

**SWOT Science Team Meeting  
June 13-16, 2016  
Pasadena, CA, USA**

**Agenda**

**Monday, June 13**

7:45 Registration  
8:00 Continental Breakfast

Chair: L-L Fu

8:30 Welcome  
8:40 Meeting overview  
8:55 Program status (E. Lindstrom, S. Cherchali)  
9:25 Project Status (P. Vaze, T. Lafon)

**Mission description**

9:55 Science payload (B. Pollard)

10:15 Break

10:45 Orbit and mission phases (L-L. Fu)  
11:05 High-rate land mask (S. Biancamaria)  
11:25 Onboard processor (E. Peral)  
11:45 Measurement performance (D. Esteban-Fernandez)

12:25 Lunch

Chair: T. Pavelsky

2:00 Data products (P. Callahan)  
2:30 Algorithms (R. Fjortoft)  
3:10 Calval (E. Rodriguez)

3:50 Break

4:20 Ocean Simulator (C. Ubelmann)  
4:40 Hydrology simulator (E. Rogriguez/M.Durand)  
5:00 Applications (M. Srinivasan)

5:20 Adjourn

6:00 Cash bar reception

**Tuesday, June 14**

8:00 Continental Breakfast

**Science program (refer to the agenda of Science Team Introduction)**

Chair: R.Morrow

8:30 Science Team introduction I: Oceanography

10:05 Break

Chair: J-F. Cretaux

10:35 Science Team introduction II: Hydrology

12:30 lunch

Chair: All Science Leads

2:00 Poster session I

3:30 Break

4:00 Poster session II

4:30 Summary of the key themes and challenges of the ST's science plans (Science Leads)

5:30 Adjourn

6:15 Cash bar

7:00 Dinner

## **Wednesday, June 15**

8:00 Breakfast

### **Working groups**

Chairs: L-L. Fu, T. Pavelsky

8:30 Overview (L-L. Fu)

8:40 Algorithm development (E. Rodriguez/N. Picot)

8:50 CalVal (E. Rodriguez)

9:00 High-rate data coverage (S. Biancamaria/Y. Chao)

9:10 Tide models (R. Ray)

9:20 High-resolution ocean general circulation models (B. Arbic/P. Klein)

9:30 Discharge (C. Gleason/H. Roux)

9:40 Applications (M. Srinivasan)

9:50 Discussion

10:00 Break

### **Splinter sessions**

#### ***Oceanography***

Chairs: R. Morrow, L-L. Fu

10:30 Overview (R. Morrow, L-L. Fu)

The effects of tides/internal tides/ Internal waves on the SSH signals at 15-150 km

10:45 Observational results of internal waves (R. Ferrari)

11:00 Modeling results of internal waves (B. Arbic)

11:15 Tide models and incoherent tides (R. Ray)

The effects of surface waves on the SSH signals at 15-150 km

11:30 Results from AirSWOT (E. Rodriguez, C. Chen)

11:50 Results from lidar (K. Melville, L. Lenain)

12:05 Results from theories and models (F. Ardhuin, B. Chaperon)

12:20 Lunch

Estimation of the upper ocean circulation

2:00 High-level products and reconstruction techniques for SWOT (C. Ubelmann)  
2:15 Surface velocity and vorticity (D. Chelton, B. Qiu)  
2:30 Upper ocean vertical velocity (G. Lapeyre, B. Qiu)  
2:45 Ageostrophic effects (J. McWilliams)

2:55 Data product issues (S. Gille, N. Steunou)

3:15 Discussion

3:30 Break

### ***Hydrology***

Chairs: T. Pavelsky, J-F. Cretaux

10:30 Using the SWOT hydrology simulator (E. Rodriguez/S. Biancamaria)

10:50 Current status of AirSWOT experiments and results for hydrology (T. Pavelsky, E. Rodriguez)

River discharge algorithms working group update

11:10 Current status and future plans of non-DA algorithms (i.e. the Pepsi Challenge) (C. Gleason/H. Roux)

11:25 Organizing SWOT-based model intercomparisons for data assimilation approaches: Introduction (T. Pavelsky)

11:30 Approaches to DA Intercomparison (K. Andreadis/P-A Garambois).

11:45 Discussion

12:20 Lunch

2:00 Organizing pre- and post-launch cal/val participation by the science team (S. Calmant/E. Rodriguez)

Leveraging international partnerships:

2:10 Canada (A. Pietroniro or representative)

2:20 Brazil (S. Calmant to coordinate)

Interface between ADT and science team in areas other than discharge algorithms (e.g. water detection, a priori datasets, etc).

2:30 Water detection (B. Williams/R. Fjortoft)

2:40 A priori lake & river datasets (J.-F. Cretaux/T. Pavelsky)

2:55 Producing reach-averaged data products (R. Fraisson/M. Durand)

3:05 Crossover cal/val and impact over the continents (C. Ubelman)

3:20 Discussion of short time critical/near real time products for applications and science (T. Pavelsky/E. Rodriguez/S. Cherchali)

3:30 Break

### **Plenary Session**

Chairs: R. Morrow, J-F. Cretaux

### **Joint Hydro/Ocean sessions**

4:00 coastal-estuary-river continuums (B. Laignel, M. Simard, P. Demey, G. Han 20)

4:20 ocean-sea-ice-continental ice interfaces (J. Monnier, R. Kwok, 20)

4:40 Discussions

4:50 Future plans and closing (Science Leads)

5:30 Adjourn

## **SWOT Ocean Cal/Val Workshop**

Thursday June 16, 2016

- SWOT project and cal/val overview**
- 8:30 SWOT requirements and SSH measurements from altimetric and in-situ observations (L.-L. Fu and R. Morrow)
- 8:45 SWOT Cal/Val requirements, objectives, and approach (E. Rodriguez)
- AirSWOT overview and field campaigns so far**
- 9:00 AirSWOT (E. Rodriguez and C. Chen)
- 9:20 Lidar (K. Melville and L. Lenain)
- SWOT in situ cal/val challenges**
- 9:40 Challenges posed by time/space variability (T. Farrar)
- Experience from CARTHE**
- 10:00 Field campaign to address science objectives and lessons learned (E. D'Asaro and A. Shcherbina)
- 10:20 **Break**
- In situ field campaigns and techniques for inferring SSH**
- 10:40 Overview including mooring and towed CTD (T. Farrar) & In situ observations from April 2015 AirSWOT campaign (T. Farrar and Y. Chao)
- 11:00 In situ observations in France related to SWOT cal/val (F. d'Ovidio)
- 11:15 Pressure/inverted echo sounder (R. Watts and M. Andres)
- 11:30 Towed differential GPS (P. Bonnefond)
- 11:45 Profiling float (J. Girton)
- 12:00 **Lunch**
- Virtual campaigns, OSSEs, modeling to support field campaign**
- 13:30 JPL high-resolution global model (J. Wang)
- 13:45 Regional models off the U.S. east and west coasts (Y. Chao)
- 14:00 French modeling activities (F. d'Ovidio)
- 14:15 Modeling, data assimilation and adaptive sampling in CARTHE (G. Jacobs)
- 14:30 OSSE from HYCOM (B. Arbic)
- 14:45 Cross-spectral method to compute SWOT error budget (C. Uebelmann, G. Dibarboure)
- 15:00 **Break**
- Discussions of the following topics with moderators**
- 15:30 Roadmap for cal/val including AirSWOT, Lidar, and in situ (E. Rodriguez)
- 16:00 Selection of a cal/val site (R. Morrow)
- 16:30 Formation of a task team to develop a white paper of in situ observations (T. Farrar, F. d'Ovidio)
- 17:00 Wrap-up and next steps (E. Rodriguez)
- 17:30 **End**

## Meeting on High-Level SWOT Data Products for Hydrology

Thursday, June 16, 2016

- Draft Agenda

Chairs: T. Pavelsky, J-F. Cretaux

Morning (focused on talks):

9:00a Basic data products to be produced by the project & associated errors.  
(Pavelsky, Cretaux, Rodriguez)

--Pixel Cloud, pass-based vector products, raster

9:30a Current status of cycle-based vector products (Cretaux, Pavelsky)

10:00a The Pepsi Challenge & discharge: moving forward. (Pierre-Andre  
Garambois & Colin Gleason)

10:30a Break

10:45a Current status of SWOT data assimilation in hydrologic &  
hydrodynamic models (Kostas Andreadis & Sylvain Biancamaria)

11:15a SWOT wetlands products: brief presentation and discussion (M.  
Simard, S. Calmant)

11:45a Charges for afternoon breakout sessions (Pavelsky, Cretaux)

12:15p Lunch

Afternoon (focused on discussion, development of collaborative plans and possible  
SWOT data products going forward):

1:45p Focus group on products from data assimilation in hydrologic models  
(Aaron Boone, Eric Wood, Cedric David)

Focus group on products from data assimilation of SWOT and  
multisensor data in hydrodynamic models (Jerome Monnier, Kostas  
Andreadis)

Focus group on cycle-based vector products (Tamlin Pavelsky,  
Yongwei Sheng, Jean-Francois Cretaux)

Focus group on wetland products (Marc Simard, Stephane Calmant)

3:15p Break

3:30p Reports from Breakout Groups (10 min presentations, 10 min  
discussion each)

5:00p Close