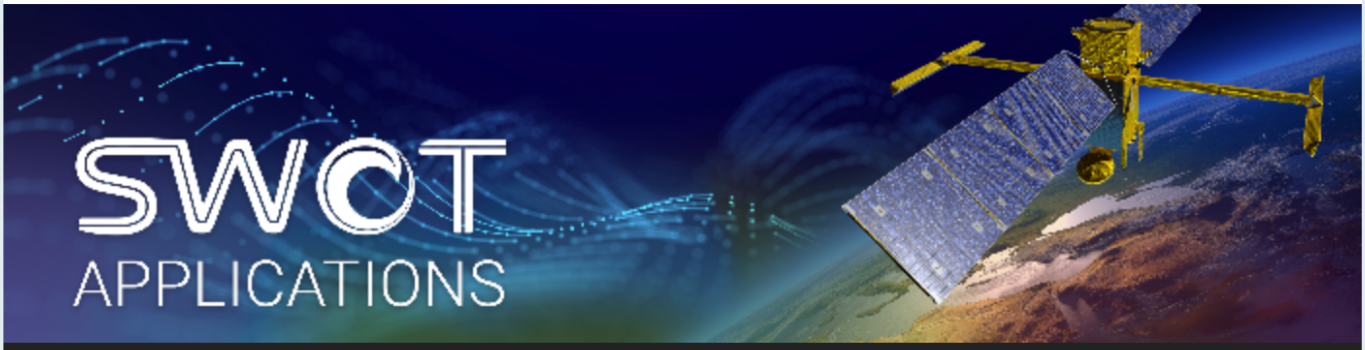
Jet Propulsion Laboratory
California Institute of Technology

Winter 2022 Newsletter



Planning for Impact

SWOT Applications and User Engagement

The Surface Water and Ocean Topography (SWOT) Applications Working Group (SAWG) has developed a program designed to build awareness and literacy of the SWOT Mission, capabilities, and data products to engage a broad range of existing and potential users for SWOT. Activities focus on:

- How and what SWOT will measure
- Expected SWOT data format, structure, and availability
- Expected ancillary services and functions for data management
- User-centric application potential & relevance to current mission resources and objectives
- Pre-launch prep for post-launch success

Preparing for SWOT After Launch

SWOT Early Adopters (EA) are working with proxy and simulated data to be ready for fully validated SWOT data soon after launch! Learn more about SWOT EAs **HERE**.

SWOT Applications at a Glance

7 Application Workshops

2 Virtual Hackathons

22 SWOT Early Adopters

9 Wide-Audience Articles on SWOT Applications

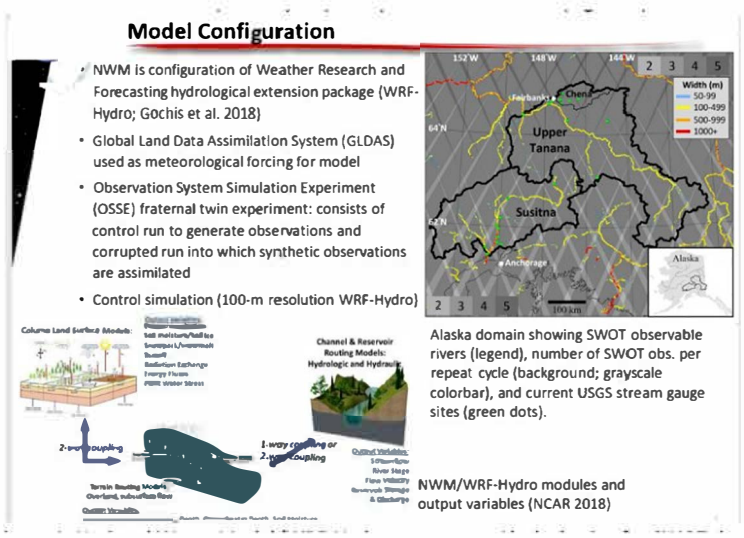
14 Peer-Reviewed Journal Papers by SWOT Early Adopters

--Online EDUCATION & TRAINING

--100+ citizen science LAKES GAUGED by Early Adopters for SWOT cal/val

--FIELD DATA shared with SWOT Science Team for product development

SWOT Early Adopter Highlights



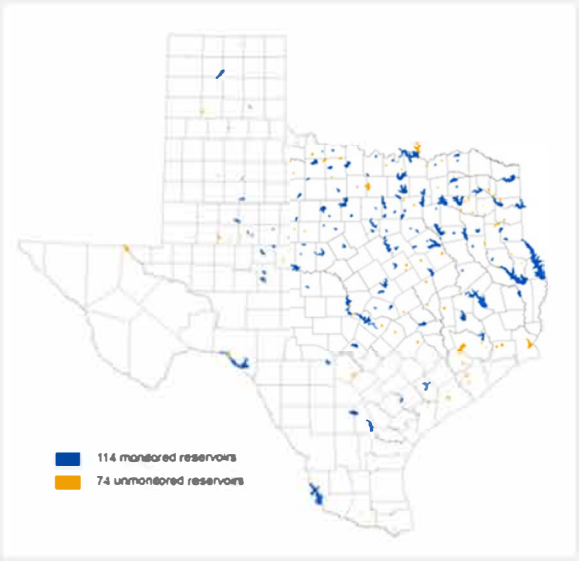
NASA Short-term Prediction Research and Transition (SPoRT) Center, Univ. Alabama

Title:
Assimilation of SWOT WSE to Improve National Water Model Initialization and Streamflow Prediction

Leads:
Nicholas Elmer (NASA SPoRT / Univ. Alabama in Huntsville); Christopher Hain (NASA SPoRT / NASA MSFC)

NASA SPoRT has applied the CNES SWOT Simulator to generate SWOT-like river observations for assimilation into WRF-Hydro. Learn more about their plan to transition NASA satellite capabilities to operational forecasters and models.

Read More >



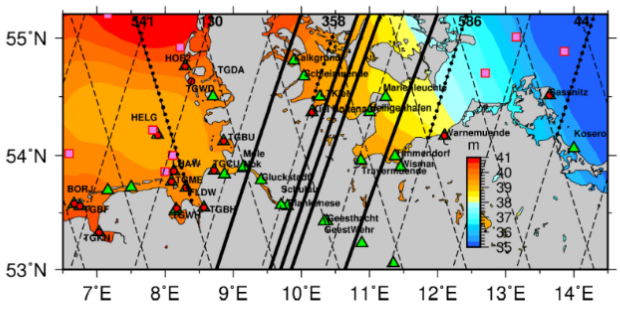
Texas Water Development Board (TWDB)

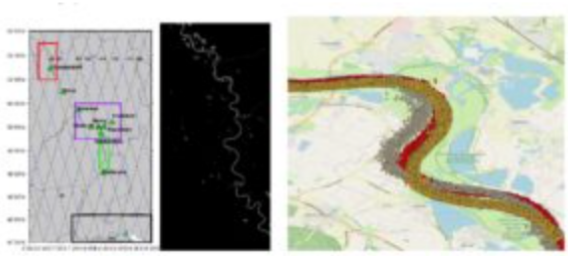
Title:
Estimation of Volumetric Evaporative Water Loss from Unmonitored Reservoirs in Texas

Leads:
Nelun Fernando, PhD, Manager; John Zhu, PhD, PG, Hydrologist

Evaporative loss from reservoirs is significant (especially during summer) and it often exceeds the water usage from reservoir. Being able to monitor evaporative water loss from all unmonitored reservoirs is a critical societal need as that would lead to improved assessments of surface water availability in the state.

Read More >





University of Bonn and Helmholz-Zentrum Geesthacht

Title:
Monitoring estuaries and coastal zone with SWOT

Leads:
Dr.-Ing. habil Luciana Fenoglio (University of Bonn, Institute of Geodesy and Geoinformation); Dr. Joanna Staneva (Head of Department Hydrodynamics and Data Assimilation, Institute for Coastal Research)

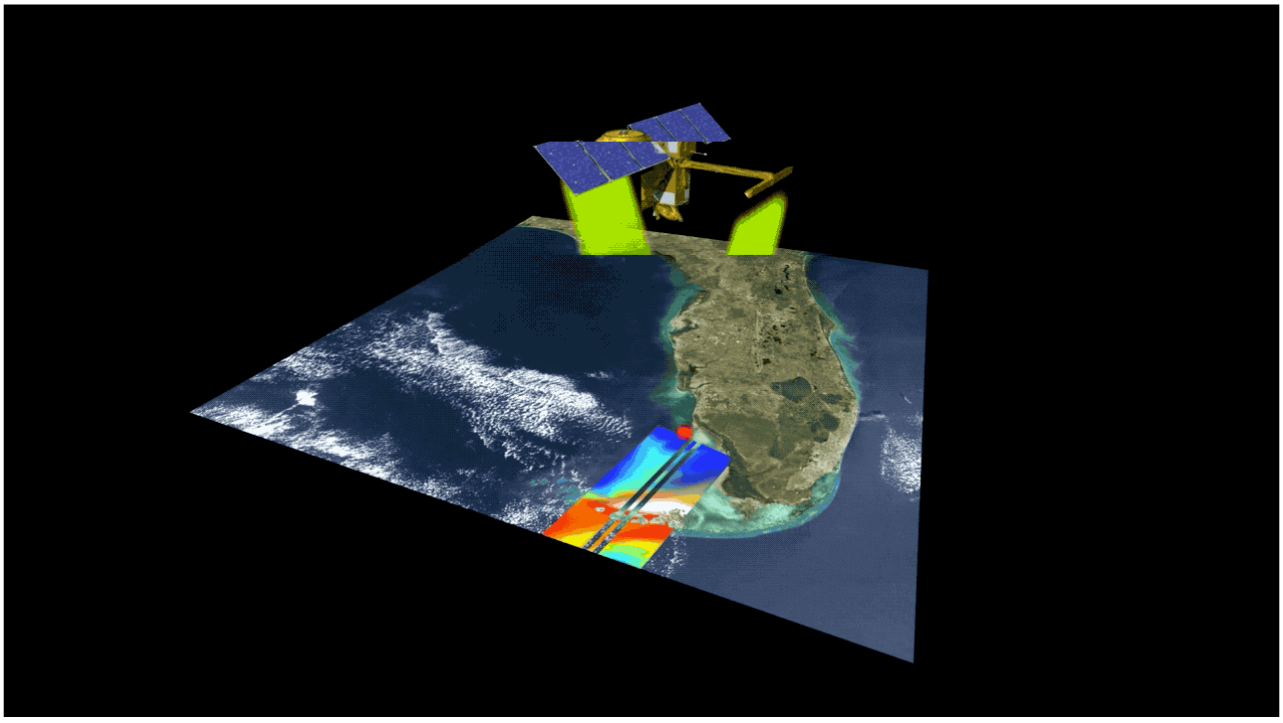
Using simulated SWOT observations, this group will study ocean processes from regional to coastal/estuarine/tidal inlet scales along the German coast. Their study will incorporate and assess the quality of L2 products during the 1-day Cal/Val phase to study coastal ocean dynamics, tides, extremes and coastal evolution.

Read More >

Upcoming Meetings:

SWOT EA Quarterly Telecon, 20 April 2022
2022 SWOT Early Adopter Virtual Hackathon, 25-28 April 2022 - **AGENDA**

SWOT Media Gallery



Visit links below for more information:

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

SWOT Applications in the Post-Launch Era

- Since 2016 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 every year--spanning the Americas, Europe, Asia, & Africa—and representing private, public and research sectors.