



SnowEx: a NASA airborne campaign leading to a snow satellite mission

SnowEx update: Nov 3, 2016

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Sponsored by NASA Headquarters/Terrestrial Hydrology Program Manager: Jared Entin

Agenda



0. Welcome (Ed)
--brief update on this week's fall prep (Kelly, Paul H.)
1. Winter Campaign:
 - a. Ground:
 - i. participant selection update/ground deployment plan/ snow survey (transect and snowpit) groups - Kelly Elder (7 mins)
 - ii. LSOS, TLS, SSA/SMP, GBRs groups - Ludo Brucker/HP Marshall /Chris Hiemstra - (8 mins)
 - iii. Ground Q + A (5 mins)
 - b. Airborne
 - i. P-3 flyers prep – Ed (3 mins)
 - ii. P-3 engineering & instruments status: Eugenia (5 mins)
 - iii. other confirmed/potential aircraft – Ed (4 mins)
 - iv. Airborne Q + A (3 mins)
 - c. Data Management
 - i. survey heads up - Amanda (3 mins)
 - ii. Data Management Q + A (4 mins)
2. Other topics:
 - a. Schedule updates: Amy (3 mins)
 - b. logo: Amy (1 min)
 - c. Upcoming Meetings & Events/D. Hall: (5 mins)
3. Update from HQ - Jared Entin - (3 min)
4. Q & A (5 mins)
5. next webex (1 min)
6. adjourn

For more information, see
snow.nasa.gov → snowex
Slides will be posted there, too.

Fall Campaign follow up visit



Kelly Elder, Paul Houser



Winter Campaign Preparations

Ground



Kelly Elder

- **Ground Deployment Plan**
- **Winter Participant Selection Update**
- **Snow Survey (Transect and Snowpit) Groups**

GROUND MEASUREMENT TEAMS



People may work one, two, or three weeks, but **NO** partial weeks are possible. This requirement is based on safety, data quality and consistency, training requirements, travel logistics, and room and board availability.

The schedule is as follows:

Week 1 - Arrive at Grand Junction (Grand Mesa) Sunday, 2/5/17.

Training on Grand Mesa Monday, 2/6/17

Work Tuesday through Saturday, 2/11/17

Depart Grand Mesa morning Sunday, 2/12/17

Week 2 - Arrive at Grand Junction (Grand Mesa) Sunday, 2/12/17.

Training on Grand Mesa Monday, 2/13/17

Work Tuesday through Saturday, 2/18/17

Depart Grand Mesa morning Sunday, 2/19/17

Week 3 - Arrive at Grand Junction (Grand Mesa) Sunday, 2/19/17.

Training on Grand Mesa Monday, 2/20/17

Work Tuesday through Saturday, 2/25/17

Depart Grand Mesa morning Sunday, 2/26/17

Team Selection Process



- We have started the team member selection process
 - Contacting all people that have filled out the participation surveys or notified us of intent to participate
- Adding participants that are able to work within scheduled time blocks (weeks 1, 2 and 3)
- Contacting people who previously responded, but
 - Did not have coincident dates with schedule
 - Did not provide dates
- Plan to have results out by November 15

Ground



Ludo Brucker/HP Marshall/Chris Hiemstra

- **LSOS**
- **TLS**
- **SSA/SMP**
- **GBRS groups**

Ground



Q & A



Winter Airborne Preparations Update

Ed Kim/Eugenia De Marco

P-3 flyers preparations



- Held briefing for all P-3 flyers (SnowEx sensor operators)
- FAA medicals being obtained
- Navy swim qualification/water survival training discussed
- Practice swims being scheduled
- Base access being processed
- Backup operators to be identified & qualified

All P-3 flyer preparations proceeding on target

P-3 engineering & sensors status



- SnowSAR
 - Radome properties being assessed wrt transmit power → flight altitude, swath width, calibration
 - Aircraft motion considerations
 - MetaSensing to conduct own test flight in Europe prior to shipping instrument to P-3
- CAR (BRDF)
 - Modified P-3 nose delivered from NASA to Navy
 - Cabling to be installed in P-3
- AESMIR (passive mw)
 - Full up testing of 18 & 36 GHz in Nov
 - Engineering of bomb bay pallet in progress; CDR soon
- Thermal IR
 - Imager identified from GSFC; cold test planned
 - High-accuracy non-imaging IR sensor identified from UW
 - Video camera identified
 - Window for high IR accuracy identified
 - Video window identified
 - IR calibration strategy in formulation (C.Crawford)

All P-3 sensors on schedule for December integration

Confirmed and potential aircraft



List as of Nov 1

Confirmed

- NRL P-3 (VXS-1)
- King Air with ASO (same as fall)
- NASA G-III with GLISTIN-A (same as fall)

Potential

- NASA G-III with UAVSAR
- Twin Otter with WISM
- Another Twin Otter with NRL ice suite
- UAS (drone) with lidar

Flight coordination for safety & science quality will be essential

Airborne



Q & A

Data Management



Amanda Leon/Jeff Deems

- **Survey to come**
- **Q & A**



SCHEDULE UPDATE

Amy Misakonis



- Airborne
 - NRL CDR: TBD
 - Instrument Readiness Review: 12/5
 - Instruments on deck at PAX: 12/19
 - Instrument integration: 1/3 – 1/11
 - Test Flights: 1/12, 1/13
 - Aircraft arrival in CO: 2/1
 - Campaign Flights: 2/6 – 2/24
- Ground
 - Draft Experiment Plan completed: 11/18
 - All personnel notified and begin onboarding: 11/15
 - All procurements requested: by 12/22
 - All travel booked: by 1/1
 - Team leadership arrival in CO: 2/1
 - All Week 1 arrivals in CO: 2/5
 - Campaign begins: 2/6

SnowEx Logo

Amy Misakonis



SnowEx Logo



Upcoming Meetings



Dorothy Hall

SnowEx Fall AGU Town Hall (San Francisco, CA, Dec. 12, 2016; 12:30pm)

SnowEx Workshop (Boulder, CO, August 2017)

4th Winter Field Course for Snow Measurements Kananaskis, Canadian Rockies, Jan 5-9, 2017). (Application deadline: Nov 18. Decision: Dec 1. <http://iswgr.org/fieldwork2017>)



NASA HQ update

Jared Entin



General Q & A