

# Swot Science Team Forums

<https://swotst.aviso.altimetry.fr>

- If you subscribed for an OSTST you should have access already
- Otherwise: subscribe.  
The access will be granted to you if you are on the Swot ST list (**not immediate**)

- Organized by Working Group  
Possibility of creating sub-groups (on request)
- As subscriber, you can:
  - open a topic of discussion within any group,
  - read the group discussions,
  - react (“quote”), if need be with an uploaded file (<10MB)
  - ( or signal a problem (“report”))

The screenshot shows the AVISO+ website interface for the Swot Science Team Forums. The AVISO+ logo is at the top left, with the text 'Satellite Altimetry Data' below it. The main navigation bar includes 'SWOT ST', 'HOW TO ACCESS THE FORUM', 'HOW TO USE THE FORUM', and 'SWOT-ST FORUM'. A red circle highlights the 'HOW TO ACCESS THE FORUM' and 'HOW TO USE THE FORUM' links. Below the navigation bar, there are breadcrumb links: 'HOME' > 'SWOT-ST FORUM' > 'FORUMS'. The main content area is titled 'FORUMS' and 'SWOT Forum'. A section titled 'Subforums' contains a table with the following data:

Sessions	Presentations	Posts	Last post
SWOT general information	1	2	Videos on Swot 05.02.2021 15:10 by vrosmorduc@groupds.com
SWOT Hydrology: River Science	2	8	Welcome to the Swot river science working group! 05.02.2021 14:09 by lsoudarin@groupds.com
SWOT Hydrology: Discharge Algorithms	0	0	
SWOT Hydrology: Lakes/Wetlands	0	0	
SWOT Hydrology: Global modelling	0	0	
SWOT Oceanography: High-resolution modelling	1	1	
SWOT Oceanography: SWOT Instrument processing	0	0	

At the bottom of the page, there is a footer with the text '© 2014-2021 Cnes, CLS' on the left and 'Conditions générales d'utilisation | Mentions légales' on the right.

# Ocean CalVal preparation

## Many strands for 2D ocean CalVal :

- Global statistical CalVal (Project),
- Validation of OBP & ocean phenomenology (Project + SWOT Instrument Processing WG)
- Regional geodetic CalVal of SSH/SWH, Regional Science validation, Adopt-a-Crossover field campaigns ... (via Regional Science Validation WG)

**NEW for SWOT** : Validation of the SWOT SSH wavenumber spectral requirements => Californian Crossover (US Project)

Ocean in-situ field campaigns need longer lead time :

- **launch date** is critical for 1-day orbit field campaign deployments
- COVID delays also impact on ship-time programming

Opportunities for multi-satellite synergy of fine-scales in 2023-2026 : PACE, Sentinels (S3, S6, S1-SAR, S2-OC), SST, SMOS/SMAP ...

Completing the multiple-strands of ocean Calval depend on Project budget constraints

# Hydrology CalVal Preparation

## Prelaunch

- Begin hiring hydrologic technicians (in USA & in France) to lead field measurements and data processing
- Conduct pre-launch campaigns across multiple sites in 2021-2022
- Plan logistics for fast sampling phase and early science orbit (US & French coordination)
- Prepare Tier 2 Sites in USA, Canada, France, South America
- In situ data collection: water level, bathymetry in tier 2 sites in North America, Europe, Africa and South America
- Produce the a priori database on lake geoid undulations over a set of 50 large lakes and along Icesat-2 tracks

## Fast Sampling Phase

- Conduct extensive measurements in Tier 1 sites that are under the fast sampling orbit
- Process data to meet requirements for comparison with SWOT
- Work with colleagues at JPL, CNES, and in the Science Team to begin evaluating SWOT data

**We will welcome input from the Science Team and participation in planned activities where possible.**



## Moving Forward : Science Team Working groups

SWOT Ocean, Hydrology, and Coastal Working Groups are organising into 1-2 month virtual meetings

- ⇒ **Questions/Exchanges with Project and Algorithm Development Team (ADT)** advancement can be passed by the SWOT Subject Matter Experts (SMEs) and the Science Leads
- ⇒ Short reports on ongoing work back to Science Leads => Project / Program Managers

**SWOT science** advancing in parallel – more science discussions at our (tentative) next virtual meeting in ~6 mos.



extra

# Subject Matter Experts :

## KaRIn Low Resolution (Oceans) Science Algorithms

Science Algorithm	Description	Subject Matter Experts
L2_RAD_GDR	Generates Level 2 radiometer product with measurements of wet troposphere delay and sigma0 atmospheric attenuation from downlinked data.	Shannon Brown B. Picard
INT_LR_XOverCal	Generates cross-over calibration product to mitigate systematic errors (e.g., bias, roll/phase, baseline length) from KaRIn and nadir altimeter sea surface height measurements.	Ernesto Rodriguez Pascal Bonnefond Co-I : Christopher Watson
L1B_LR_INTF	Generates Level 1B product with 9-beam interferometric, correlation, and power data corrected for instrument effects from 9-beam downlinked data.	Tom Farrar Frédéric Nougieur Co-I : B. Chapron
L2A_LR_NativePreCa ISSH L2B_LR_FixedPreCa SSH L2A_LR_NativeSSH L2B_LR_FixedSSH	Generates Level 2 sea surface height data products. L2A at KaRIn native center-beam with 2/2 km and 250/500 posting/resolution. L2B on geographically fixed grid with 2/2 km posting/resolution. LR_NativeSSH appends crossover calibration to LR_NativePreCaISSH. LR_FixedSSH appends crossover calibration to LR_FixedPreCaISSH.	Sarah Gille Co-I : Ed Zaron Emmanuel Cosme Co-I : B. Laignel & N. Ayoub

# Subject Matter Experts :

## KaRIn High Resolution (Hydrology) Science Algorithms

Science Algorithm	Description	Subject Matter Experts
L1B_HR_SLC	Generates Level 1B single-look-complex (SLC) data product with SLC images, calibration information, time-varying platform and radar system parameters, and digital elevation model.	Scott Hensley H. Yésou for the DEM
L2_HR_PIXC	Generates Level 2 pixel cloud data product from SLC product by performing height reconstruction, phase unwrapping, water detection, flagging.	Mike Durand H. Yésou & D. Blumstein
L2_HR_RiverTile L2_HR_RiverSP L2_HR_RiverAvg	Generates Level 2 river data products from pixel cloud data and provides center-line locations, widths, heights, slopes, discharge, and flags for sub-reaches and total reach. _TILE product extends over single tile of data. _SP product extends over single pass over continent. _AVG product aggregates over one basin (or region) within one repeat cycle.	Larry Smith P.A. Garambois & S. Ricci
L2_HR_LakeTile L2_HR_LakeSP L2_HR_LakeAvg	Generates Level 2 lake data products pixel cloud data and provides height, geolocation, and shape. _TILE product extends over single tile of data. _SP product extends over single pass over continent. _AVG product aggregates over one basin (or region) within one repeat cycle.	Yongwei Sheng J.F. Cretaux & H. Yésou
L2_HR_Raster	Generates Level 2 raster product from pixel cloud data product by resampling single-pass data onto a 2-D fixed grid.	Marc Simard S. Biancamaria, M. Grippa, F. Pappa (for wetlands)