NASA Jet Propulsion Laboratory, United States), Philip CALLAHAN (NASA Jet Propulsion Laboratory, United States), Shailen DASAI (NASA Jet Propulsion Laboratory, United States), Joshua WILLIS (NASA Jet Propulsion Laboratory, United States)

09:15 - 09:30: Sentinel-3A, Jason-3 and AltiKa instrumental drifts and their impacts on geophysical estimates
Jean-Christophe Poisson (CLS, France), Fanny Piras (CLS, France), Matthias Raynal (CLS, France), Emeline Cadier (CLS, France), Pierre Thibaut (CLS, France), François Boy (CNES, France), Nicolas Picot (CNES, France), Franck Borde (ESA, Netherlands)

09:30 - 09:45: On the Effect of Surface Motion in SAR Altimeter Observations of the Open Ocean
Alejandro Egido (NOAA / GST Inc., United States), Chris Ray (St Mary, USA)

09:45 - 10:00: An Investigation of the Impact of Vertical Water Particle Motions on Fully-Focused SAR Altimetry
Christopher Buchhaupt (Uni Bonn, Germany), Luciana Fenoglio (Uni Bonn, Germany), Jürgen Kusche (Uni Bonn, Germany)

10:00 - 10:15: Impact of the ocean waves motion on the Delay/Doppler altimeters measurements
Laïba Amarouche (CLS, France), Ngan Tran (CLS, France), Damien Herrera (CLS, FRANCE), Charles-Antoine Guerin (MIO, France), Pierre Dubois (CLS, France), Jérémie Aublanc (CLS, France), François Boy (CNES, France)

10:15 - 10:30: Reducing the high-frequency noise in Jason-3 and Sentinel-3A SWH data
Ngan Tran (CLS, France), Pierre Thibaut (CLS, France), Gérard Dibarboure (CNES, France), François Boy (CNES, France), Nicolas Picot (CNES, France), Doug Vandemark (UNH, USA)

10:30 - 11:00: Coffee break

11:00 - 11:15: Sentinel-3A and Sentinel-3B Tandem Phase Evaluation of the Surface Topography Mission
Sea State Products
Chris Banks (National Oceanography Centre, United Kingdom), Christine Gommenginger (National Oceanography Centre, UK), Francisco Mir Calafat (National Oceanography Centre, United Kingdom), Helen Snaith (British Oceanographic Data Centre, UK), Nadim Dayoub (National Oceanography Centre, United Kingdom), Matthew Hammond (National Oceanography Centre, United Kingdom)
11:15 - 11:30: First SAR altimeter tandem phase: a unique opportunity to better characterize open ocean SAR altimetry signals with unfocused and focused processing
Pierre Rieu (CLS, France), Thomas Moreau (CLS, France), Matthias Raynal (CLS, France), Pierre Thibaut (CLS, France), Craig Donlon (ESA, The Netherlands), Franck Borde (ESA, The Netherlands), François Boy (CNES, France), Nicolas Picot (CNES, France), Sébastien Clerc (ACRI-ST, France)

11:30 - 11:45: Sea-ice freeboard and sea level from altimetry using fast and robust 2 dimensional retracker
Sara Fleury (LEGOS, France), Antoine Laforge (LEGOS, France), Florent Garnier (LEGOS, France), Salvatore Dinardo (He Space, Germany), Giovanni Sabatino (ESA, Italy), Jérôme Benveniste (jerome.Benveniste@esa.int, Italy)

11:45 - 12:00: Improved Retrieval Methods for Sentinel-3 SAR Altimetry over Coastal and Open Ocean and recommendations for implementation: ESA SCOOP Project Results
David Cotton (Satellite Oceanographic Consultants Ltd, United Kingdom), Thomas Moreau (CLS, France), Eduard Makhoul (isardSAT, Spain), Christine Gommenginger (National Oceanography Centre, UK), Mathilde Cancet (Noveltis, France), Luciana Fenoglio-Marc (University of Bonn, Germany), Marc Naeije (TU Delft, Netherlands), M Joana Fernandes (University of Porto, Portugal), Andrew Shaws (SKYMAT, UK), Marco Restano (SERCO/ESRIN, Italy), Américo Ambrózio (DEIMOS/ESRIN, Italy), Jérôme Benveniste (ESA-ESRIN, Italy)

12:00 - 12:30: Discussion
Precision Orbit Determination
Session chairs: Sean Bruinsma, Alexandre Couhert, Frank Lemoine
(Tue, Oct 22 2019, 09:00 - 12:30)

The Monroe Hub

09:00 - 09:15: CNES POE-F precise orbit performances for the current altimeter missions
John Moyard (CNES, France), Alexandre Couhert (CNES, France), Flavien Mercier (CNES, France), Sabine Houry (CNES, France), Hanane Ait Lakbir (CSSI, France), Clément Masson (CSSI, France)

09:15 - 09:30: Improved orbit time series for the TOPEX and Jason missions from 1992-2019
Frank Lemoine (NASA GSFC, United States), Nikita Zelensky (ESSIC, University of Maryland, USA), Alexandre Belli (Universities Space Research Association (USRA) @ NASA GSFC, USA), Brian Beckley (SGT Inc., U.S.A.), Douglas Chinn (SGT Inc., USA), Despina Pavlis (ESSIC, University of Maryland, USA)

09:30 - 09:45: Performance of the Jason-2 and Jason-3 GPSt Receivers and Resulting GPS-Based Precise Orbit Determination Solutions
Shailen Desai (Jet Propulsion Laboratory, United States), Willy Bertiger (Jet Propulsion Laboratory, United States), Bruce Haines (Jet Propulsion Laboratory, United States), Da Kuang (Jet Propulsion Laboratory, United States), Aurore Sibois (Jet Propulsion Laboratory, United States)

09:45 - 10:00: Copernicus POD Service - Model updates and validation of Sentinel-3 orbit determination
Heike Peter (PosiTim, Germany), Emilio J. Calero (GMV AD, Spain), Jaime Fernández (GMV AD, Spain), Pierre Féménias (ESA/ESRIN, Italy)

10:00 - 10:15: Precise Orbit Determination of DORIS satellites by CNES/CLS IDS Analysis Center in the frame of the next ITRF
Hugues Capdeville (CLS, France)

10:15 - 10:30: Discussion

10:30 - 11:00: Coffee break
11:00 - 11:15:  
**Performance of dynamic and ambiguity-fixed LEO orbits in SLR validation and network calibration**  
Daniel Arnold (Astronomical Institute of the University of Bern, Switzerland), Adrian Jäggi (Astronomical Institute of the University of Bern, Switzerland), Stefan Schaer (Astronomical Institute of the University of Bern, Switzerland), Ulrich Meyer (Astronomical Institute of the University of Bern, Switzerland), Linda Geisser (Astronomical Institute of the University of Bern, Switzerland)

11:15 - 11:30:  
**Analysis of Altimetry satellites SLR residuals**  
Flavien Mercier (CNES, France), Alexandre Couhert (CNES, France), John Moyard (CNES, France)

11:30 - 11:45:  
**An analytical method to propagate errors in the Altimeter system: from space to Earth (orbit, reference frame and mean sea level)**  
Pierre EXERTIER (CNRS-GRGS, France), Pascal BONNEFOND (Observatoire de Paris, SYRTE - GRGS, France), Ngoc Dung LUONG (University of Civil Engineering, Ha Noi, Viet Nam)

11:45 - 12:00:  
**Impact of satellite yaw attitude regime on in-flight calibration of low-Earth orbiter GPS antenna phase center**  
Aurore E. Sibois (Jet Propulsion Laboratory, California Institute of Technology, United States), Shaileen D. Desai (Jet Propulsion Laboratory, California Institute of Technology, United States)

12:00 - 12:15:  
**Impact of nominal and measured satellite attitude on SLR- and DORIS-derived orbits of Jason satellites and altimetry results**  
Sergei Rudenko (Deutsches Geodätisches Forschungsinstitut, Technische Universität München (DGFI-TUM), Germany), Julian Zeitlhofer (DGFI-TUM, Germany), Mathis Bloßfeld (DGFI-TUM, Germany), Denise Dettmering (DGFI-TUM, Germany)

12:15 - 12:30:  
**Discussion**

12:30 - 14:00: Lunch

**Instrument Processing: Propagation, Wind Speed and Sea State Bias**

*Session chairs:* Shannon Brown, Estelle Obligis  
(Tue, Oct 22 2019, 14:00 - 15:45)

**The Forum**

14:00 - 14:15:  
**Inspecting Jason-3 and Sentinel-3 WPD over their first 3 years of mission**  
M. Joana Fernandes (Universidade do Porto, Faculdade de Ciências; CIIMAR, Portugal), Clara Lázaro (Universidade do Porto, Faculdade de Ciências; CIIMAR, Portugal), Telmo Vieira (Universidade do Porto, Faculdade de Ciências; CIIMAR, Portugal), Nelson Pires (Universidade do Porto, Faculdade de Ciências; CIIMAR, Portugal), Eliana Vieira (Universidade do Porto, Faculdade de Ciências, Portugal)

14:15 - 14:30:  
**Altimeter 1D-Var Tropospheric Correction for Sentinel-3**  
Ralf Bennartz (Vanderbilt University, United States), Bruno Picard (Fluctus SAS, France), Frank Fell (Informus GmbH, Deutschland), Estelle Obligis (Eumetsat, Deutschland)
14:30 - 14:45:
Modelling the vertical dependence of the Wet Path Delay: application in satellite altimetry over coastal and inland waters
Telmo Vieira (Universidade do Porto, Faculdade de Ciências; Centro Interdisciplinar de Investigação Marinha e Ambiental (CIIMAR), Portugal), M. Joana Fernandes (Universidade do Porto, Faculdade de Ciências; Centro Interdisciplinar de Investigação Marinha e Ambiental (CIIMAR), Portugal), Clara Lázaro (Universidade do Porto, Faculdade de Ciências; Centro Interdisciplinar de Investigação Marinha e Ambiental (CIIMAR), Portugal), Nelson Pires (Universidade do Porto, Faculdade de Ciências; Centro Interdisciplinar de Investigação Marinha e Ambiental (CIIMAR), Portugal)

14:45 - 15:00:
Performances and stability assessment of Sentinel3 Microwave radiometers
Marie-Laure Frery (CLS, France), Mathilde Siméon (CLS, France), Pierre Féménias (ESA, Italy)

15:00 - 15:15:
High Resolution Microwave Radiometer (HRMR) on Sentinel-6
Shannon Brown (JPL, United States), Tanvir Islam (JPL, United States), Pekka Kangaslahti (JPL, United States), Isaac Ramos (JPL, United States), Sharmila Padmanabhan (JPL, United States)

15:15 - 15:30:
Next-generation radiometer instruments, algorithms, and uncertainties due to 24 GHz 5G interference
Tanvir Islam (NASA JPL, United States), Shannon Brown (NASA JPL, United States), Sidharth Misra (NASA JPL, United States)

15:30 - 15:45:
Discussion

Outreach, Education and Altimetric Data Services
Session chairs: Jessica Hausman, Vinca Rosmorduc, Margaret Srinivasan
(Tue, Oct 22 2019, 14:00 - 15:45)

The Monroe Hub

14:00 - 14:15:
The Latest Updates at PO.DAAC
Jessica Hausman (JPL, United States)

14:15 - 14:30:
The ESA CCI Knowledge Exchange: explaining climate from space with altimetry and other EO data
Stephen Plummer (ESA Climate Office, United Kingdom), Ed Pechorro (ESA Climate Office, United Kingdom), Paul Fisher (ESA Climate Office, United Kingdom), Paolo Cipollini (ESA Climate Office, United Kingdom)

14:30 - 14:45:
Ocean and Climate Change Education Using Fiction
LuAnne Thompson (University of Washington, United States), Kathie Kelly (Self, United States)

14:45 - 15:00:
Citizen science and volunteers in floateco project
Nikolai Maximenko (IPRC/SOEST, University of Hawaii, United States), Linsey Haram (Smithsonian Environmental Research Center, United States), Mary Crowley (Ocean Voyages Institute, United States), Jan Hafner (IPRC/SOEST, University of Hawaii, United States), Gregory Ruiz (Smithsonian Environmental Research Center, United States), James Carlton (Williams College, United States), Luca Centurioni (Scripps Institution of Oceanography, United States), Andrey Shcherbina (Applied Physics Laboratory, University of Washington, United States), Cathryn C Murray (Fisheries and Oceans Canada, Canada)

15:00 - 15:15:
Argonautica, altimetry from kindergarden to engineering school
Danielle De Staerke (CNES, France), Vinca Rosmorduc (CLS, France)
15:15 - 15:30: Outreach & data services showcases

15:30 - 15:45: Discussion

15:45 - 16:15: Coffee break

Poster session part 1
Session chairs: all
(Tue, Oct 22 2019, 16:15 - 18:00)

The Gallery
See list of Posters (page 24)
08:00 - 09:00: Registration and Presentation upload

**Application development for Operations**

**Session chairs:** Deirdre Byrne, Gerald Dibarboure, Gregg Jacobs, Carolina Nogueira Loddo
(Wed, Oct 23 2019, 09:00 - 10:30)

**The Monroe Hub**

- **09:00 - 09:15:** The Copernicus marine service wave reanalysis: WAVERYS
Lotfi Aouf (Division Marine et Océanographie Météo-France, France), Stephane Law-Chune (Mercator-Ocean International, France), Alice Dalphinet (Meteo-France, France), Yann Drillet (Mercator-ocean international, France)
- **09:15 - 09:30:** Water-Watch: a New Phase of the Operational Monitoring of Lakes, Wetlands, and River Reaches for Natural Hazards and Regional Security
Charon Birkett (University of Maryland, United States), Martina Ricko (KBR, USA), Hunter Yang (KBR, USA), Brian Beckley (KBR, USA)
- **09:30 - 09:45:** Utilization of Satellite Altimetry Data in Monitoring Intraseasonal Oscillations in the Indian Ocean
Subrahmanym Bulusu (University of South Carolina, United States), Heather Roman-Stork (University of South Carolina, Columbia, USA), Corinne Trott (University of South Carolina, Columbia, USA)
- **09:45 - 10:00:** Toward Higher resolution Level3 altimeter products for Assimilation Systems
Marie Isabelle Pujol (CLS, France), Yannique Faugère (CLS, France), Mounir Benkiran (MOI, France), Oscar Vergara (CLS, France), Gérard Dibarboure (CNES, France)
- **10:00 - 10:15:** Collaborative Design of Real-Time Displays of Forecast Fields for Targeted End-Users
Ted Strub (Oregon State University, United States)
- **10:15 - 10:30:** Discussion

**Regional and Global CAL/VAL for Assembling a Climate Data Record**

**Session chairs:** Pascal Bonnefond, Shailen Desai, Luisella Giulicchi, Bruce Haines, Eric Leuliette, Nicolas Picot
(Wed, Oct 23 2019, 09:00 - 12:30)

**The Forum**

- **09:00 - 09:15:** Corsica: A 20+ Years Multi-Mission Absolute Altimeter Calibration Site
Pascal Bonnefond (Observatoire de Paris - SYRTE, France), Pierre Exertier (GET, France), Olivier Laurain (Géoazur, France), Thierry Guinle (CNES, France), Pierre Féménias (ESA/ESRIN, Italy)
- **09:15 - 09:30:** The Harvest Experiment: New Results From the Platform and Moored GPS Buoys
Bruce Haines (Jet Propulsion Laboratory, California Institute of Technology, United States), Shailen Desai (Jet Propulsion Laboratory, California Institute of Technology, United States), Adam Dodge (University of Colorado, CCAR, United States), Christian Meinig (NOAA PMEL, United States), Bob Leben (University of Colorado, CCAR, United States), Michael Shannon (University of Colorado, CCAR, United States), Scott Stalin (NOAA PMEL, United States)
09:30 - 09:45:  
**Updated absolute altimeter bias results from Bass Strait, Australia**
Christopher Watson (University of Tasmania, Australia), Benoit Legresy (CSIRO, Australia), Jack Beardsley (Integrated Marine Observing System, Australia), Arthur Zhou (University of Tasmania, Australia), Matt King (University of Tasmania, Australia)

09:45 - 10:00:  
**Current Results from Multi-mission Calibrations at the Permanent Facility for Altimetry Calibration in west Crete, Greece attaining Fiducial Reference Measurement Standards**
Stelios Mortikas (Technical University of Crete, Greece), Craig Donlon (European Space Agency, The Netherlands), Pierre Féménias (European Space Agency, Italy), Demitris Galanakis (Space Geomatica, Greece), Ilias N. Tziavos (Aristotle University of Thessaloniki, Greece), George Vergos (Aristotle University of Thessaloniki, Greece), Thierry Guinle (CNES, France), Pierrick Vuilleumier (European Space Agency, The Netherlands), Mingsen Lin (National Satellite Ocean Application Service, China), Ge Chen (Ocean University of China, China), Achilles Tripolitsiotis (Space Geomatica, Greece), Xenofon Fratzis (Technical University of Crete, Greece)

10:00 - 10:15:  
**Comparisons of Jason-3 and Sentinel-3A and tide gauges**
Eric Leuliette (NOAA, United States), Amanda Plagge (NOAA/Global Science and Technology, Inc., USA)

10:15 - 10:30:  
**Discussion**

10:30 - 11:00: Coffee break

11:00 - 11:15:  
**Global Calibration and Validation of Reprocessed TOPEX Data**
Matthieu Talpe (Jet Propulsion Laboratory, United States), Jean-Damien Desjonquères (Jet Propulsion Laboratory, USA), Shailen Desai (Jet Propulsion Laboratory, USA), Bruce Haines (Jet Propulsion Laboratory, USA), Philip Callahan (Jet Propulsion Laboratory, USA), Josh Willis (Jet Propulsion Laboratory, USA)

11:15 - 11:30:  
**The first three years of Sentinel-3 altimetry – Reprocessing 2019**
Remko Scharroo (EUMETSAT, Germany), Bruno Lucas (EUMETSAT, Germany), Salvatore Dinardo (HE Space Operations GmbH, Germany), Carolina Nogueira Loddo (EUMETSAT, Germany)

11:30 - 11:45:  
**Performance of the altimetry constellation: contribution of HY2B mission**
Sylvie Labrou (CLS, France), Matthias Raynal (CLS, France), Hélène Roinard (CLS, France), Ghita Jettou (CLS, France), Emeline Cadier (CLS, France), François Bignalet Cazalet (CNES, France), Nicolas Picot (CNES, France)

11:45 - 12:00:  
**Evaluation and exploitation of CryoSat ocean products for oceanographic studies**
Chris Banks (National Oceanography Centre, United Kingdom), Francisco Mir Calafat (National Oceanography Centre, United Kingdom), Helen Snaith (British Oceanographic Data Centre, United Kingdom), Christine Gommenginger (National Oceanography Centre, United Kingdom), Andrew Shaw (SKYMAT Ltd., UK), Paolo Cipollini (Telespazio VEGA UK for ESA, UK), Nadim Dayoub (National Oceanography Centre, United Kingdom), Jérôme Bouffard (ESA, Italy), Marco Meloni (Serco for ESA, Italy)

12:00 - 12:15:  
**Global Quality Assessment of SARAL/AltiKa’s reprocessed GDR-F dataset**
GHITA JETTOU (CLS, France), Manon Rousseau (CLS, France), Annabelle Ollivier (CLS, France), Nadjé Queuvel (CLS, France), François Bignalet-Cazalet (CNES, France), Nicolas Picot (CNES, France)

12:15 - 12:30:  
**Discussion**
Coastal Altimetry

Session chairs: Florence Birol, Marcello Passaro, Ted Strub
(Wed, Oct 23 2019, 11:00 - 12:30)

The Monroe Hub

11:00 - 11:15:
Coastal sea level trends and extremes from Delay-Doppler altimetry
Luciana Fenoglio (University of Bonn, Germany), Salvatore Dinardo (HeSpace, Darmstadt, Germany), Christopher Buchhaupt (University of Bonn, Germany), Bernd Uebbing (University of Bonn, Germany), Johanna Staneva (Helmholz Zentrum Geesthacht, Germany), Jürgen Kusche (University of Bonn, Germany), Jérôme Benveniste (ESA-ESRIN, Italy)

11:15 - 11:30:
Assessment of Sentinel-3A and Sentinel-3B altimeter data in the Coastal Zone
Nadim Dayoub (National Oceanography Centre, United Kingdom), Chris Banks (National Oceanography Centre, UK), Christine Gommenginger (National Oceanography Centre, United Kingdom), Andrew Shaw (SKYMAT Ltd, UK), Helen Snaith (National Oceanography Centre, United Kingdom)

11:30 - 11:45:
Baltic+ SEAL: Building a Sea Level Product for Climate Research in a Region Featuring Jagged Coastline and Sea-ice Coverage
Felix L. Müller (Deutsches Geodätisches Forschungsinstitut der Technischen Universität München (DGFI-TUM), Germany), Marcello Passaro (DGFI-TUM, Germany), Ole B. Andersen (DTU SPACE National Space Institute, Denmark), Denise Dettmering (DGFI-TUM, Germany), Jacob L. Hoyer (Danish Meteorological Institute, Denmark), Milla Johansson (Finnish Meteorological Institute, Finland), Kristine Skovgaard Madsen (Danish Meteorological Institute, Denmark), Eero Rinne (Finnish Meteorological Institute, Finland), Rory Scarrott (MaREI Centre for Marine and Renewable Energy, Environmental Research Institute, University College Cork, Ireland), Christian Schwatke (DGFI-TUM, Germany), Florian Seitz (DGFI-TUM, Germany), Eimear Tuohy (MaREI Centre for Marine and Renewable Energy, Environmental Research Institute, University College Cork, Ireland), Laura Tuomi (Finnish Meteorological Institute, Finland), Americo Ambrozio (DEIMOS, c/o ESA-ESRIN, Italy), Mauro Restano (SERCO, c/o ESA-ESRIN, Italy), Jérôme Benveniste (European Space Agency (ESA-ESRIN), Italy)

11:45 - 12:00:
Volume Transport from In-situ and Altimetry Data Over a Wide Continental Shelf.
Loreley Lago (Centro de Investigaciones del Mar y la Atlántida (CIMA-CONICET-UBA), Argentina), Martín Saraceno (Centro de Investigaciones del Mar y la Atlántida (CIMA-CONICET-UBA), Argentina), Alberto Piola (Servicio de Hidrografía Naval Argentina (SHN), Argentina), Guillermina Paniagua (Centro de Investigaciones del Mar y la Atlántida (CIMA-CONICET-UBA), Argentina), Christine Provost (Laboratoire LOCEAN-IPSL, Sorbonne Université, France)

12:00 - 12:15:
Combining coastal altimetry and in situ observations to improve Meridional Overturning Circulation estimates: focus on the Southwestern Atlantic
Matthieu Le Henaff (Univ. of Miami/CIMAS - NOAA/AOML, United States), Marion Kersale (Univ. of Miami/CIMAS - NOAA/AOML, United States), Christopher Meinen (NOAA/AOML, United States), Renellys Perez (NOAA/AOML, United States), Maria Paz Chidichimo (Servicio de Hidrografía Naval / Instituto Franco-Argentina sobre Estudios de Clima y sus Impactos, Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina), Marcello Passaro (Deutsches Geodätisches Forschungsinstitut - TUM, Germany), Christian Schwatke (Deutsches Geodätisches Forschungsinstitut - TUM, Germany), Florence Birol (LEGOS, France), Yannice Faugère (CLS, France)

12:15 - 12:30:
Discussion

12:30 - 14:00: Lunch
Quantifying Errors and Uncertainties in Altimetry data

**Session chairs:** Michael Ablain, Joel Dorandeu, Remko Scharroo
(Wed, Oct 23 2019, 14:00 - 15:45)

The Monroe Hub

14:00 - 14:18:  
**Uncertainties in sea ice thickness products from altimetry. Towards new methods**

Garnier Florent (LEGOS, France), Sara Fleury (LEGOS, FRANCE), Tanguy Jacober (LEGOS, FRANCE), Antoine Lafarge (LEGOS, FRANCE), Frédérique Rémy (LEGOS, FRANCE), Benoît Meyssignac (LEGOS, FRANCE)

14:18 - 14:36:  
**A new way to assess and represent the error budget for any altimeter mission**

Pierre Thibaut (CLS, France), Jean Christophe Poisson (CLS, France), Marine Lievin (CLS, France), Laiba Amarouche (CLS, France), Michael Ablain (Magellanium, France), Michel Tsamados (UCL, United Kingdom), Robert Cullen (ESA, The Netherlands)

14:36 - 14:54:  
**Harmonizing the Jason-1, Jason-2, Jason-3 Time Series of Altimeter Rain Flags**

Matthieu Talpe (Jet Propulsion Laboratory, United States), Jean-Damien Desjonquères (Jet Propulsion Laboratory, USA), Shailen Desai (Jet Propulsion Laboratory, USA), Bruce Haines (Jet Propulsion Laboratory, USA)

14:54 - 15:12:  
**Lessons learned from Sentinel SARM missions in preparation of Jason-CS**

Matthias Raynal (CLS, France), Emeline Cadier (CLS, France), Sylvie Labroue (CLS, France), Thomas Moreau (CLS, France), Pierre Féménias (ESA/ESRIN, Italy), François Boy (CNES, France), Nicolas Picot (CNES, France), Remko Scharroo (EUMETSAT, Germany), Franck Borde (ESA/ESTEC, Netherlands)

15:12 - 15:30:  
**Improving the DAC de-aliasing model by combining with sub-monthly GRACE gravity data**

Jennifer Bonin (University of South Florida, United States), Himanshu Save (University of Texas at Austin, United States), Nadege Pie (University of Texas at Austin, United States)

15:30 - 15:45:  
**Discussion**

Science II: Large Scale Ocean Circulation Variability and Change

**Session chairs:** Thierry Penduff, LuAnne Thompson
(Wed, Oct 23 2019, 14:00 - 15:45)

The Forum

14:00 - 14:15:  
**Surface and Upper Ocean Circulation from the combined use of in situ and space borne observations**

Sandrine Mulet (CLS, France), Nathalie Verbrugge (CLS, France), Hélène Etienne (CLS, France), Eric Greiner (CLS, France), Stéphanie Guinehut (CLS, France)

14:15 - 14:30:  
**Volume transport and modes of variations of the Malvinas Current at 44.7°S from satellite altimetry and current-meter velocities**

Martin Saraceno (Universidad de Buenos Aires, Argentina), Ramiro Ferrari (CONICET-UBA, Argentina), Guillermima Paniagua (CONICET-UBA, Argentina), Loreley Lago (CONICET-UBA, Argentina), Alberto Piola (SHN-CONICET-UBA, Argentina), Christine Provost (UPMC-IPSL-LOCEAN, France), Camila Artana (UPMC-IPSL-LOCEAN, Argentina)
14:30 - 14:45: The Malvinas Current at the Confluence with the Brazil Current: inferences from 25 years of Mercator Ocean reanalysis. Camila Artana (UMPC LOCEAN, France), Christine Provost (Laboratoire LOCEAN-IPSL, Sorbonne Université, (UPMC, Université Paris 6), CNRS, IRD, MNHN, Paris, France), Jean-Michel Lellouche (MERCATOR-OCEAN, Parc Technologique du Canal, Ramonville St. Agne, France), Rio Marie Hélène (ESRIN-ESA European Space Agency, Largo Galileo Galilei, 2 00044 FRASCATI, RM, Italy), Ramiro Ferrari (DCAO/FCEN/UBA, CIMA/CONICET-UBA and UMI IFAECI-3351, Buenos Aires, Argentina), Nathalie Sennéchael (Laboratoire LOCEAN-IPSL, Sorbonne Université, (UPMC, Université Paris 6), CNRS, IRD, MNHN, Paris, France)

14:45 - 15:00: Causes for the intense interannual upwelling events in the tropical Indian Ocean Weiqing Han (The University of Colorado, United States)

15:00 - 15:15: Remote Forcing of the Benguela Current System Ted Strub (Oregon State University, United States), Ricardo Matano (Oregon State University, United States), Melanie Fewings (Oregon State University, United States), Corinne James (Oregon State University, United States), Vincent Combes (Oregon State University, United States)

15:15 - 15:30: Attenuating the ocean chaotic variability in altimetric observations: from band-pass filtering to machine learning Thierry Penduff (CNRS - IGE, France), Mickael Lalande (IGE, France), Redouane Lguensat (IGE, France), Sally Close (IGE, France), Sabrina Speich (LMD-ENS, France)

15:30 - 15:45: Discussion

15:45 - 16:15: Coffee break

Science III: Mesoscale and sub-mesoscale oceanography
Session chairs: Lee-Lueng Fu, Rosemary Morrow
(Wed, Oct 23 2019, 16:15 - 18:00)

The Forum

16:15 - 16:30: High-wavenumber variability in the California Current: Evaluating sub-100-km scales with high-resolution altimetry, ADCP, and model output Teresa Chereskin (Scripps Institution of Oceanography, United States), Sarah Gille (Scripps Institution of Oceanography, United States), Matthew Mazloff (Scripps Institution of Oceanography, United States), Bruce Cornuelle (Scripps Institution of Oceanography, United States), Jinbo Wang (Jet Propulsion Laboratory, United States), Dimitris Menemenlis (Jet Propulsion Laboratory, United States), Marcello Passaro (Deutsches Geodätisches Forschungsinstitut der Technischen Universität München, Germany), Christian Schwatke (Deutsches Geodätisches Forschungsinstitut der Technischen Universität München, Germany), Cesar Rocha (Woods Hole Oceanographic Institution, United States)

16:30 - 16:45: Constrained scales in ocean forecasting Gregg Jacobs (Naval Research Laboratory, United States), Joseph D’Addezio (Naval Research Laboratory, USA), Brent Bartels (Perspecta, USA), Pete Spence (Perspecta, USA), Max Yaremchuk (Naval Research Laboratory, USA), Bob Helber (Naval Research Laboratory, USA), Scott Smith (Naval Research Laboratory, USA), Clark Rowley (Naval Research Laboratory, USA)

16:45 - 17:00: The ocean mesoscale regime of the reduced-gravity quasi-geostrophic model Roger Samelson (Oregon State University, United States), Dudley Chelton (Oregon State University, USA), Michael Schlax (Oregon State University, USA)
17:00 - 17:15:  
**SWOT-ACC, Satellite and ship-based investigation of mesoscale-submesoscale interactions in the Antarctic Circumpolar Current.**  
Benoit LEGRESY (CSIRO, Australia), Helen PHILLIPS (University of Tasmania, IMAS, Australia), Kurt POLZIN (WHOI, United States), Nathan BINDOFF (University of Tasmania, IMAS, Australia), Clement AUGER (CSIRO, Australia)

17:15 - 17:30:  
**Nonlinear short-term SSH evolution during the 2015/16 El Nino event in the tropical western Pacific**  
Bo Qiu (University of Hawaii at Manoa, United States), Shuiming Chen (University of Hawaii at Manoa, USA), Brian Powell (University of Hawaii at Manoa, USA), Patrick Colin (Coral Reef Research Foundation, Palau), Dan Rudnick (Scripps Institution of Oceanography, USA), Martha Schonau (Scripps Institution of Oceanography, USA)

17:30 - 17:45:  
**Synergetic use of altimetry and surface drifters to increase resolution and accuracy of sea level anomaly and geostrophic current maps in the Gulf of Mexico**  
Sandrine Mulet (CLS, France), Hélène Etienne (CLS, France), Maxime Ballarotta (CLS, France), Yannice Faugere (CLS, France), Gérald Dibarboure (CNES, France), Nicolas Picot (CNES, France)

17:45 - 18:00:  
**Discussion**
08:00 - 09:00: Registration and Presentation upload

The Geoid, Mean Sea Surfaces and Mean Dynamic Topography

Session chairs: Ole B. Andersen, Yannice Faugere
(Thu, Oct 24 2019, 09:00 - 10:30)

The Monroe Hub

09:00 - 09:15:
Marine Gravity from the first two cycles of the Jason-2 LRO extension of Life mission
Ole Baltazar Andersen (Dr, Denmark), Adili Abulatitijiang (DTU Space, Denmark)

09:15 - 09:30:
ESA’s new satellite-only gravity field model via the direct approach (DIR-R6)
Sean Bruinsma (CNES, France)

09:30 - 09:45:
New CNES-CLS18 Mean Dynamic Topography of the global ocean from altimetry, gravity and in-situ data
Sandrine Mulet (CLS, France), Marie-Hélène Rio (ESA, Italy), Hélène Etienne (CLS, France), Nicolas Picot (CNES, France), Gérald Dibarboure (CNES, France)

09:45 - 10:00:
A new combined mean dynamic topography model – DTUH19MDT
Per Knudsen (DTU Space, Denmark), Ole Andersen (DTU Space, Denmark), Nikolai Maximenko (University of Hawaii at Manoa, USA), Jan Hafner (University of Hawaii at Manoa, USA)

10:00 - 10:15:
Improvements and limitations of recent mean sea surface models: importance for Sentinel-3.
Marie Isabelle Pujol (CLS, France), Yannice Faugère (CLS, France), Gérald Dibarboure (CNES, France), Nicolas Picot (CNES, France)

10:15 - 10:30:
Discussion

Tides, internal tides and high-frequency processes

Session chairs: Loren Carrere, Florent Lyard, Richard Ray
(Thu, Oct 24 2019, 09:00 - 10:30)

The Forum

09:00 - 09:15:
Impact of internal tide correction on the DUACS maps accuracy
Yannice Faugere (CLS Space Oceanography Division, France), Clement Ubelmann (CLS, France), Loren Carrere (CLS, France), Chloe Durand (CLS, France), Gerald Dibarboure (CNES, France)

09:15 - 09:30:
Progress towards GOT5: high latitudes and minor constituents
Richard Ray (NASA/GSFC, United States)

09:30 - 09:45:
Internal tides fate and energy budget off the Amazonian shelf
Florent Lyard (CNRS/LEGOS, France), Loren Carrere (CLS, France), Michel Tchilibou (LEGOS, France), Jerome Chanut (MERCATOR-OCEAN, France), Simon Barbot (LEGOS/CLS, France)
09:45 - 10:00: Decomposition of the multimodal multidirectional M2 internal tide field  
Zhongxiang Zhao (University of Washington, United States), Jinbo Wang (Jet Propulsion Laboratory, California Institute of Technology, United States), Dimitris Menemenlis (Jet Propulsion Laboratory, California Institute of Technology, United States), Lee-Lueng Fu (Jet Propulsion Laboratory, California Institute of Technology, United States), Shuiming Chen (University of Hawaii at Manoa, United States), Bo Qiu (University of Hawaii at Manoa, United States)

10:00 - 10:15: Comparison of global and regional internal tide and gravity wave models with observations  
Brian Arbic (University of Michigan, United States)

10:15 - 10:30: Discussion

10:30 - 11:00: Coffee break

CFOSAT
Session chairs: Lotfi Aouf, Danièle Hauser, Doug Vandemark  
(Thu, Oct 24 2019, 11:00 - 12:30)

The Monroe Hub

11:00 - 11:15: CFOSAT: New wind and wave observations from the nadir and near-nadir SWIM Ku-Band instrument  
Daniele HAUSER (CNRS, France), lotfi Aouf (Meteo-France, France), Bertrand Chapron (Ifremer-Lops, France), Fabrice Collard (Ocean Data Lab, France), Alice Dalphinet (Meteo-France, France), Lauriane Delaye (Acri-ST, France), Christophe Dufour (CNRS-Latmos, France), Flavien Gouillon (CNES, France), Antoine Grouazel (Ifremer-Lops, France), Gilles Guittot (Ocean Data Lab, France), Laura Hermoz (CNES, France), Jean-Michel Lachiver (CNES, France), Alexey Mironov (ocean data lab, France), Alexis Mouche (Ifremer-Lops, France), Frederic Nougier (Ifremer-Lops, France), Annabelle Ollivier (CLS, France), Raquel Rodriguez (CNES, France), Patricia Schippers (ACRI-ST, France), Céline Tison (CNES, France), Cedric Tourain (CNES, France)

11:15 - 11:30: Performance analysis of the SWIM ground-segment solution for retracking nadir echos  
Annabelle Ollivier (cls, France), Fanny Piras (cls, France), Maeva Dalila (cls, France), Gautier Dekeyne (cls, France), Cedric Tourain (cnes, France), Jean Michel Lachiver (cnes, France), Alice Dalphinet (MeteoFrance, France)

11:30 - 11:45: Validation of CFOSAT data in the German Bight and Baltic Sea  
Luciana Fenoglio (University of Bonn, Germany), Christopher Buchhaupt (University of Bonn, Germany), Jürgen Kusche (University of Bonn, Germany)

11:45 - 12:00: Rain flags for SWIM on-board CFOSAT: methods and assessment  
Bruno PICARD (Fluctus SAS, France), Mathilde Siméon (CLS, France), Jean-Christophe Poisson (CLS, France), Jean-Alexis Daquzé (CLS, France), Victor Gressani (IFREMER, France), Annabelle Ollivier (CLS, France), Cédric Tourain (CNES, France)

12:00 - 12:15: The assimilation of CFOSAT wave data in the wave model MFWAM: Ready for operational use?  
Lotfi Aouf (Division Marine et Océanographie Météo-France, France), Alice Dalphinet (Meteo-France, France), Danièle Hauser (CNRS/LATMOS, France), Bertrand Chapron (IFREMER, France), cédric tournai (CNES, France)

12:15 - 12:30: Discussion
The Future of Altimetry

Session chairs: Pascal Bonnefond, Craig Donlon, Eric Leuliette, Remko Scharroo, Josh Willis
(Thu, Oct 24 2019, 11:00 - 12:30)

The Forum

11:00 - 11:15:
The altimeter product suite for Sentinel-6/Jason-CS mission
Remko Scharroo (EUMETSAT, Germany), Carolina Nogueira Loddo (EUMETSAT, Germany), Cristina Martin-Puig (EUMETSAT, Germany), Bruno Lucas (EUMETSAT, Germany)

11:15 - 11:30:
Overview and Status of the Copernicus Polar Ice and Snow Topography Altimeter (CRISTAL) Mission
Michael Kern (European Space Agency, Netherlands), Robert Cullen (ESA, Netherlands), Tania Casal (ESA, Netherlands), Tommaso Parrinello (ESA, Italy), Michael Ludwig (ESA, Netherland), Gerhard Ressler (ESA, Netherlands), Patricia Marcos (ESA, Netherlands), Ignacio Navas Traver (ESA, Netherlands), Claudia Verlinden Verdier (ESA, Netherlands), Antonio Gabrielle (ESA, Netherlands), Arnaud Lecuyot (ESA, Netherlands), Mark Drinkwater (ESA, Netherlands), Jerome Bouffard (ESA, Italy), Cristina Martin-Puig (EUMETSAT, Germany), Ole Andersen (DTU Space, Denmark), Annett Bartsch (BEGOS, Austria), Sinead Farrell (University of Maryland, USA), Sara Fleury (LEGOS, France), Simon Gascoin (CNRS, France), Amandine Guillot (CNES, France), Angelika Humbert (AWI, Germany), Eero Rinne (FMI, Finland), Andrew Shepherd (University of Leeds, UK), Michiel van den Broeke (Utrecht University, Netherlands), John Yackel (University of Calgary, Canada)

11:30 - 11:45:
Observing the Ocean Surface Topography at High Resolution by the Surface Water and Ocean Topography (SWOT) Mission
Lee-Lueng Fu (JPL - CalTech, United States), Rosemary Morrow (LEGOS/OMP CNRS/CNES/IRD/University Toulouse, France)

11:45 - 12:00:
Perspectives for Surface Current reconstruction combining future high-resolution Altimetry and Doppler current data
Clement Ubelmann (CLS, France), Gerald dibarboure (cnrs, france), Lucile gaultier (ODL, france), Yannice faugere (CLS, france)

12:00 - 12:15:
First Results of Grazing Angle GNSS-R Altimetry from Sea Ice and Ocean Surfaces Using the Spire CubeSat Constellation
Dallas Masters (Spire Global, Inc., United States), Vu Nguyen (Spire Global, Inc., United States), Takayuki Yuasa (Spire Global Singapore PTE Ltd., Singapore), Oleguer Nogués-Correig (Spire Global UK Ltd., UK), Linus Tan (Spire Global Singapore PTE Ltd., Singapore), Timothy Duly (Spire Global, Inc., USA)

12:15 - 12:30:
Discussion

12:30 - 14:00: Lunch

Poster session part 2

Session chairs: (Thu, Oct 24 2019, 14:00 - 15:45)

The Gallery
See list of Posters (page 24)

15:45 - 16:15: Coffee break
Science IV: Altimetry for Cryosphere and Hydrology

Session chairs: Charon Birkett, Jérôme Bouffard, Jean-François Crétaux, Sinead Farrell
(Thu, Oct 24 2019, 16:15 - 18:00)

The Forum

16:15 - 16:30:
Assessment of ICESat-2 Performance over the Arctic Ocean During its First Year in Orbit
Sinead Farrell (University of Maryland, United States), Kyle Duncan (University of Maryland, USA), Ellen Buckley (University of Maryland, United States), Marissa Dattler (University of Maryland, United States), John Kuhn (NOAA Laboratory for Satellite Altimetry, United States), Laurence Connor (NOAA Laboratory for Satellite Altimetry, United States), Eric Leuliette (NOAA Laboratory for Satellite Altimetry, USA)

16:30 - 16:45:
Sentinel-3 LAND Altimetry products and intended evolutions
Pierre Femenias (ESA, Italy), Sylvie Labroue (CLS, France), Matthias Raynal (CLS, France), Jouzeau Arnaud (CLS, France), Nicolas Taburet (CLS, France), Graham Quartly (PML, UK), Alan Muir (MSSL, UK), McMillan Malcolm (CPOM - Univ of Lancaster, UK)

16:45 - 17:00:
River levels from multi-mission satellite altimetry, a statistical approach
Karina Nielsen (DTU Space, Denmark), Angelica Tarpanelli (Research Institute for Geohydrological Protection, Italy), Elena Zakharova (Institute of Water Problem, RAS, Moscow, Russia), Jérôme Benveniste (European Space Agency, Italy)

17:00 - 17:15:
Status and evolutions of ESA CryoSat data products
Jerome Bouffard (European Space Agency - ESA, Italy), Marco Meloni (SERCO c/o ESA, Italy), Tommaso Parrinello (ESA, Italy)

17:15 - 17:30:
Snow depth on sea ice from altimetry for 2013-2018 Arctic and Austral winters
Sara Fleury (LEGOS/CTOH, France), Florent Garnier (LEGOS/CTOH, France), Frédérique Rémy (LEGOS, France), Florence Birol (LEGOS/CTOH, France), Jérôme Bouffard (ESA, Italy)

17:30 - 17:45:
Delivering the Lake Essential Climate Variables - an update from ESA CCI Lakes
Jean-François Crétaux (LEGOS, France), Simis Stefan (PML, United Kingdom), Calmettes Beatriz (CLS, France), Merchant Chris (University of Reading, Unit Kingdom), Duguay Claude (H2O Geomatics, Canada), Giardino Claudia (CNR, Italy), Coulon Bruno (CLS, France), Hervé Yesou (SERTIT, France), Eirik Malnes (NORUT, Norway), Pablo Blanco (TRE-ALTAMIRA, Spain)

17:45 - 18:00:
Discussion
OSTST Closing Plenary Session
Session chairs: Pascal Bonnefond, Craig Donlon, Eric Leuliette, Remko Scharroo, Josh Willis
(Fri, Oct 25 2019, 09:00 - 12:30)

The Forum

09:00 - 11:50:
Splinters meeting summaries

09:00 - 09:10:
Application development for Operations summary

09:10 - 09:20:
Instrument processing (Propagation, Wind Speed and Sea State Bias) summary

09:20 - 09:30:
Instrument processing (Measurement and retracking) summary

09:30 - 09:40:
Outreach, Education & Altimetric data services summary

09:40 - 09:50:
Precision Orbit Determination summary

09:50 - 10:00:
Quantifying Errors and Uncertainties in Altimetry Data summary

10:00 - 10:10:
Regional and Global CAL/VAL for Assembling a Climate Data Record summary

10:10 - 10:20:
The Geoid Mean Sea Surfaces and Mean Dynamic Topography summary

10:20 - 10:30:
Tides, internal tides and high-frequency processes summary

10:30 - 11:00: Coffee break

11:00 - 11:20:
Science Results from Satellite Altimetry summary

11:20 - 11:30:
Coastal altimetry summary

11:30 - 11:40:
CFOSAT summary

11:40 - 11:50:
The Future of Altimetry summary

11:50 - 12:00:
Jason/GDR status and plans
Nicolas Picot (CNES, France)

12:00 - 12:30:
Discussion, summary and recommendations

12:30 - 14:00: Lunch
Posters

Science I: Climate data records for understanding the causes of global and regional sea level variability and change

Session chairs: Benjamin Hamlington, Benoit Meyssignac

Tue, Oct 22 2019, 16:15 - 18:00 - The Gallery

Thu, Oct 24 2019, 14:00 - 15:45 - The Gallery

SC1_001 - Relationship between Sea Level and Sea Surface Salinity in the Maritime Continent
Severine Fournier (JPL), Tony Lee (JPL)

SC1_002 - Impact of 2014-2016 El Niño on the South Indian Ocean heat content: local versus remote forcing
Denis Volkov (NOAA-AOML/University of Miami), Michael Rudko (NOAA-AOML/University of Miami), Sang-Ki Lee (NOAA-AOML), Hong Zhang (UCLA)

SC1_003 - Investigating vertical land motion and potential systematic errors in altimetry using a filter-based estimation approach
Mohammad-Hadi Rezvani ( Discipline of Geography and Spatial Sciences, University of Tasmania), Chris Watson ( Discipline of Geography and Spatial Sciences, University of Tasmania), Matt King ( Discipline of Geography and Spatial Sciences, University of Tasmania), Benoit Legresy (CSIRO Marine and Atmospheric Research)

SC1_004 - Investigating sea state trends and variability with new climate-quality satellite altimeter products
Ben Timmermans (National Oceanography Centre (UK)), Christine Gommenginger (National Oceanography Centre (UK))

SC1_005 - Observational constraint on greenhouse gas and aerosol contributions to global ocean heat content changes
Benoit Meyssignac (CNES/LEGOS), Elodie Charles (CLS), Aurelien Ribes (CNRM, Météo-France)

SC1_006 - Investigating Regional Sea Level Budget Closure During the Altimeter Era
Thomas Harvey (University of Colorado Boulder), Ben Hamlington (NASA Jet Propulsion Laboratory), Steve Nerem (University of Colorado Boulder), Thomas Frederikse (NASA Jet Propulsion Laboratory)

SC1_007 - Extended Global Mean Sea Level Budget Study
Hamlington Benjamin (NASA Jet Propulsion Laboratory), J.T. Reager (NASA JPL), Hrishi Chandanpurkar (NASA JPL)
**Instrument Processing: Measurement and Retracking**

*Session chairs:* Francois Boy, Phil Callahan, Robert Cullen, Jean-Damien Desjonqueres, Alejandro Egido, Marco Fornari, Cristina Martin-Puig, Walter H.F. Smith

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**IPM_001 - Applying the pulse-pair processing to high PRF nadir altimeter data: sensitivities to geophysical parameters and possible applications**

Pierre Rieu (CLS), François Soulat (CLS), Thomas Moreau (CLS), François Boy (CNES)

**IPM_002 - Exploring the potential of Sentinel-3 fully-focused SAR altimeter range data for enhanced detection of coastal currents along the Northwestern Atlantic Shelf**

Hui Feng (University of New Hampshire), Alejandro Egido (NOAA – Laboratory for Satellite Altimetry), Doug Vandemark (University of New Hampshire)

**IPM_003 - Evaluation of FF-SAR Altimetry Observations over the Open Ocean**

Alejandro Egido (NOAA / GST Inc.), Furqan Ahmed (NOAA / GST Inc.)

**IPM_004 - Impact of the Sentinel-3A SRAL PTR Evolution on the L2 Marine Measurements**

Salvatore Dinardo (He Space), Michele Scagliola (ARESYS), Lisa Rechia (ARESYS)

**IPM_005 - ICESat-2 Altimetry of the Open Ocean**

James Morison (Polar Science Center APL/Univ. of Wash.), Suzanne Dickinson (Polar Science Center APL/Univ. of Wash.), David Hancock (NASA Goddard Space Flight Center), Leeanne Roberts (NASA Goddard Space Flight Center), John Robbins (john.w.robbins@nasa.gov)
**Precision Orbit Determination**

**Session chairs:** Sean Bruinsma, Alexandre Couhert, Frank Lemoine

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**Thu, Oct 24, 2019, 14:00 - 15:45 - The Gallery**

**POD_001 - Single-receiver ambiguity resolution for Sentinel-3 Precise Orbit Determination at the Copernicus POD Service**
Emilio Calero (GMV AD), Heike Peter (PosiTim UG), Jaime Fernández (GMV AD), Pierre Féméniás (ESA/ESRIN)

**POD_002 - Status of precise orbit determination of altimetry satellites at DGFI-TUM**
Sergei Rudenko (Deutsches Geodätisches Forschungsinstitut, Technische Universität München (DGFI-TUM)), Mathis Bloßfeld (DGFI-TUM), Julian Zeitlhöfler (DGFI-TUM)

**POD_003 - Performance of the Sentinel-3 A and B GPS Receivers and associated GPS-Based Orbit Solutions**
Aurore Sibois (Jet Propulsion Laboratory, California Institute of Technology), Shailen D. Desai (Jet Propulsion Laboratory, California Institute of Technology), Bruce J. Haines (Jet Propulsion Laboratory, California Institute of Technology)
Instrument Processing: Propagation, Wind Speed and Sea State Bias

Session chairs: Shannon Brown, Estelle Obligis

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**IPC_001** - Analysis of surface wind speed from Jason-3 and Sentinel-3A in the Peru-Chile EBUS
Orlando Astudillo (CEAZA), Boris Dewitte (LEGOS), Abderrahim Bentamy (LOPS), Frédéric Frappart (LEGOS)

**IPC_002** - Sea state bias for retracked TOPEX altimeter data
Hui Feng (University of New Hampshire), Doug Vandemark (University of New Hampshire), Ngan Tran (CLS/Space Oceanography Division), Shailen Shailen (JPL)

**IPC_003** - Understanding the level of error within sea state bias models
Alexa Putnam (University of Colorado, Colorado Center for Astrodynamics Research), Shailen Desai (Jet Propulsion Laboratory), Robert Steven Nerem (University of Colorado, Colorado Center for Astrodynamics Research)

**IPC_004** - A new side-lobe correction for Sentinel-3A Microwave Radiometer: definition and assessment
Mathilde Siméon (CLS), Marie-laure Frery (CLS), Franck Borde (ESA), Christophe Goldstein (CNES)

**IPC_005** - From ERA-Interim to ERA5: impact of the latest ECMWF reanalysis in the computation of radar altimeter Wet Path Delays
Telmo Vieira (Universidade do Porto, Faculdade de Ciências; Centro Interdisciplinar de Investigação Marinha e Ambiental (CIIMAR)), M. Joana Fernandes (Universidade do Porto, Faculdade de Ciências; Centro Interdisciplinar de Investigação Marinha e Ambiental (CIIMAR)), Clara Lázaro (Universidade do Porto, Faculdade de Ciências; Centro Interdisciplinar de Investigação Marinha e Ambiental (CIIMAR)), Nelson Pires (Universidade do Porto, Faculdade de Ciências; Centro Interdisciplinar de Investigação Marinha e Ambiental (CIIMAR))

**IPC_006** - Small scales variability of the wet tropospheric correction
Marie-Laure Frery (CLS), Bruno Picard (Fluctus SAS), Francois Soulat (CLS), Nicolas Picot (CNES), Gérald Dibarboure (CNES), Nathalie Steunou (CNES)

**IPC_007** - Side-by-side evaluation of Ku- and Ka-band sea state bias variability using Jason-3 and AltiKa data
Doug Vandemark (Univ. of New Hampshire), Hui Feng (Univ. of New Hampshire), Ngan Tran (CLS), Bertrand Chapron (IFREMER)
Outreach, Education and Altimetric Data Services

Session chairs: Jessica Hausman, Vinca Rosmorduc, Margaret Srinivasan

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ODS_001 - Outreaching hydrology from space & SWOT (updates)
Vinca Rosmorduc (CLS), Nicolas Picot (CNES)

ODS_002 - RUS: Research and User Support for Sentinel Products
Simon Boitard (NOVELTIS), Mathilde Cancet (NOVELTIS), Eric Jeansou (NOVELTIS), Florian Poustomis (NOVELTIS), Eric Guzzonato (CS Srl), Jordi Farres (ESA)

ODS_003 - Exploring ocean eddy characteristics through the DynEd atlas
Yannice Faugere (CLS Space Oceanography Division), Antoine Delepoulle (CLS), Nicolas Granier (CLS), Alexandre Stegner (LMD), Briac Levu (LMD)

ODS_004 - TUDA Bo: a G-POD service for SAR and RDSAR Products
Luciana Fenoglio (University of Bonn), Christopher Buchhaupt (University of Bonn)

ODS_005 - PO.DAAC’s Redesigned Web Portal
Jessica Hausman (JPL), Sandra Cosic (Raytheon)

ODS_006 - PO.DAAC in the Cloud: Data Services and Access
Jessica Hausman (JPL), Michael Gangli (JPL), Michelle Gierach (JPL), Catalina Oaida (Raytheon), Suresh Vannan (JPL)

ODS_007 - Some cool things we do with ERDDAP
John Wilkin (Rutgers University)

ODS_008 - Aviso+ products & services: what's new?
Laurent Soudarin (CLS), Françoise Mertz (CLS), Vinca Rosmorduc (CLS), Catherine Schgounn (CLS), Caroline Mercier (Akka), Thierry Guinle (CNES), Florence Birol (LEGOS/CTOH)

ODS_009 - Feedback loops in product development for Sentinel-3 and Sentinel-6 altimeter missions
Remko Scharroo (EUMETSAT), Carolina Nogueira Loddo (EUMETSAT), Cristina Martin-Puig (EUMETSAT), Bruno Lucas (EUMETSAT), Estelle Obligis (EUMETSAT)

ODS_010 - Altimetry Applications Program Status
Margaret Srinivasan (Jet Propulsion Laboratory, California Institute of Technology), Gary Geller (Jet Propulsion Laboratory, California Institute of Technology), Adeline Gicquel-Brodtke (Jet Propulsion Laboratory, California Institute of Technology)

ODS_011 - SAR and SARin Altimetry Processing on Demand for Cryosat-2 and Sentinel-3 at ESA G-Pod
Jérôme Benveniste (ESA/ESRIN), Salvatore Dinaro (He Space/EUMETSAT), Giovanni Sabatino (Progressive Systems/ESRIN), Marco Restano (SERCO c/o ESA/ESRIN), Amélio Ambrózio (DEIMOS/ESRIN)

ODS_012 - The BRAT and GUT Couple: Broadview Radar Altimetry and GOCE User Toolboxes
Jérôme Benveniste (ESA/ESRIN), Amélio Ambrózio (DEIMOS/ESRIN), Marco Restano (SERCO c/o ESA/ESRIN)

ODS_013 - NOAA CoastWatch/OceanWatch Altimetry Products
Jessica Burns (GST/NOAA), John Kuhn (NOAA), Eric Leuliette (NOAA)

ODS_014 - Homogeneous along-track sea level anomalies (Level-2+) data set for all altimetry missions
Sabine Philippis (CLS), Marine Lievin (CLS), Isabelino Denis (CNES), Thierry Guinle (CNES), Carolina Noguerea Loddo (EUMETSAT)

ODS_015 - CTOH altimetry products for ocean, ice and continental surfaces applications
Sara Fleury (LEGOS), Florence Birol (LEGOS), Fabien Blarel (LEGOS), Fabien Leger (LEGOS), Fernando Nino (LEGOS), Frederic Frappart (LEGOS), Denis Blumstein (CNES), Rosemary Morrow (LEGOS/CTOH)
**Application development for Operations**
*Session chairs: Deirdre Byrne, Gerald Dibarboure, Gregg Jacobs, Carolina Nogueira Loddo*

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**APOP_001 - Multi-Scale Assimilation of Simulated SWOT Observations**
Joseph D'Addezio (Naval Research Laboratory), Innocent Souopgui (University of New Orleans), Clark Rowley (Naval Research Laboratory), Scott Smith (Naval Research Laboratory), Gregg Jacobs (Naval Research Laboratory), Robert Helber (Naval Research Laboratory), Max Yaremchuk (Naval Research Laboratory)

**APOP_002 - Wave Model Confidence Index: A metocean decision support tool**
Chafik Skandrani (NOVELTIS), Eric Munesa (NOVELTIS), Léo Grignon (NOVELTIS)

**APOP_003 - CMEMS Level-3 Near-Real-Time Significant Wave Height and Spectral Parameters derived from altimetry and SAR measurements**
Elodie Charles (CLS), Romain Husson (CLS), Alexis Mouche (IFREMER), Nicolas Taburet (CLS), Guillaume Dodet (IFREMER)

**APOP_004 - Assimilation of high frequency altimeter wave data in regional wave model for the french coastal areas**
Alice Dalphinet (Météo-France), Celia Louarn (Météo-France), Lotfi Aouf (Météo-France), Annabelle Ollivier (CLS), Salvatore Dinardo (He Space)

**APOP_005 - Maximizing the impact of altimetry measurements in data assimilation with a high resolution model**
Zhijin Li (JPL), Wang Jinbo (JPL), Archer Matthew (JPL), Fu Lee-Lueng (JPL)

**APOP_006 - Impact of altimetry observations in the Mercator Ocean real time monitoring and forecasting systems**
Elisabeth Remy (Mercator Ocean International), Mathieu Hamon (Mercator Ocean International), Mourir Benkiran (Mercator Ocean International)

**APOP_007 - Improving DUACS Sea Level products with CFOSAT and HY2B**
Yannice Faugere (CLS Space Oceanography Division), Isabelle Pujol (CLS), Guillaume Taburet (CLS), Annabelle Ollivier (CLS), Gerald Dibarboure (CNES), Nicolas Picot (CNES)

**APOP_008 - NOAA's Jason Products**
David Donahue (NOAA/NESDIS), Deirdre Byrne (NOAA/NESDIS), Richardson Donald (Columbus Technology), Yongsheng Zhang (NOAA/NESDIS/NCEI)

**APOP_009 - Jason-2 and Jason-3 Near-Real Time Products Latency over the Past Year**
Donald Richardson (Columbus Technology), David Donahue (NOAA/NESDIS)

**APOP_010 - Satellite altimetry observations of extreme winds and waves, and special editing required for Jason-2 Geodetic Mission data**
Walter Smith (NOAA Lab for Satellite Altimetry), Frances Achorn (NOAA Ocean Prediction Center), Alejandro Egido (NOAA Laboratory for Satellite Altimetry), Eric Leuliette (NOAA Laboratory for Satellite Altimetry), Graham Quartly (Plymouth Marine Laboratory), Joseph Sienkiewicz (NOAA Ocean Prediction Center)

**APOP_011 - New Developments for NOAA's operational upper Ocean Heat Content product suite**
Deirdre Byrne (NOAA), Eileen Maturi (NOAA), Jessica Burns (NOAA), Eric Leuliette (NOAA)

**APOP_012 - A REAL-TIME PRODUCT TO HELP OCEAN CLEANUP OPERATIONS**
Nikolai Maximenko (IPRC/SOEST, University of Hawaii), Jan Hafner (IPRC/SOEST, University of Hawaii)
Regional and Global CAL/VAL for Assembling a Climate Data Record

Session chairs: Pascal Bonnefond, Shailen Desai, Luisella Giulicchi, Bruce Haines, Eric Leuliette, Nicolas Picot

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CVL_001 - Regional in situ CalVal of Sentinel-3 altimeter range at non-dedicated sites
Mathilde Cancet (NOVELTIS), Pascal Bonnefond (OBSPM/SYRTE), Christopher Watson (University of Tasmania), Bruce Haines (NASA/JPL), Florent Lyard (LEGOS/OMP/CNRS), Olivier Laurain (OCA/GEAZUR), Pierre Féménias (ESA/ESRIN)

CVL_002 - CWPIES, a shallow water current, waves and pressure inverted echo sounder for higher resolution satellite altimetry calibration and validation.
Benoit LEGRESY (CSIRO), Christopher WATSON (University of Tasmania), Sam CARENTZ (CSIRO)

CVL_003 - In Situ Measurements for Satellite Altimeter Calibration and Validation using LiDAR Systems
Adam Dodge (University of Colorado Boulder), Robert Lehen (University of Colorado Boulder), Michael Shannon (University of Colorado Boulder), Bruce Haines (NASA Jet Propulsion Laboratory)

CVL_004 - Round robin assessment of radar altimeter LRM and SAR retracking algorithms for significant wave height.
Florian Schlembach (Technische Universität München), Marcello Passaro (Deutsches Geodätisches Forschungsinstitut, Technische Universität München), Graham Quarterly (Plymouth Marine Laboratory (PML)), Francesco Nencioli (Plymouth Marine Laboratory (PML)), Andrey Kurekin (Plymouth Marine Laboratory (PML)), Jean François Piolle (Laboratoire d’Océanographie Physique et Spatiale (LOPS)), CNRS, IRD, Iffrem, IUEM, Univ. Brest), Paolo Cipollini (Telespazio VEGA UK for ESA Climate Office, ESA-ECSAT), Christian Schwatke (Deutsches Geodätisches Forschungsinstitut, Technische Universität München (DGFI-TUM)), Denise Dettmering (Deutsches Geodätisches Forschungsinstitut, Technische Universität München (DGFI-TUM)), Florian Seitl (Deutsches Geodätisches Forschungsinstitut, Technische Universität München (DGFI-TUM)), Craig Donlon (European Space Agency, ESA-ESTEC/EOP-SME)

CVL_005 - Improving Conventional Altimetry SSH observability: Global assessment of SSH datasets derived from innovative LRM retrackers
Matthias Raynal (CLS), Hélène Roinard (CLS), Emeline Cadier (CLS), Sylvie Labroue (CLS), Pierre Thibault (CLS), Fanny Piras (CLS), Nicolas Picot (CNES), François Boy (CNES)

CVL_007 - Results from Independent and Inter-Satellite Calibration and Validation of Jason-3 and Jason-2
Matthieu Talpe (Jet Propulsion Laboratory), Jean-Damien Desjonquères (Jet Propulsion Laboratory), Shailen Desai (Jet Propulsion Laboratory), Bruce Haines (Jet Propulsion Laboratory)

CVL_008 - Jason-2 mission performance
Hélène Roinard (CLS), Laure MICHAUD (CLS), François BIGNALET-CAZALET (CNES), Nicolas PICOT (CNES)

CVL_009 - Jason-3 mission performance towards GDR-F
Hélène Roinard (CLS), Laure MICHAUD (CLS), Marine LIEVIN (CLS), François BIGNALET-CAZALET (CNES), Nicolas PICOT (CNES)

CVL_010 - Assessment of the last TOPEX SideB reprocessing
Hélène Roinard (CLS), Laure MICHAUD (CLS), François BIGNALET-CAZALET (CNES), Nicolas PICOT (CNES)

CVL_011 - CryoSat-2 Long-term Ocean Data Analysis and validation
Marc Naeije (TU Delft), Ernst Schrama (TU Delft), Jerome Bouffard (ESRIN-ESA)

CVL_012 - The Altimeter Sea Level Climate Data Record in the Copernicus Climate Service (C3S)
Jean-François Legeais (CLS), Guillaume Taburet (CLS), Pierre Prandi (CLS), Antoine Delepouille (CLS), Yannice Faugere (CLS), Isabelle Pujol (CLS)
Coastal Altimetry
Session chairs: Florence Birol, Marcello Passaro, Ted Strub

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COAST_001 - A RIP-based SAR Retracker and its application in North East Atlantic with Sentinel-3
Salvatore Dinardo (HeSPACE), Luciana Fenoglio-Marc (University of Bonn), Matthias Becker (TU Darmstadt), Remko Scharroo (EUMETSAT), Maria Joana Fernandes (University of Porto), Joanna Staneva (Helmholz Zentrum Geesthacht), Jérôme Benveniste (ESA)

COAST_002 - The new generation of high-resolution X-TRACK/ALES regional altimetry product
Fabien LÉGER (LEGOS / CTOH), Florence Birol (LEGOS / CTOH), Fernando Niño (LEGOS / CTOH), Marcello Passaro (DGFI-TUM), Christian Schwatke (DGFI-TUM)

COAST_003 - Spaceborne coastal altimetry for monitoring slope current intrusion events into the Gulf of Lion
Daniele Casella (ISAC-CNR), Marco Meloni (Serco-ESA), Anne Petrenko (MIO - Institut Méditerranéen d), Andrea M. Doglioli (MIO - Institut Méditerranéen d), Jerome Bouffard (ESA-ESRIN)

COAST_004 - Sea level anomalies using altimetry, model and tide gauge along the African coasts in the Eastern Tropical Atlantic Ocean: inter-comparison and temporal variability

COAST_005 - Variability of Coastal circulation in the Gulf of Guinea using altimetry data
Kouacou BOSSON (Felix Houphouet-Boigny University, Cote d'Ivoire), Sabine ARNAULT (LOCEAN/IPSL Université Pierre et Marie Curie, France), Aman ANGORA (Felix Houphouet-Boigny University, Cote d'Ivoire), Elisee TOUALY (Felix Houphouet-Boigny University, Cote d'Ivoire)

COAST_006 - A new coastal tidal model for Australia
Madeleine Cahill (CSIRO), Mike Herzfeld (CSIRO), Mark Hemer (CSIRO), David Griffin (CSIRO), Benoit Legresy (CSIRO)

COAST_007 - Improvements in the Validation Techniques Applied to Tide Gauge and Altimetry Observations of Coastal Sea Level Rates
Andrew Shaw (SKYMAT Ltd), Francisco Mir Calafat (National Oceanography Centre), Chris Banks (National Oceanography Centre), Nadim Dayoub (National Oceanography Centre), Christine Gommenginger (National Oceanography Centre), Jérôme Benveniste (ESA-ESRIN)

Thu, Oct 24 2019, 14:00 - 15:45 - The Gallery

COAST_001 - A RIP-based SAR Retracker and its application in North East Atlantic with Sentinel-3
Salvatore Dinardo (HeSPACE), Luciana Fenoglio-Marc (University of Bonn), Matthias Becker (TU Darmstadt), Remko Scharroo (EUMETSAT), Maria Joana Fernandes (University of Porto), Joanna Staneva (Helmholz Zentrum Geesthacht), Jérôme Benveniste (ESA)

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Quantifying Errors and Uncertainties in Altimetry data

Session chairs: Michael Ablain, Joel Dorandeu, Remko Scharroo

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ERR_001 - On denoising satellite altimeter measurements for high-resolution geophysical signal analysis
Yves Quilfen (IFREMER), Bertrand Chapron (IFREMER)

ERR_002 - Daily harmonics of ionospheric Total Electron Content and implications for single-frequency altimeters
Richard Ray (NASA/GSFC)
SC2_001 - Using observations of SSH, SST and air-sea turbulent flux of heat to find the depth of the ocean that interact with the atmosphere
LuAnne Thompson (University of Washington), Cristian Proitosescu (University of Washington)

SC2_002 - Twenty-five years of Mercator ocean reanalysis GLORYS12 at Drake Passage: performance and volume transport.
Camila Artana (UMPC LOCEAN), Ramiro Ferrari (CIMA/CONICET-UBA and UMI IFAECI-3351, Buenos Aires), Clément Bricaud (MERCATOR-OCEAN, Parc Technologique du Canal, Ramonville St. Agne), Jean-Michel Lellouche (MERCATOR-OCEAN, Parc Technologique du Canal, Ramonville St. Agne), Giles Garric (MERCATOR-OCEAN, Parc Technologique du Canal, Ramonville St. Agne), Nathalie Sennécahel (Laboratoire LOCEAN-IPSL, Sorbonne Université, (UPMC, Université Paris 6), CNRS, IRD, MNHN, Paris), Jae Hak Lee (KIOST, Korea Institute of Science and Technology), Young-Hyang Park (Laboratoire LOCEAN-IPSL, Sorbonne Université, (UPMC, Université Paris 6), CNRS, IRD, MNHN, Paris), Christine Provost (Laboratoire LOCEAN-IPSL, Sorbonne Université, (UPMC, Université Paris 6), CNRS, IRD, MNHN, Paris)

SC2_003 - Salinity advection and Rossby waves in northern Indian Ocean
Xiaosu Xie (Jet Propulsion Laboratory), W Timothy Liu (Jet Propulsion Laboratory)

SC2_004 - Observations of the Antarctic Circumpolar Current over the Udintsev Fracture Zone, the narrowest choke point in the Southern Ocean
Young-Hyang Park (Laboratoire LOCEAN-IPSL, Sorbonne Université (UPMC, Univ. Paris 6)-CNRS-IRD-MNHN), T. Park (Korea Polar Research Institute), T.-W Kim (Korea Polar Research Institute), S.-H. Lee (Korea Polar Research Institute), C.-S. Hong (Korea Institute of Ocean Science and Technology), J.-H. Lee (Korea Institute of Ocean Science and Technology), M.H. Rio (Collect Localisation Satellites), I. Pujol (Collect Localisation Satellites), M. Ballarotta (Collect Localisation Satellites), I. Durand (Laboratoire LOCEAN-IPSL, Sorbonne Université (UPMC, Univ. Paris 6)-CNRS-IRD-MNHN), C. Provost (Laboratoire LOCEAN-IPSL, Sorbonne Université (UPMC, Univ. Paris 6)-CNRS-IRD-MNHN)

SC2_005 - Forcings of the west African coastal upwelling by ocean and atmosphere intraseasonal waves
alban lazar (LOCEAN-IPSL-UPMC), Badara Sane (LPAOSF-ESP, UCAD), Malick Wade (UGB)

SC2_006 - A western tropical Atlantic dynamics analysis using statistics and satellite data
Sabine Arnault (LOCEAN UMR CNRS/IRD/UPMC/MNHN), François Kaly (Laboratoire de Traitement de l'Information (LTI)), Sylvie Thiria (LOCEAN UMR CNRS/IRD/UPMC/MNHN)

SC2_007 - Effect of regional water cycle on meridional sea level gradient along the Makassar Strait
Tong Lee (JPL), Severine Fouriner (JPL), Arnold Gordon (Columbia University), Janet Sprintall (University of California San Diego), Jacqueline Boutin (Sorbonne University)
Science III: Mesoscale and sub-mesoscale oceanography

Session chairs: Lee-Lueng Fu, Rosemary Morrow

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SC3_001 - Nonlocal effects of an unstable ocean current
Tom Farrar (Woods Hole Oceanographic Institution), Theodore Durland (Oregon State University), Steven Jayne (Woods Hole Oceanographic Institution), James Price (Woods Hole Oceanographic Institution)

SC3_002 - On the Agulhas Bank Circulation
Ricardo Matano (CEOAS, Oregon State University), Vincent Combes (CEOAS, Oregon State University), P. Ted Strub (CEOAS, Oregon State University)

SC3_003 - Forced vs Intrinsic variability of the Agulhas Bank circulation
vincent combes (Oregon State University), Ricardo Matano (Oregon State University), Ted Strub (Oregon State University)

SC3_004 - Understanding Regional Trends in Southern Ocean Eddy Kinetic Energy
Don Chambers (University of South Florida), Yang Zhang (University of South Florida), Xinfeng Liang (University of South Florida)

SC3_005 - PRELIMINARY RESULTS OF FLOATECO: EXPERIMENTAL STUDY OF PHYSICAL AND BIOLOGICAL PROCESSES MAINTAINING THE FLOATING PELAGIC ECOSYSTEM
Nikolai Maximenko (IPRC/SOEST, University of Hawaii), Luca Centurioni (Scripps Institution of Oceanography), Andrey Shcherbina (Applied Physics Laboratory, University of Washington), Gregory Ruiz (Smithsonian Environmental Research Center), Linsey Haram (Smithsonian Environmental Research Center), Mary Crowley (Ocean Voyages Institute), James Carlton (Williams College), Cathryn C Murray (Fisheries and Oceans Canada), Jan Halfner (IPRC/SOEST, University of Hawaii)

SC3_006 - Particle dispersion in a multiple migrating quasi-zonal jet regime: A case study in the eastern North Pacific
Oleg Melnichenko (University of Hawaii)

SC3_007 - High-wavenumber variability in the eastern tropical Pacific from ADCP, altimetry, and a high-resolution numerical model
Saulo Soares (Scripps Institution of Oceanography UCSD), Teresa Chereskin (Scripps Institution of Oceanography UCSD)

SC3_008 - Monitoring open sea and coastal ocean dynamics in the Baltic Sea and North East Atlantic
Luciana Fenoglio (University of Bonn), Johanna Staneva (Helmholtz-Zentrum Geesthacht), Johannes Karstensen (GEOMAR), Antonio Bonaduce (Helmholtz-Zentrum Geesthacht), Hermann Bange (GEOMAR), Sebastian Grayek (Helmholtz-Zentrum Geesthacht), Jürgen Kusche (University of Bonn)

SC3_009 - Analysis of Second-Order Transverse Structure Functions of Velocity in the Southern Ocean
Don Chambers (University of South Florida), Jessica Caggiano (University of South Florida), Boris Galperin (University of South Florida), Greg King (University of South Florida)

SC3_010 - A New NRT Mesoscale Eddy Trajectory Atlas on AVISO
Antoine Delepoulle (clis), Yannice Faugere (CLS), Evan Mason (APL, UW; IMEDEA, CSIC)

SC3_011 - Improvements of Sentinel-3A altimetry data in the retrieval of sea level variability in the coastal region of the European Seas
Antonio Sánchez Román (IMEDEA (CSIC-UIB)), Yannice Faugère (CLS, Toulouse), Isabelle Pujol (CLS, Toulouse), Guillaume Taburet (CLS, Toulouse), Marta Marcos (IMEDEA (CSIC-UIB)), Ana Pascual (IMEDEA (CSIC-UIB))

SC3_012 - Meso to sub-mesoscale variability observed by Sentinel-3A
Oscar Vergara (CLS), Rosemary Morrow (LEGOS), Isabelle Pujol (CLS), Gérald Dibarboure (CNES), Clément Ubelmann (CLS)

SC3_013 - Spectral content of nadir altimetry at regional scales: a case study in the Bay of Biscay and New Caledonia region
Mei-Ling Dabat (LEGOS), Nadia Ayoub (LEGOS), Lionel Gourdeau (LEGOS), Frederic Marin (LEGOS), Fabien Léger (LEGOS), Isabelle Pujol (CLS), Rosemary Morrow (LEGOS)

SC3_014 - High-Resolution Maps of Sea Surface Height: A new method applied to the California Current system
Matthew Archer (JPL), Zhijin Li (JPL), Lee-Lueng Fu (JPL)
SC3_015 - Multiscale Data Assimilation for SWOT Ocean Application
Jinbo Wang (JPL), Zhijin Li (JPL), Lee-Lueng Fu (JPL)

SC3_016 - Nested data assimilative modeling of submesoscale variability at the Mid Atlantic Bight
Pioneer Coastal Array
John Wilkin (Rutgers University), Andrew Moore (University of California Santa Cruz), Julia Levin (Rutgers University), Hernan Arango (Rutgers University)
The Geoid, Mean Sea Surfaces and Mean Dynamic Topography
Session chairs: Ole B. Andersen, Yannice Faugere

Tue, Oct 22 2019, 16:15 - 18:00 - The Gallery

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GEO_001 - GOCE User Toolbox and Tutorial
Per Knudsen (DTU Space), Jerome Benveniste (ESA)

GEO_002 - NEW CNES CLS 2019 MEAN SEA SURFACE: FIRST VALIDATION.
Philippe Schaeffer (CLS), Isabelle Pujol (CLS), Yannice Faugere (CLS), Quentin Dagneaux (CELAD), Gerald Dibarboure (CNES), Nicolas Picot (CNES)

GEO_003 - THE NEW CNES-CLS 2019 MARINE GRAVITY ANOMALY MODEL: FIRST VALIDATION IN THE MEDITERRANEAN.
Philippe Schaeffer (CLS), Sean Bruinsma (CNES), Frank Reinquin (CNES)

GEO_004 - Geomed2: High-Resolution Geoid Models of the Mediterranean
Sean Bruinsma (CNES)
Tides, internal tides and high-frequency processes

Session chairs: Loren Carrere, Florent Lyard, Richard Ray

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**TID_001** - Bathymetry improvement and tidal modeling in the North East Atlantic Ocean and in the Mediterranean Sea
Mathilde Cancet (NOVELTIS), Florence Toublanc (NOVELTIS), Florent Lyard (LEGOS/OMP/CNRS), Gérald Dibarboure (CNES), Nicolas Picot (CNES), Thierry Guinle (CNES)

**TID_002** - Coastal tides and sea level variations at high latitudes from GNSS-R and satellite altimetry
Ole Baltazar Andersen (Prof), Karina Nielsen (DTU Space), Simon Williams (NOC Liverpool), Michael Kern (ESA ESTEC)

**TID_003** - The effect of horizontal resolution and wave drag on tidal baroclinic mode waves in realistic global ocean simulations
Maarten Buijsman (Division of Marine Science, The University of Southern Mississippi, Stennis Space Center, MS), Brian Arbic (Department of Earth and Environmental Sciences, University of Michigan, Ann Arbor, MI), Jay Shriver (Oceanography Division, Naval Research Laboratory, Stennis Space Center, MS), Gordon Stephenson (Division of Marine Science, The University of Southern Mississippi, Stennis Space Center, MS), Zhongxiang Zhao (Applied Physics Laboratory, University of Washington, Seattle, WA)

**TID_004** - Using Complex-Demodulation to Identify Non-Phase-Locked Tides from Reference-Mission Altimetry
Edward Zaron (Portland State University)

**TID_005** - De-aliasing of tidal signals using wide-swath sun synchronous orbits
Loren Carrere (CLS), Florent Lyard (LEGOS), Clement Busche (CLS), Mathilde Cancet (NOVELTIS), Nicolas Picot (CNES)

**TID_006** - Last TUGO model simulations and perspectives of evolution of the Dynamic Atmospheric Correction for altimetry
Loren Carrere (CLS), Damien Allain (CLS/LEGOS), Florent Lyard (LEGOS), Yannice Faugere (CNES), Nicolas Picot (CNES)

**TID_007** - Mapping Internal Tides from Satellite Altimetry without Blind Spots
Zhongxiang Zhao (University of Washington), Peter Rhines (School of Oceanography, University of Washington)

**TID_008** - Temporal variability of the mode-1 M2 internal tide
Zhongxiang Zhao (University of Washington), Peter Rhines (School of Oceanography, University of Washington)
CFOSAT
Session chairs: Lotfi Aouf, Danièle Hauser, Doug Vandemark

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CFOSAT_001 - Initial Analysis of CFOSAT SCAT and SWIM Data using Relative and Cross Calibration Technique.
Suchandra Bhowmick (Space application centre isro), Seemanth M (Space application centre), Rashmi Sharma (Space application centre isro)

CFOSAT_002 - First results of multi-incidence radar at Ku-band analysis over land surfaces
Frédéric Frappart (Observatoire Midi-Pyrénées), Fabien Blarel (LEGOS), Eric Mougin (GET), Philippe Paillou (LAB), Fabrice Papa (LEGOS), Catherine Prigent (LERMA), Frédérique Rémy (LEGOS), Jean-Pierre Wigneron (ISPA), Mehrez Zribi (CESBIO)

CFOSAT_003 - Combined wave and wind products based on CFOSAT multi-instrument observations
Alexey Mironov (OceanDataLab), Yves Quilfen (LOPS, IFREMER), Jean-FrancoisPiolle (LOPS, IFREMER), Gilles Guitton (OceanDataLab), Fabrice Collard (OceanDataLab), Antoine Grouazel (LOPS, IFREMER), Frederic Nouguier (LOPS, IFREMER), Alexis Mouche (LOPS, IFREMER), Bertrand Chapron (LOPS, IFREMER)
The Future of Altimetry

Session chairs: Pascal Bonnefond, Craig Donlon, Eric Leuliette, Remko Scharroo, Josh Willis

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FOA_001 - Standardization for Time and Coordinates in Satellite Altimetry
Stelios Mertikas (Technical University of Crete), Craig Donlon (European Space Agency), Demetrios Matsakis (Formerly with the US Naval Observatory, Time Reference), Constantin Mavrocordatos (European Space Agency), Zuheir Altamimi (IGN (National Geographic Institute) Geodesy Research Laboratory), Costas Kokolakis (Technical University of Crete), Achilles Tripolitsiotis (Space Geomatica)

FOA_002 - Effect of spatio-temporal sampling of altimeter observations in the north Indian Ocean: A synthetic study using ocean model and SWOT simulator
Neeraj Agarwal (ISRO), Aditya Chaudhary (ISRO), Rashmi Sharma (ISRO), Raj Kumar (ISRO)

FOA_003 - MISSION REQUIREMENTS FOR KU/KA-BAND SIGNALS OF OPPORTUNITY ALTIMETRY
James Garrison (Purdue University)

FOA_004 - WISA: a Wide Swath Altimetry Mission for Operational Oceanography and Hydrology - A good candidate for of Copernicus-NG Sentinel 3-Top Program
Cecile CHEYMOL (CNES), Sophie Coutin-Faye (CNES), Pierre-Yves Le Traon (Mercator-Ocean), Sylvain Biancamaria (CNRS/LEGOS)

FOA_005 - SMASH: a Constellation of Small Altimetry Satellites Dedicated to Hydrology
Denis BLUMSTEIN (CNES/LEGOS), Alexandre Guérin (CNES), Alain Lamy (CNES), Alexandre Couhert (CNES), Alexandre Piquereau (CNES), Baptiste Palacin (CNES), Florian Rouzies (CNES), Alain Mallet (CNES), Sylvain Biancamaria (LEGOS), Sophie Le Gac (CNES), Thierry Amiot (CNES), Eric Boussarie (CNES), Philippe Maisongrande (CNES), Selma Cherchali (CNES), Sophie Coutin-Faye (CNES)

FOA_006 - Altimetry over inland waters: current achievements thanks to the Open-Loop Tracking Command (OLTC) and perspectives for future missions
Sophie Le Gac (CNES), Denis Blumstein (CNES/LEGOS), Léa Lasson (LEGOS/OceanNext), Simon Boïlard (NOVELTIS), Lionel Zawadzki (CLS), Maxime Vayre (CLS), Nicolas Taburet (CLS), François Boy (CNES), Amandine Guillot (CNES), Etienne Berthier (LEGOS/Univ.Toulouse/CNES/CNRS/IRD), Liam Taylor (School of Geography, University of Leeds), Pierre Féménias (ESA/ESRIN), Nicolas Picot (CNES)

FOA_007 - Combining Fully Focused and Swath Processing for Glacier applications
Albert Garcia-Mondejar (isardSAT Ltd.), Ferran Gibert (isardSAT), Mònica Roca (isardSAT), Michele Scagliola (ARESYS s.r.l.), Lisa Recchia (ARESYS s.r.l.), Noel Gourmelen (University of Edinburgh)
Others (poster only)

**Session chairs:** Pascal Bonnefond, Craig Donlon, Eric Leuliette, Remko Scharroo, Josh Willis

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**OTH_001 -** ALTIS: a new tool for processing along-track altimetry data

Fabien Blarel (LEGOS), Frédéric Frappart (LEGOS), Vincent Marieu (EPOC), Fernando Niño (LEGOS), Denis Blumstein (LEGOS)

**OTH_002 -** Monitoring marine litter with ocean current products in the North Atlantic Ocean

Muriel Lux (NOVELTIS), Etienne Sahuc (NOVELTIS), Mathilde Cancet (NOVELTIS), Matthieu Denisselle (NOVELTIS)

**OTH_003 -** Operational ocean data assimilation/prediction system for the western North Pacific at JMA

Kotaro Mine (Japan Meteorological Agency), Mikitoshi Hirabara (Japan Meteorological Agency), Hiroaki Asai (Japan Meteorological Agency), Hiromi Kobayashi (Japan Meteorological Agency), Toshiyuki Sakurai (Japan Meteorological Agency)

**OTH_004 -** Fundamental Data Records For Altimetry: a reprocessing of ERS-1, ERS-2 and ENVISAT altimeter and radiometer dataset oriented towards dedicated Level 1 and Level 2+ products

Pierre Thibaut (CLS), Andrew Shepherd (University of Leeds), Malcolm McMillan (University of Lancaster), Eero Rinne (FMI), Frank Fell (Informus), Florence Birol (Legos), Sara Fleury (Legos), Angelica Tarpanelli (CNR/IRPI), Emma Woolliams (NPL), Mathilde Cancet (Noveltis), Pierre Féménias (ESA/ESRIN)
SC4_001 - Quality Assessment of the new CryoSat Ice Baseline-D over the Cryosphere
Marco Meloni (Serco c/o ESA), Jerome Bouffard (ESA), Tommaso Parrinello (ESA)

SC4_002 - An interactive website for enhancing the Open-Loop Tracking Command (OLTC) of conventional altimeters for inland waters observation
Sophie Le Gac (CNES), Francois Boy (CNES), Nicolas Picot (CNES), Denis Blumstein (CNES/LEGOS), Sylvain Biancamaria (LEGOS/Univ. Toulouse/CNES/CNRS/IRD), Jean-François Crétaux (LEGOS/Univ. Toulouse/CNES/CNRS/IRD), Stéphane Calmant (IRD), Simon Boltard (NOVELTIS), Franck Borde (ESA/ESTEC), Pierre Féménias (ESA/ESRIN)

SC4_003 - Performance of the Sentinel-3 STM constellation over Inland Waters
Nicolas TABURET (CLS), Matthias Raynal (CLS), Labroue Sylvie (CLS), Manon Rousseau (CLS), Maxime Vayre (CLS), Lionel Zawadzki (CLS), Pierre Féménias (ESA/ESRIN)

SC4_004 - Sea ice thickness estimates impact temperature and heat flux estimates in the Arctic Ocean
James Carton (University of Maryland), Gennady Chepurin (University of Maryland)

SC4_005 - Validation of Lake Water Level from altimetry with in-situ measurements.
Beatriz CALMETTES (CLS), Crétaux Jean-François (LEGOS), Vuglinsky Valery (Hidrolare), Zawadzki Lionel (CLS)

SC4_006 - Validation of the database of hydrology targets for DEM onboard altimeters (Jason3, Sentinel-3A and Sentinel-3B)
Léa Lasson (Ocean Next, LEGOS), Denis Blumstein (Centre National d’Etudes Spatiales, LEGOS), Sylvain Biancamaria (LEGOS), Jean-François Crétaux (Centre National d’Etudes Spatiales, LEGOS), Stéphane Calmant (LEGOS), Sophie Le Gac (Centre National d’Etudes Spatiales), François Boy (Centre National d’Etudes Spatiales), Nicolas Picot (Centre National d’Etudes Spatiales)

SC4_007 - A remotely-sensed/modeling approach to monitor the hydro-climatology of the Ogooué River Basin
Sakaros Bogning (LEGOS), Frédéric Frappart (LEGOS), Adrien Paris (CLS), Fabien Blarel (LEGOS), Fernando Niño (LEGOS), Stéphane Saux-Picard (CNRM), Pauline Lanet (CNRM), Frédérique Seyler (ESPACE-DEV), Gilles Mahé (IRD), Raphaël Onguéni (Université de Douala), Jean-Pierre Bricquet (IRD), Jacques Etame (Université de Douala), Marie-Claire Paiz (TNO), Jean-Jacques Braun (GET)

SC4_009 - Parabola and horizontal line detection in inland water radargrams
Léa Lasson (Ocean Next, LEGOS), Denis Blumstein (Centre National d’Etudes Spatiales, LEGOS)

SC4_010 - Enhancing the Sea Ice Thickness and Freeboard Record With Combined Sentinel-3A, Sentinel-3B and CryoSat Observations.
Isobel Lawrence (University College London), Michel Tsamados (University College London), Stroeve Julienne (University College London), Alan Muir (University College London), Thomas Armitage (JPL), Pierre Féménias (ESA)

SC4_011 - Towards homogeneous multi-mission altimeter processing in sea ice regions for retrieving SLA and sea ice parameters
Jean-Christophe Poisson (CLS), Fanny Piras (CLS), Maël Smeaart (CLS), Pierre Thibaut (CLS), Amandine Guillot (CNES), François Boy (CNES), Nicolas Picot (CNES), Jérôme Bouffard (ESA), Pierre Féménias (ESA)

SC4_012 - Water level retrieval from Delay Doppler altimetry
Luciana Fenoglio (University of Bonn), Salvatore Dinardo (HeSpace, Darmstadt), Bernd Uebbing (University of Bonn), Jürgen Kusche (University of Bonn), Jérôme Benveniste (ESA/ESRIN)

SC4_013 - Are global models correctly estimating water storage in major river basins? A comparison of remote sensed river channel storage and global model data
Steve Coss (Ohio State University Main Campus), Augusto Getirana (NASA Goddard), Mike Durand (Ohio State University, Byrd Polar and Climate Research Center)
**SC4_014 - The ICESat-2 Mission: Global Geolocated Photons, and Surface-Specific Data Products**
Thomas Neumann (NASA Goddard Space Flight Center), Nathan Kurtz (NASA Goddard Space Flight Center), Anthony Martino (NASA Goddard Space Flight Center), Lori Magruder (University of Texas at Austin, Applied Research Lab)

**SC4_015 - NRT, open-licensed and high-frequency hydrological variables time series in Tropical Basins from operational satellite altimetry**
Adrien Paris (CLS), Stéphane Calmant (LEGOS, IFCWS, IISc, Bengalore), Johary Andriambelosom (Institut et Observatoire de Géophysique d’Antananarivo (IOGA), Université d’Antananarivo), Ayan Fleischmann (IPH-UFRGS, Porto Alegre), Cecile Dardel (GET, Université de Toulouse, CNRS, IRD, UPS, Toulouse), Marielle Gosset (GET, Université de Toulouse, CNRS, IRD, UPS, Toulouse), Daniel Medeiros Moreira (CPRM, Rio de Janeiro), Vinicius Siqueira (IPH-UFRGS, Porto Alegre), Thiago Santos (RHASA-UEA, Manaus), Sakaros Bogning (Département de Sciences de la Terre, Université de Douala, BP 24 157 Douala), Taina Conchy (RHASA-UEA, Manaus), Rodrigo Cañedo Díaz de Paiva (IPH-UFRGS, Porto Alegre), Walter Collischonn (IPH-UFRGS, Porto Alegre), Joecila Santos da Silva (RHASA-UEA, Manaus), Maxime Vayre (CLS, Ramonville St Agne)

**SC4_016 - CryoSat-2 for enhanced sea-ice thickness and ocean observations in Antarctica CryoSat+**
Michel Tsamados (CPOM, Earthe Sciences, UCL), Baker Steve (MSSL), Shepherd Andrew (CPOM, Univeristy of Leeds), Fleury Sara (LEGOS), Thibaut Pierre (CLS), Andersen Ole (DTU), Roca Monica (isardSAT), Jérome Bouffard (ESA)

**SC4_017 - Arctic Altimetric Sea Level Cross-Validation of IceSat-2, SARAL/AltiKa, Sentinel-3 and CryoSat-2**
Carsten Ludwigsen (DTU)

**SC4_018 - G-REALM: Investigating the Jason-3 and Sentinel-3A Data Sets for the Next Phase of Operational Lake and Reservoir Monitoring**
Martina Ricko (KBR/NASA-GSFC, Greenbelt, MD), Charon Birkett (ESSIC, University of Maryland, College Park, MD), Xu Yang (KBR/NASA-GSFC, Greenbelt, MD), Brian Beckley (KBR/NASA-GSFC, Greenbelt, MD), Curt Reynolds (USDA/FAS, Washington, DC), Elias Deeb (ERDC/USACE, Hanover, NH)

**SC4_019 - A Robust Error Characterization Method for SAR Altimetry over the Inland Water Domain**
Martina Wenzl (ESA/ESRIN), Marco Restano (SERCO c/o ESA/ESRIN), Jérôme Benveniste (ESA/ESRIN)

**SC4_020 - SPICE: Sentinel-3 Performance Improvement for Ice Sheets**
McMillan Malcolm (Lancaster University), Roger Escola (isardSAT), Jeremie Aublanc (CLS), Thibaut Pierre (CLS), Marco Restano (ESA), Americo Ambrozio (ESA), Jérôme Benveniste (ESA)

**SC4_021 - Sentinel-3 Hydrologic Altimetry Processor prototyPe (SHAPE): Project achievements**
Nicolas Bercher (ALONG-Track), Pierre Fabry (ALONG-Track), Albert García-Mondéjar (isardSAT Ltd), Joana Fernandes (University of Porto / Science Faculty), David Gustafsson (SMHI), Marco Restano (Serco/ESRIN), Américo Ambrózio (Deimos/ESRIN), Jérôme Benveniste (ESA/ESRIN)

**SC4_022 - Quality Status of the CryoSat Data Products**
Erica Webb (Telespazio VEGA UK Ltd), Amanda Hall (Telespazio VEGA UK Ltd), Ben Wright (Telespazio VEGA UK Ltd), Marco Meloni (SERCO c/o ESA/ESRIN), Jerome Bouffard (ESA/ESRIN), Tommaso Parrinello (ESA/ESRIN), Steven Baker (UCL/MSSL), David Brockley (UCL/MSSL)