SWOT Oceanography

Ocean PIs
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SWOT-ST Meeting
14-17 October 2025, Arcachon

Up next – mission extension

Formal reviews start early 2026 (~Jan 2026 for CNES, later for NASA)

All Working Groups provided several arguments supporting the mission extension beyond 2026. These include the use of SWOT observations in support to future oceanographic campaigns, the contribution of SWOT to operational models, the interest of observing a larger number of extreme events, and the constitution of temporal series capable of addressing problems involving interannual variability.

All Working Groups are invited to provide additional arguments.

Artificial Intelligence

AI and SWOT

The Science Team has acquired a very high level of expertise in using methods based on Artificial Intelligence and the contributions of this technique are undeniable. However AI may blur further the frontier between ground truth and models, which is what makes hypotheses testable.

L3 denoised dataset

L3 denoised dataset is produced by artificial intelligence trained with the output of a circulation model.

Some dynamical features of the circulation model may have been transferred to the filtered dataset. The use of the unfiltered dataset is therefore strongly recommended for exploration of the ocean dynamics at the finer SWOT scales.

A smoothed dataset employing a standard Gaussian filter may be available in the next L3 releases.

Product life cycle

High level of maturity of SWOT LR products. No major issues have been reported.

The Science Team acknowledge the **outstanding work, support, and engagement of the NASA, CNES, JPL, and CLS teams** that are making possible the scientific exploitation of the mission.

Considering the satisfactory status of oceanographic LR products, the Science Team would prefer **releases at fixed time intervals, not shorter than one year.**

A mid-term feedback report from the oceanography working groups will be put in place by the Ocean Science Leads, reporting issues and suggesting new features.

Product latency

Outstanding work by the Inversion-Assimilation teams to ingest SWOT product in various system (model, data driven method, ...) : **SWOT brings consistent and very useful information t**hough margin of improvement still exist (both on product and methods side). => **This groups express the need of NRT products (4-5 day latency today for L3)**

Thanks to improvements on the Level-2 processing steps by the SWOT project:

a 2-day latency for Ocean L3 products is announced by CNES by the end of November ... for Thanksgiving !

On SWOT orbit

The Mean Sea Surface Working Group initiated a discussion on the **potential interest for requesting an orbital shift** aimed at filling the current swath gaps an lasting at least one year.

The discussion is at an exploratory stage. **We invite all Working Groups to express their position**, providing arguments for or against this request.

The Science Team is aware of the major engagement of human and material resources that such operation would engage.

SWOT and the new wave of oceanographers

Early Career Researchers speak about SWOT
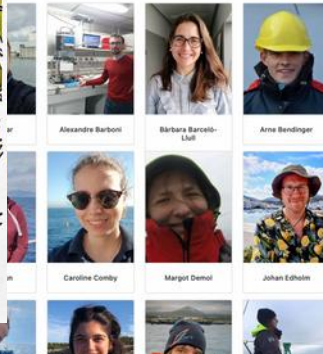
If you are Early Career:

We want to hear what you think about SWOT!

More than 50 interviews to SWOT ECR already collected for Oceanography in an eBook.

Next edition will include hydrology, DEC, and the cryosphere. Please contact:

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Upload your PDFs to AVISO website