

2019 FIREX-AQ Twin Otter Teleconference

July 9, 2019



1. Chem Otter instrument updates
2. Integration updates & notes
3. Transit logistics
4. Excursion dates and logistics

5. Fire outlook
6. Data archive

Instrument	Position	Species Measured	Investigators	Institution	Status
Picarro CRDS	1	CO, CO ₂ , CH ₄ , H ₂ O	Colm Sweeney	NOAA GMD	
Met Probe & Diff GPS	1	RH, Temp, Pres, Winds, GPS, flight data	Mike Robinson, Steve Brown	NOAA CSD	
Tenax cartridge autosampler	1	Speciated VOC	Kelley Barsanti, Lindsey Hatch, Avi Lavi, Paul Van Rooy	UC Riverside	
I ⁻ ToF CIMS	2	Acids (HNO ₃ , HONO, Organics), acid gases (N ₂ O ₅ , ClNO ₂), Oxygenated organics, Organic nitrates, Halogens	Joel Thornton, Brett Palm, Carley Fredrickson, Zach Decker	University of Washington / NOAA	
Aerosol mass spectrometer, UHSAS, CLAP	3	Aerosol composition + size distributions	Ann Middlebrook, Ale Franchin, Kathy Hayden, Shao-Meng Li	NOAA CSD Environment Canada	
Brown carbon PiLS	4a	Spectrally resolved aerosol absorption	Rebecca Washenfelder, Lisa Azzarallo	NOAA CSD York University	
Chemi-luminescence	4b Floor	NO, NO ₂ , O ₃	Andy Weinheimer, Denise Montzka, Geoff Tyndall, Frank Flocke	NCAR	
TRAC Sampler	4a	Particle composition, mixing state, morphology	Alex Laskin, Jay Tomlin, Kevin Jankowski	Purdue University	
Offline WSOC analysis	4a	Particle composition	Cora Young, Lisa Azzarallo	York University	
jNO ₂ heads	Camera port	NO ₂ photolysis rates	Mike Robinson	NOAA CSD	

Integration & Transit Schedule

2019 JULY						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
14	15 Transit Florida to RAF Box Truck NOAA to RAF	16 Box Truck NCAR to RAF	17 Aircraft Prep	18 Sta. 1 & 2 NO _x Pump	19 Sta. 1 & 2 NO _x Pump	20 No Access
21 Sta. 3 AMS	22 Sta. 3 AMS	23 Sta. 4 BrC, NO _x O ₃ Shelf	24 Sta. 4 BrC, NO _x O ₃ Shelf	25 Instrument Tests & Cross Training	26 Test Flights & Packing	27 No Access
28 No Access	29 Test Flights & Packing	30 Test Flights & Packing	31 Transit RAF to Boise		First Research Flight	

July 15-16: Transit from Lakeland, FL to Broomfield, CO (RAF)

July 17: Aircraft Prep, window plates, exhaust, inlets, etc.

July 18-19: Stations 1 & 2 (Picarro, VOC sampler, Met probe / GPS, I²CIMS), NO_x Pump

July 21-22: Station 3 (AMS)

July 23-24: Station 4 Integration (BrC PiLS) + NO_x/O₃ Rack + O₃ shelf

July 26-30: Test flights & packing

July 31: Transit from Broomfield, CO to Boise, ID

Aug 2: First research flight

- Truck, NOAA → RAF, July 15, packing at 10 AM
- Truck, NCAR Foothills → RAF, July 16, Time TBD
- TOMLG Teleconference @ RAF, 1 PM July 16
- No access Saturday, July 20: Access on July 21 instead

Integration Schedule – Instrument Teams

Picarro, Met Probe, J-heads, Aerosol Inlet	July 17 – 19
VOC Autosampler	July 17 – 19
I- CIMS	July 17 – 19
AMS	July 17, July 21 – 22
BrC PiLS	July 17, July 23 – 24
TRAC Sampler (?)	July 23 – 24
NO_x, O₃	July 17 – 19, July 23 – 24
All Instrument Teams	July 25 - 31

Other Integration Notes

1. Be sure you have a badge for RAF access if you need it !

If you still need to satisfy the requirements, you should have received an e-mail from me and should know who you are.

If you think you will be at RAF, you have not applied for a badge, and you have not received an e-mail, contact me ASAP.

2. EMMA schedule (100 hour maintenance)

Still planned for both aircraft. N46, Met Otter is first, and N48, Chem Otter, is second. Expected completion date for N48 is July 25. This may affect the test flight schedule.

3. Tool control policy for working on Twin Otters

See July 8 e-mail from Mike Robinson

Transit to Boise – July 31 ($\pm \delta$ days)

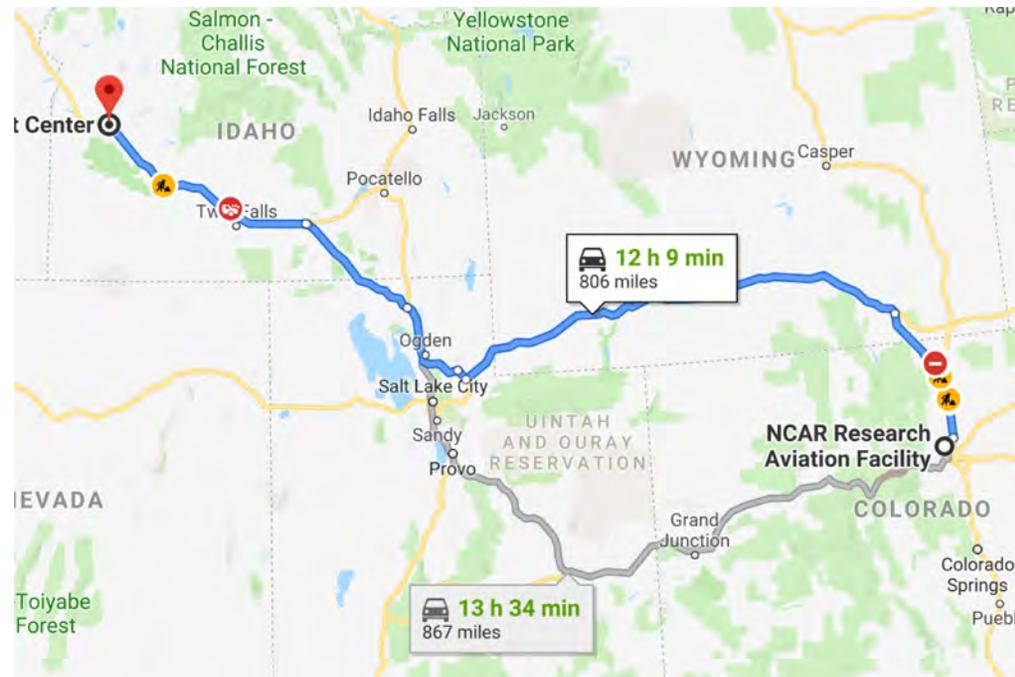
- 3 Vehicles:
 - 24' Ryder moving truck (seats 2)
 - F350 support truck (seats 4)
 - NOAA / CSD Chevy Equinox (seats 4)



- To maximize flexibility / save cost, the following have agreed to drive to Boise in these vehicles:

Matt Roberts, Macy Morgan, Zach Decker, Ale Franchin, Mike Robinson, Brett Palm, Carley Fredrickson, Avi Lavi (8 total)

- NOAA Feds (Steve, Rebecca, Ann) will fly on flexible federal tickets
- NCAR investigators (Andy, Frank, Geoff, Deedee) are traveling separately (?). Please update status.
- Note: Ryder truck is to depart from RAF directly. No planned stop at NOAA or NCAR foothills labs



Rental Cars in Boise

Vehicle	Drivers
Chevy Equinox	Mike Robinson, Zach Decker
Rental Car #1	Ann Middlebrook, Ale Franchin
Rental Car #2	Rebecca Washenfelder, Lisa Azzarello
Rental Car #3	Avi Lavi, Carley Frederickson, Brett Palm
Rental Car #4	Steve Brown, Matt Roberts, Macy Morgan
Rental Car #5	NCAR group ? Plans ?

This number of cars not optimal for the “excursions” due to need for divers for support truck and moving truck

Turn in 2 rental cars and pick up in new location if we go

Support Truck Driving Assignments

Week	Dates (Approx)	Driver 1	Driver 2
Week 1	Aug 1 - 7	Matt Roberts	Macy Morgan
Week 2	Aug 8 - 14	Matt Roberts	Zach Decker
Week 3	Aug 15 - 21	Matt Roberts	Ale Franchin
Week 4	Aug 22 - 28	Macy Morgan	Carley Fredrickson
Week 5	Aug 29 - Sep 4	Macy Morgan	Ann or Rebecca or Steve

Excursion Dates and Locations

Three locations with hotel room blocks

- Klamath, Oregon
- Yakima, Washington
- Spokane, Washington

Should we include Missoula ??

Three blocks of time in the month of August

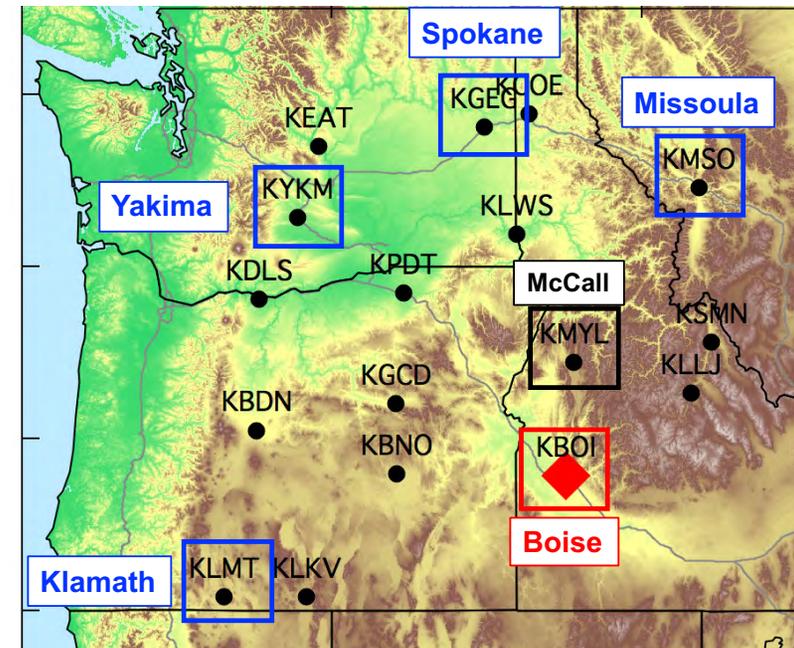
- Excursion 1: August 4 – 13 (15 room block)
- Excursion 2: August 14 – 21 (12 room block)
- Excursion 3: August 22 – 31 (12 room block)

Logistics

- Hotel room blocks set aside for each place for each set of dates (or will be soon)
- Updated information on campaign web site this week
- Room block release dates are 1-2 weeks prior to the excursion start date
- Cancellation is 24 hours notice

Instructions

- Watch e-mail or slack and make reservations when instructed (1-2 weeks out)
- Cancel reservations as decisions are made (2-3 days out)
- Adjust your Boise hotel reservation accordingly



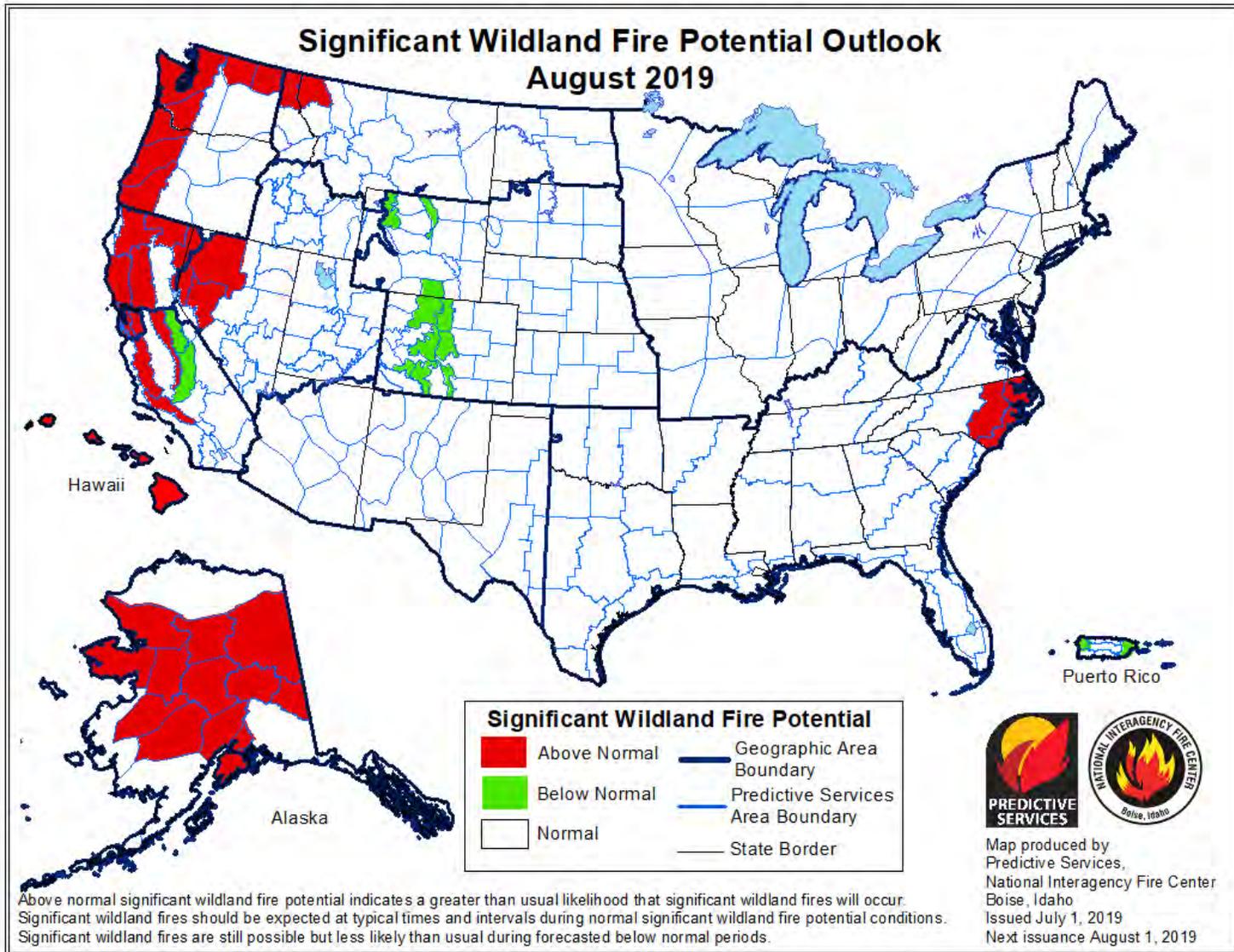
Excursion Calendar

- Boise
- Excursion
- Transit

Any of these "excursion" blocks may be in Boise ... it is likely that we will spend at least one there

2019 AUGUST						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Significant Wildland Fire Potential Outlook August 2019



Significant Wildland Fire Potential			
■	Above Normal		Geographic Area Boundary
■	Below Normal		Predictive Services Area Boundary
■	Normal		State Border

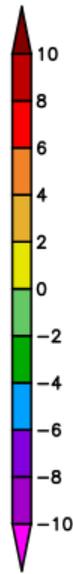
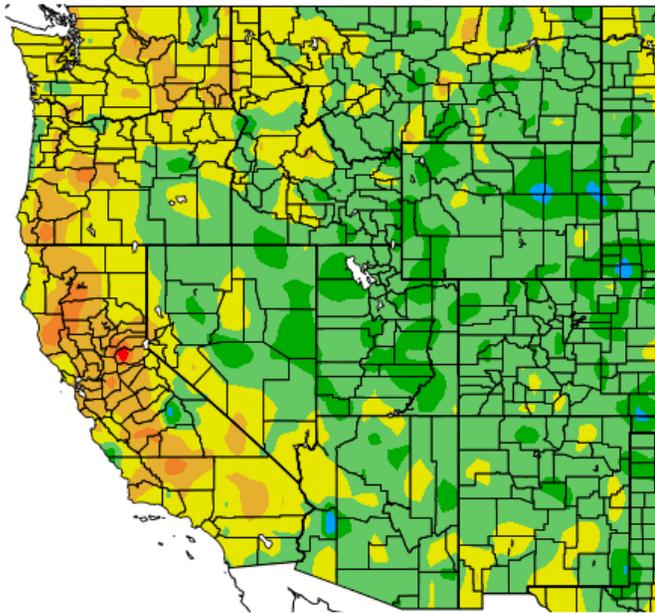
Above normal significant wildland fire potential indicates a greater than usual likelihood that significant wildland fires will occur. Significant wildland fires should be expected at typical times and intervals during normal significant wildland fire potential conditions. Significant wildland fires are still possible but less likely than usual during forecasted below normal periods.



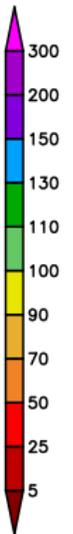
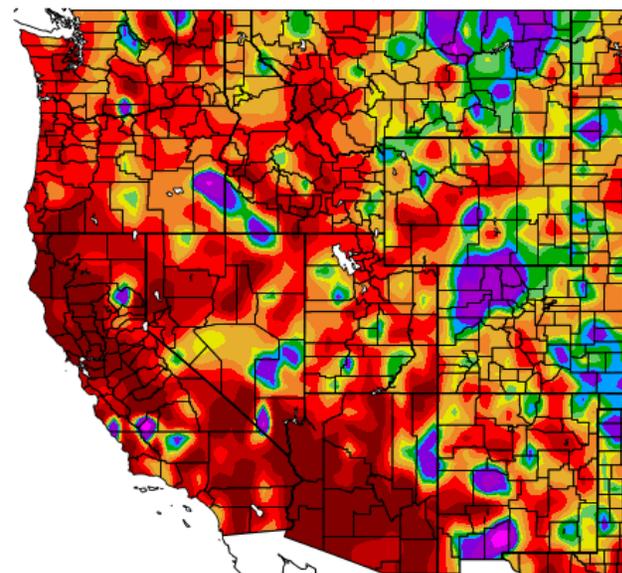
Map produced by
 Predictive Services,
 National Interagency Fire Center
 Boise, Idaho
 Issued July 1, 2019
 Next issuance August 1, 2019

June 2019 Temperature and Precipitation

Departure from Normal Temperature (F)
6/1/2019 – 6/30/2019



Percent of Normal Precipitation (%)
6/1/2019 – 6/30/2019



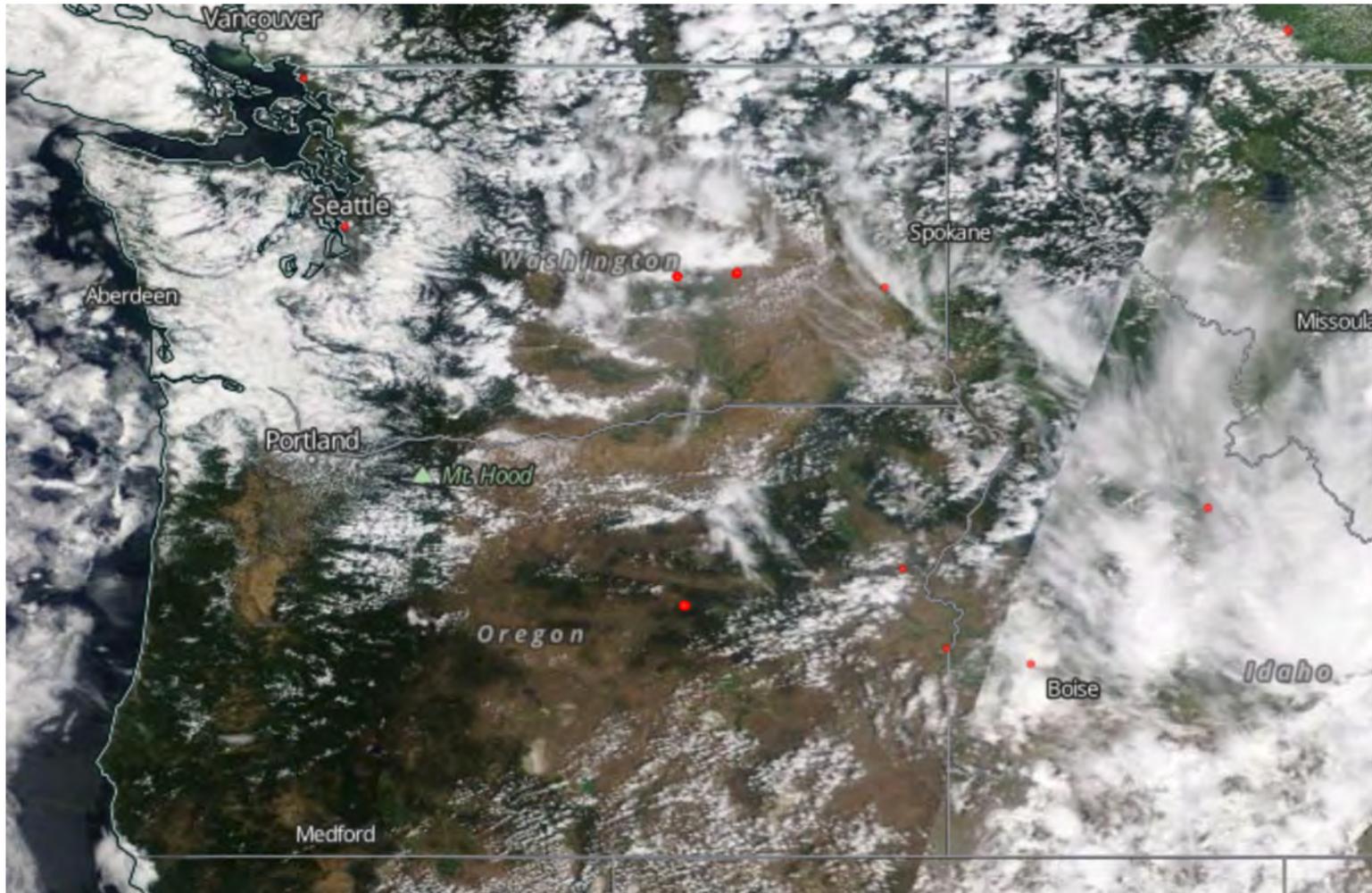
Generated 7/1/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers Generated 7/1/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

Bob Yokelson, linked from "Wildfire Today"

NASA Worldview Fire Detections, July 8 2019



Central Oregon Expanded View



Data Archive

Data archive for the chem otter will be hosted at NOAA. This archive will then be linked / mirrored at the NASA web site for the broader FIREX-AQ project.

Data manager = Ken Aikin, kenneth.c.aikin@noaa.gov

Data format will be the standard ICARTT files

Many of us are familiar with this format. Contact Ken Aikin for instructions if you are not.

There may be updates to the file format for this project to include additional data in the headers.

Instructions for submitting data to the archive:

- 1) Log into <ftp.al.noaa.gov>; Username = firex_aq_otter; Password = sm0k3y!
- 2) Upload your ICARTT files into the IncomingData folder
- 3) Ken will add these files to the NOAA TropChem data archive, and data will be available at:
<https://esrl.noaa.gov/csd/groups/csd7/measurements/2019firex-aq/TwinOtter/DataDownload/>
Username = firex_aq; Password = sm0k3y!

Data Archive

FIREX-AQ 2019 NOAA-CHEM Twin Otter Data Download

Select a flight to download data.

Select a flight 

flt20170112 is currently selected.

All time is UTC. All files are zipped. Click on the icon to download.

Data revision is indicated by R followed by a letter (preliminary data) or number (final data).

 indicates files in [ICARTT ascii format](#).

 indicates files in [Igor binary format](#).

 indicates no files will be available - contact the PI.

DataID	Download	Revision	Plots
Download All:  			
AMS			<input type="checkbox"/> AMS_SO4 <input type="checkbox"/> AMS_NO3 <input type="checkbox"/> AMS_NH4 <input type="checkbox"/> AMS_Org <input type="checkbox"/> AMS_ChI <input type="checkbox"/> AMS_Total

Airfield Information

City	Airfield	Alt (ft)	FBO	Phone	GPU	Hangar	Avg Hi / Lo	Notes
Klamath Falls, OR	KLMT	4,095	Century Aviation	541 882 4681	Yes	Yes	85 / 50	
Yakima, WA	KYKM	1,099	McCormick Air	509 248 1680	Yes	Yes	88 / 58 °F	
Spokane, WA	KGEG	2,385					83 / 56	
Missoula, MT	KMSO	3,205					85 / 50	
Redding, CA	KRDD	505	Redding Jet Center	530 224 2300	Yes	Maybe	99 / 63	Heavy aerial firefighting traffic
Boise, ID	KBOI	2,871	Jackson Jet Center		Yes	Yes	92 / 57	