



3rd Annual Airborne Snow Observatory Meeting
10-13 September 2018
Mammoth Lakes, CA

<https://climatesciences.jpl.nasa.gov/events/20180910-ASO-workshop/index.html>



Internet connectivity
Mammoth Guest

Meeting connectivity
Join from PC, Mac, Linux, iOS or
Android: <https://cuboulder.zoom.us/j/218423552>

AGENDA, 3rd Annual ASO Meeting

DAY 1, AIRBORNE SNOW OBSERVATORY MEETING, 10 September 2018

ASO/AWSM+ iSNOBAL Tutorial	Attendees will learn about the principals of snow physics, the ASO acquisitions and processing, the iSNOBAL snow model, the new Automated Water Supply Modeling (AWSM), and run an example application from the Tuolumne.	For more information or to sign up for the meeting, email Judy Lai (Judy.Lai-Norling@jpl.nasa.gov) and Scott Havens (scott.havens@ars.usda.gov).	DAY 1
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DAY 2, AIRBORNE SNOW OBSERVATORY MEETING, 11 September 2018

	Time	<i>Mountainside Conference Center, Mammoth Mountain Ski Area</i>		
Kickoff Session	8:30-9:00	Registration	MCC	
	9:00-9:10	Thomas H. Painter	ASO PI	ASO Meeting kickoff
	9:10-9:20	Mark Brownlie	CEO Mammoth Mountain	Welcome
	9:20-9:30	Jared Entin	NASA HQ Terrestrial Hydrology	Welcome
	9:30-9:40	Forrest Melton	NASA HQ Applied Sciences	Welcome
	9:40-9:50	Frank Gehrke	CA Dept of Water Resources	Welcome
	9:50-10:00	Pat Hayes	Mammoth Community Water	Welcome
	10:00-10:10	Judy Lai	ASO Project Manager	WWAO
	10:10-10:40	<i>BREAK</i>		

ASO Program Overview	10:40-10:50	Thomas Painter	ASO overview Part 1
	10:50-11:00	Danny Marks	ASO overview Part 2
	11:00-11:10	Kat Bormann	ASO snow density
	11:10-11:20	Jeff Deems	ASO lidar
	11:20-11:30	McKenzie Skiles	ASO spectrometer
	11:30-11:40	Michael Joyce	ASO computing
	11:40-11:50	Daniel Berisford	ASO flight updates
	11:50-12:00	Scott Havens	ASO/AWSM/iSNOBAL snowmelt modeling
	12:00-1:30	<i>LUNCH</i>	
Science (Chair: TBD)	1:30-1:50	Michael Anderson	Advanced Observing Systems Supporting Water Management in a Warming World
	1:50-2:10	Ryan Currier	Lasers vs Lasers: An intercomparison between ASO, TLS, GNSS, and snow-probe transects from NASA's SnowEx campaign
	2:10-2:30	Nancy Glenn	ASO's full waveform lidar for assessing vegetation structure and function in Reynolds Creek Experimental Watershed and Grand Mesa
	2:30-2:50	Ty Brandt	Quantifying the spatial distribution of accumulated snow with the Airborne Snow Observatory
	2:50-3:10	Kristoffer Aalstad	Ensemble-based reanalysis of the seasonal montane snowpack: Lessons from the ASO
	3:10-3:30	Justin Pflug	Quantifying glacier ablation by fusing remotely-sensed mass-balance estimates and hydrologic models in Olympic National Park, Washington, USA
	3:30-4:00	<i>BREAK</i>	

AGENDA, 3rd Annual ASO Meeting

Science (Chair: TBD)	4:00-4:20	Guila Mazzotti	Capturing snow distribution in forested areas using airborne lidar data
	4:20-4:40	Adrian Harpold	Unraveling Controls on Snow Disappearance Timing in Forest with Observations and Models
	4:40-5:00	Fabian Schneider	Characterizing vegetation habitats and biodiversity with ASO lidar and imaging spectroscopy

DAY 3, AIRBORNE SNOW OBSERVATORY MEETING, 12 September 2018

	Time	<i>Mountainside Conference Center, Mammoth Mountain Ski Area</i>	
Science (Chair: M. Joyce)	9:00-9:20	S. McKenzie Skiles	More than just a pretty picture: Applications of ASO imaging spectroscopy and RGB imagery
	9:20-9:40	Andrew Hedrick	Investigating the water balance of the Tuolumne River Basin over three dynamic water years (2015 – 2017)
	9:40-10:00	Ernesto Trujillo	Incorporating streamflow into the iSNOBAL/AWSM modeling system
	10:00-10:20	Karl Rittger	Integration of the Airborne Snow Observatory data with daily observations and forecasts
	10:20-10:50	<i>BREAK</i>	
Operations (Chair: J. Lai)	10:50-11:10	Brian Pollard	Leveraging the ASO concept for SWE retrievals from Ka-band radar interferometry of snow height measurements
	11:10-11:30	Sean de Guzman	Sharing and visualization of ASO/iSnobal data with the Cooperators through the FERIX system to improve coordination and seasonal forecasting
	11:30-11:50	Chad Moore	Forecasting for Environmental Flows - What does an accurate and timely runoff forecast buy you?
	11:50-12:10	Adrian Harpold	Progress Using High-Resolution Snow Models in Forest Management: The Tahoe West Project Case Study
	12:10-1:40	<i>LUNCH</i>	
Operations (Chair: J. Deems)	1:40-2:00	Tobias Jonas	Advances in operational monitoring of snow in the European Alps using airborne lidar data
	2:00-2:20	Jeff Payne	San Joaquin

	2:20-2:40	Matt Meadows	Kings
	2:40-3:00	Kat Bormann	Estimating uncertainty in ASO 50 m SWE products
	3:00-3:30	<i>BREAK</i>	
Operations (Chair: F. Gehrke)	3:30-3:50	Chris Graham	Using ASO to constrain seasonal streamflow forecasts
	3:50-4:10	Reggie Walters	Assimilation of ASO into the Tuolumne River Basin PRMS model
	4:10-4:30	Olivia Cramer	Impacts of ASO on water supply planning at Don Pedro Reservoir
	4:30-4:50	Hannah Haugen	Extension of seasonal flow forecasting with ASO in the Lakes Basin and San Joaquin Basin
	4:50-5:10	Danny Marks	Integrating modeling and remote sensing - a new paradigm for water science
	5:10-5:30	Tom Painter	<i>ASO Precursors</i> : Dr Langley and the 1881 Mt Whitney expedition to measure the solar constant and spectral atmospheric absorption
Reception	5:30-7:30	Ride Gondola to the top of the mountain – dress warmly for planet and star viewing	

DAY 4, AIRBORNE SNOW OBSERVATORY MEETING, 13 September 2018

Operations (Chair: TBD)	Time	<i>Mountainside Conference Center, Mammoth Mountain Ski Area</i>	
	9:00-9:20	Liz van Wagtendonk	ASO scheduled acquisition of high fidelity lidar and imaging spectrometer data for the Plumas NF to assess forest condition and aid the State workforce lidar application
	9:20-9:40	Jeff Deems	ASO in Colorado: supporting resilient water management through research integration and emerging partnerships
	9:40-10:00	Kehan Yang	Comparison of SWE product with ASO SWE measurements in the Upper Tuolumne Basin, California
	10:00-10:20	Jim Van Rens	Words from Riegl on their relationship with the ASO program
	10:20-10:40	Tom Painter	Update on ASO 2019 and 2020+
	10:40-11:10	<i>BREAK</i>	
Discussion (Chair: TBD)	11:10-12:30	Final discussion	
	12:30-2:00	<i>LUNCH</i>	

Logistics:

Accommodation

MAMMOTH MOUNTAIN INN	SUN 09/09/18	MON 09/10/18	TUE 09/11/18	WED 09/12/18	THU 09/13/18	GOVERNMENT ROOM RATE
Hotel Room	No rooms held, rate based on availability	No rooms held, rate based on availability	No rooms held, rate based on availability	No rooms held, rate based on availability	No rooms held, rate based on availability	\$131.00 PER NIGHT
JUNIPER SPRINGS RESORT	SUN 09/09/18	MON 09/10/18	TUE 09/11/18	WED 09/12/18	THU 09/13/18	GOVERNMENT ROOM RATE
One Bedroom Condo	No rooms held, rate based on availability	No rooms held, rate based on availability	No rooms held, rate based on availability	No rooms held, rate based on availability	No rooms held, rate based on availability	\$131.00 PER NIGHT
THE VILLAGE LODGE	SUN 09/09/18	MON 09/10/18	TUE 09/11/18	WED 09/12/18	THU 09/13/18	GOVERNMENT ROOM RATE
One Bedroom Condo	No rooms held, rate based on availability	No rooms held, rate based on availability	No rooms held, rate based on availability	No rooms held, rate based on availability	No rooms held, rate based on availability	\$131.00 PER NIGHT

ONLINE:

Individuals may book **ONLINE** until the room block cutoff date, **Monday, August 27, 2018** by accessing our online website, <https://groups.mammothmountain.com/mammothresort#groupSignIn> and using the following information:

Group ID: 26895

800-MAMMOTH:

Please call **800-MAMMOTH (1-800-626-6684)** until the room block cutoff date of Monday, August 27, 2018. For reservations please reference the group name **Annual NASA Airborne Snow Observatory MEETING or Booking ID: 26895**. Reservations are subject to the deposit and cancellation policies quoted online or by the vacation specialist. Please note applicable taxes and fees are subject to change at the time of your stay.

You may cancel or change the reservation up to 2 full days prior to your arrival and only forfeit a \$50 cancellation fee. Cancellations or changes within 2 days of arrival will result in full forfeiture of the deposit.

Contact phone numbers:

In case you run into any issues, please call any of the following people –

Liz Carey, JPL, 626.773.6313

Tom Painter, JPL, 626.319.3111

Martha Farfan, JPL, 626.437.6558

Judy Lai-Norling, JPL, 818.669.6806

Kat Bormann, JPL, 626-318-9440

Meeting Location

DAYS 1-4 (10-13 September, 2018) Mammoth Mountain *Mountainside Conference Center (MCC)* in Main Lodge
1 Minaret Road, Mammoth Lakes, CA 93546



A - Mammoth Main Base Lodge
B - Panorama Gondola Station
C - Ski & Snowboard Team HQ
D - Mammoth Mountain Inn
E - The Yodler Restaurant & Bar
F - Snowmobile Adventures
L - Mountainside Conference Center Entrance

Getting to Mountainside Conference Center



Go inside Main Lodge entrance and up 2 flights of stairs to the Mountainside Conference Center

