



Getting Ready for SWOT Data!

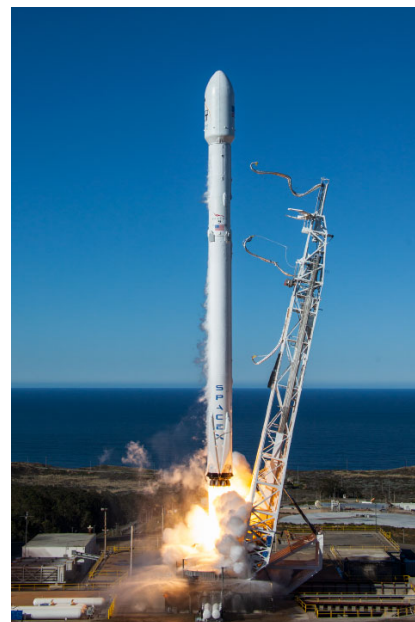
Updates from the SWOT Applications Team

All of us at NASA, CNES, JPL, and at the organizations that have worked on and supported SWOT development could not have asked for a more picture-perfect launch of the satellite aboard a SpaceX Falcon 9 rocket from the Central Coast of California in the early hours of 16 December 2022. Now...we wait! The SWOT Project team is working hard on initiating all spacecraft function and instruments in preparation for the calibration and validation program that will ensure optimal validated data later this year.

We continue to support you, the SWOT Early Adopters (EA), in your preparations for operationalizing SWOT into your model and data systems. SWOT Applications was represented in the [South America Water From Space III](#) meeting in Foz do Iguacu, Brazil in November 2022. We were also very happy to participate in the [Coastal Altimetry Workshop](#) in Cadiz, Spain in February 2023. The presentations for both meetings can be viewed from the links.

We have two new Early Adopter organizations (see below), and are anticipating a few more soon! See more updates below...

SWOT Early Adopter Highlights





WELCOME to our newest SWOT Early Adopters! **French Institute for Research for Development (IRD, Toulouse, France)** & **Geological Survey of Brazil (SGB, Brazil)**.

Below, we share the work of four more SWOT Early Adopters who have built literacy and user preparedness for SWOT data: **FM Global (US)**, **Mercator Ocean (France)**, **Stantec (US)**, and **U.S. Geological Survey (USGS, US)**. We anticipate that these agencies will yield highly-visible success stories on SWOT applications by addressing critical societal needs at local, regional and global scales.

Our SWOT Early Adopters will be able to demonstrate the return on public investment of the SWOT Mission by demonstrating the value of SWOT data and information. **Learn more about all of our Early Adopters [HERE](#).**

SWOT Applications at a Glance

9 Application Workshops, including...

3 Virtual Hackathons

27 SWOT Early Adopters

17 Articles & peer-reviewed papers

- Online Education & Training
- 100+ citizen science LAKES GAUGED by Early Adopters for SWOT cal/val
- Field Data sharing with SWOT Science Team for product development

More info on publications can be found [HERE](#).

SWOT Early Adopter Highlights

FM Global

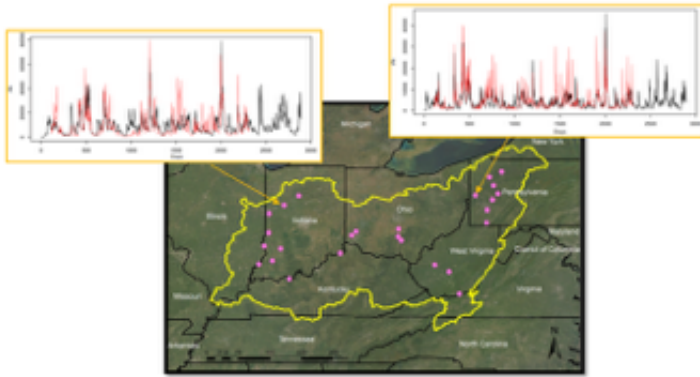


Figure 1. Ohio River Basin boundaries (yellow), the 26 USGS gauges used for calibration (pink), and the calibration figures for two gauges (red: observed; black: simulated).

Title:
Calibration of hydrologic and hydraulics models used for flood hazard mapping using synthetic SWOT data products

Lead:
Dr. Alain Dib

Assessment of synthetic SWOT data products for calibration and validation, sampling impacts, value to hydrologic studies, and flood mapping workflows. Project includes case studies (ie, Ohio River).

[Read More >](#)



Mercator Ocean

Title:
Assimilation of SWOT in the Mercator Ocean analysis and forecasting systems

Lead:
Dr. Pierre Yves LeTraon

Preparing for the assimilation of SWOT data in the Mercator Ocean analysis and forecasting systems. This project will combine SWOT, nadir altimeter, other satellite data (ie, SST, Ocean Color) and in-situ data with high resolution global models to allow a dynamical interpolation of SWOT data and to describe and forecast the ocean state worldwide.

[Read More >](#)

Stantec

Title:
Application of SWOT to determine the impact of river and ocean processes on coastal dynamics, habitats, infrastructure, and communities

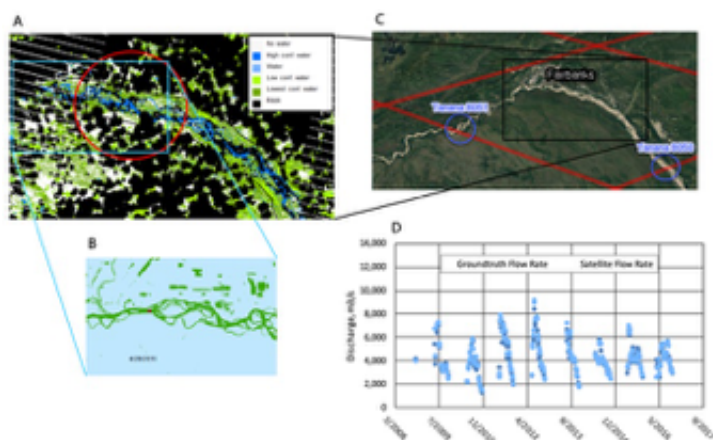
Leads:



Jamil Ibrahim; Francis Wiese; Grant Wiseman

This project will prepare Stantec for SWOT high resolution data to parameterize and validate hydrographic and hydrodynamic model outputs, evaluate the effectiveness of water quality and sediment management related projects, and improve coastal hazard identification for habitats, communities, and infrastructure during planning, design, and impact assessments.

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U.S. Geological Survey (USGS)

Title: USGS Satellite-based Remote Sensing of Discharge

Leads: Rob Dudley; Jack Eggleston; Dave Bjerklie; Luke Sturtevant; John Jones

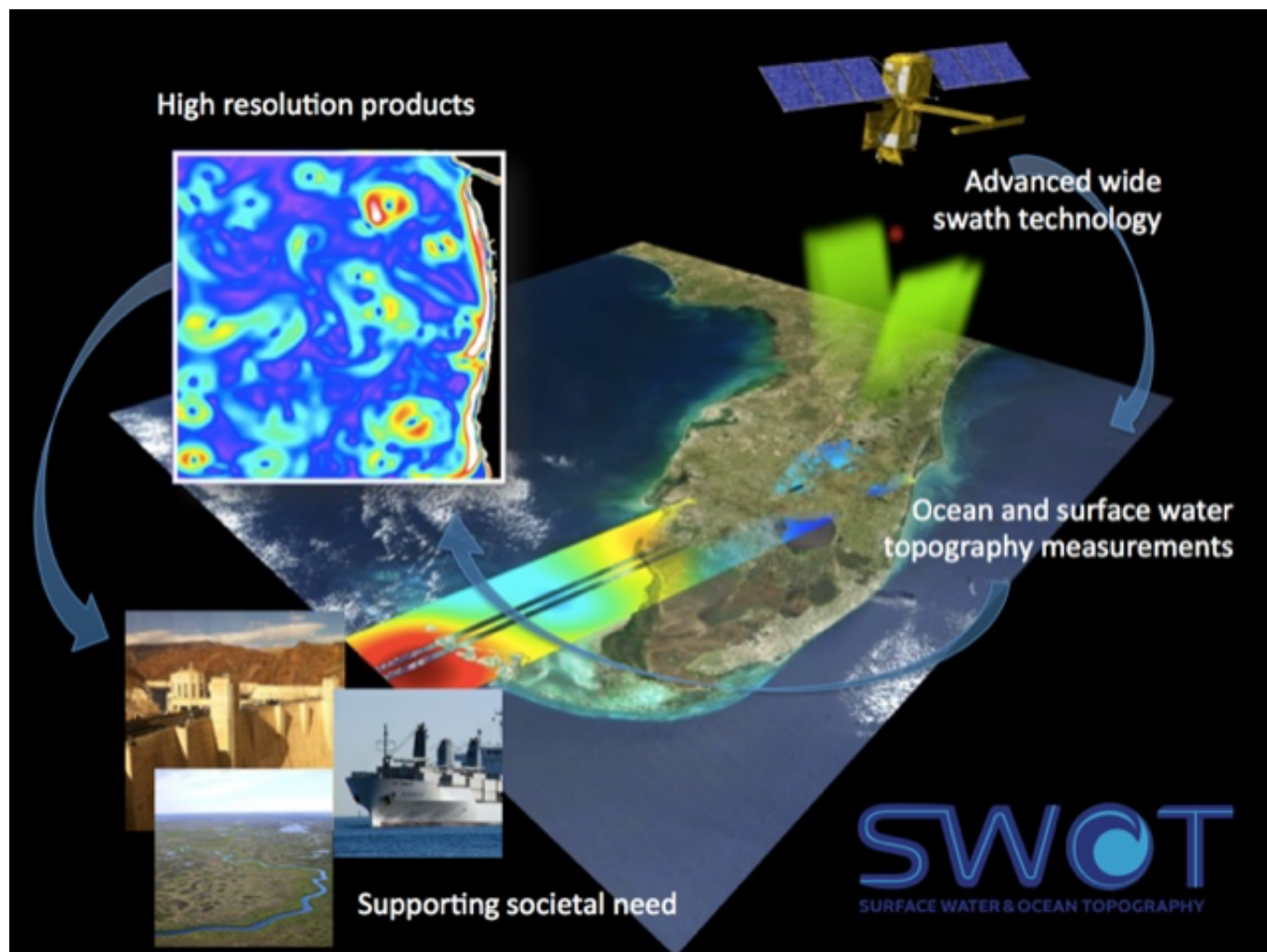
The USGS Early Adopter project will focus on the use of SWOT to measure water levels and flow in Alaska rivers. SWOT observations can improve flood modeling, response, forecast and management for transportation, fisheries and ecosystems. A primary goal is to increase the number of monitored rivers in Alaska and to operationalize data production and improve accuracy of satellite river monitoring data.

[Read More >](#)

Upcoming Meetings:

SWOT EA Quarterly Telecon, 19 April 2023
2023 SWOT Science Team Meeting, Toulouse, Sept.

SWOT Media Galleries



Visit links below for more information:

- swot.jpl.nasa.gov/applications
- www.aviso.altimetry.fr/en/applications.html
- depts.washington.edu/saswe/swot

A Few SWOT Applications Resources

SWOT is a pathfinding mission to monitor the precious resource of Earth's surface water on a global scale – something that has not been possible before. The SWOT project team continues to bring the spacecraft, instruments, and science data systems online in order to provide reliable science data products in flight. Validated SWOT data products are anticipated to be available by late 2023.

Here are some cool resources to check out! View and share these products & information links with your friends & colleagues to learn more about SWOT!

- [A video highlighting SWOT Applications](#)

- [SWOT Press Kit](#)
- [5 Things to Know About SWOT](#)

Applications activities highlights;

- Since 2012, the SWOT Applications program has expanded awareness of SWOT's societal value and generated anticipation for SWOT data among potential users.
- SWOT Applications program pioneered infrastructure for 24/7 community-driven online education/training for building technical literacy on SWOT.
- Many SWOT Early Adopters are funding application-critical science; providing cal/val infrastructure for lake data product, and adding value to Science Team activities.
- SWOT Early Adopter Program continues to grow -- spanning the Americas, Europe, Asia, & Africa—and represents the private, public and research sectors.