



SnowNews

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Rebuilding the Dollarhide Summit SNOTEL site

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The Dollarhide Summit SNOTEL site was completely destroyed in the August 2013 Beaver Creek Fire which burned near Ketchum, Idaho. Following is a brief history of this important site and the recent effort by the Idaho Data Collection Office to rebuild it.

Erected on August 20, 1949, Dollarhide Summit snow course was set up to be measured for the first time in the winter of 1950. The location was selected by Morley Nelson, Columbia Basin Snow Survey Supervisor in Boise, Idaho, to monitor the mountain snowpack along the South Fork Boise River and Big Wood River Divide.

The site is at 8,420 feet elevation and is key to monitoring the annual snowfall in the headwaters of these Idaho basins for irrigators and water managers.

What makes this a key site is its location – forested and north facing – the site holds onto the winter snowfall and is an excellent indicator of the potential for additional streamflow peaks and summer baseflow levels.

The site was originally installed as part of the Idaho Snow Survey Cooperative Program. Over the years, the site has been

measured by many entities, including the Soil Conservation Service/NRCS, U.S. Forest Service, Blaine (Idaho) Soil Conservation District, and the U.S. Bureau of Reclamation.

During the summer, the site is accessed by 4-wheel drive vehicle; it is an hour's drive from the nearest paved road.

Over the years, the Dollarhide Summit site has evolved. Originally, monthly winter measurements were made on the ground as a snow course, then by airplane as an aerial marker, and then by helicopter.

Owing to its remoteness, adjacent avalanche terrain, and challenge to measure in the

winter, the site was automated as one of the first SNOTEL sites installed in the late 1970s. This provided for the collection and transmission of real-time, high elevation daily snow water equivalent and precipitation data.

On August 15, 2013, the Beaver Creek Fire burned the Dollarhide Summit SNOTEL site to the ground. The Beaver Creek Fire burned almost 115,000 acres around the towns of Ketchum and Hailey, the Sun Valley Ski Resort in the Big Wood Basin and up to the South Fork Boise River Divide where Dollarhide Summit SNOTEL is located.

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Dollarhide Summit SNOTEL site before the August 2013 fire.

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The last major fires in this area occurred about 1889, as indicated by tree growth in the burned area.

In October 2013 after the fire was out and before winter moved in, a partial site was re-installed. This included installing a SNOTEL rocket precipitation gage, and snow depth and air temperature sensors. Prior to starting work, the area had to be stabilized for safety from additional falling trees.

Because of the importance of this site, excellent cooperative support was provided by the U.S. Forest Service and U.S. Army Corps of Engineers to stabilize the site. This played a critical role in the early flood / emergency alert system being implemented to mitigate impacts from rapidly melting snow or rain events.

By September 2014, the remainder of the SNOTEL equipment and sensors were installed, including a snow pillow, 12-foot-tall shelter for housing the electronic equipment, and soil moisture/temperature sensors at 2-, 8- and 20-inch depths.

Fast forward to August 2015, a soil characterization pit was dug to complete the soil moisture sensor installation.

As seen in the photographs, burned trees are still standing around the site; some vegetation has returned, but will take several years or decades for more vegetation to help stabilize the slopes.

To place the importance of this site into perspective, data from Dollarhide Summit SNOTEL site were used to forecast streamflow in the Big Wood River.

The Big Wood River at Hailey streamflow forecast point provides information to irrigate approximately 30,000 acres by 12 primary farmers below Hailey and above Magic Reservoir. The river then flows into Magic Reservoir which is used to irrigate 36,544 acres by over 200 farmers.

Luckily, or due to wise planning and the foresight by the early snow surveyors to put snow measuring stations near the

basin divides, Dollarhide Summit SNOTEL is also used to predict streamflow in the South Fork Boise River, a headwater stream of the Boise River.

Dollarhide Summit data are also used by the Sun Valley Avalanche Forecast Center and Sun Valley Heli Ski to monitor avalanche conditions, by Idaho Power to monitor cloud seeding operations, by the National Weather Service, and many more users.

Today, with the loss of the forested canopy, the site accumulates much more snow than before and also melts faster in the spring without the shade from the 100-year-old trees.

For this reason, the 1981-2010 normals were removed and the site is not currently used to forecast the Big Wood and South Fork Boise Rivers until more years of data are collected. However, the data are still being used by many to inventory the mountain snowpack in these areas.

The new relationship between Dollarhide Summit's snow water content and streamflow will have to be rediscovered, but it is a given that key sites in higher elevation, north-facing slopes such as Dollarhide Summit are important to understanding the hydrology in snow-dominated western watersheds such as Idaho's Big Wood River Basin.

For more information, contact [Ron Abramovich](#), 208-378-5741.



After the fire, little remained of the site.



Dollarhide Summit SNOTEL site today.

Annual SnowPAC meeting brings states together

The Snow Survey and Water Supply Forecasting (SSWSF) Program held its annual Snow Program Advisory Committee (SnowPAC) meeting November 30 – December 3, 2015.

Participating both in-person and via videoconference, representatives from all 12 western states attended the 4-day meeting.

Hosted by the National Water and Climate Center, based in Portland, Oregon, the meeting kicked off with discussions on the 2016 budget, staffing and program organization, led by **Mike Strobel**, NWCC Director and SSWSF Acting Program Manager.

The Tuesday morning session consisted of presentations from each of the western states, focusing on recent activities and accomplishments.

The newly-created Research and Development Committee, led by Washington Water Supply Specialist **Scott Pattee**, then reported on current research activities, including a fluidless precipitation gage, a macro-shield for 12-inch gages, an acoustic snow depth sensor, lithium ion battery testing, and fluidless snow pillow testing.

Some projects the committee is considering include: meth-

ods to keep sensors from being impacted by rime ice, utilizing Jet Propulsion Laboratory Lidar data, conducting and fluidless paired trials, and comparing temperature sensor shields.

Cara McCarthy, Water and Climate Services (WCS) team lead, provided an update on her team's activities and priorities, focusing on topics such as streamflow forecast verification, a protocol for low skill and no data forecasting, and providing centralized support for the states for their product delivery needs.

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SnowPAC members represent personnel from both the Snow Survey and Water Supply Forecasting Program and the National Water and Climate Center. Those attending the workshop in person included (front row): Laurel Grimsted, Mike Strobel, Randy Julander, James Bauchert. Second row: Shawn Nield, Mage Hultstrand, Deb Harms, Melissa Webb, Del Gist, Cara McCarthy, Ivan Geroy, Troy Brosten, Chris Romero. Third row: Bruce Green, Gus Goodbody, Julie Koeberle, Ron Abramovich, Lucas Zulkiewicz, Phil Morrissey, John Weeks, Scott Pattee, Jeff Anderson, Bill Overmann, Rashawn Tama, Daniel Fisher, Brian Domonkos, Jolyne Lea.



SnowPAC workshop brings states together continued from page 3

Wednesday morning's discussion was a continuation on WCS activities. **Rashawn Tama** presented an overview of the current effort to improve data flags and flag reporting. SnowPAC team members had a chance to review several options and provide feedback on the implementation.

Gus Goodbody and **David Garen** then presented an overview of the Basin Analysis Geographic Information System (BAGIS) project underway at Portland State University and the Precipitation-Modeling Runoff System (PRMS) project funded through Colorado State University. Gus demonstrated the web application which uploads BAGIS output to PRMS. The end result is a calibrated model which can be used for ensemble streamflow prediction.

Tony Tolsdorf and his staff from the Water and Climate Monitoring (WCM) team were next on the agenda. Tony provided an update on the upcoming annual snow school. He also provided information on the ongoing testing of fluidless snow sensors in the field.

The conversion of SCAN sites from meteor burst to cellular communications in the eastern states was the next topic of discussion.

Tony reported that the conversion was complete and that the three eastern Master Stations were now ready to be decommissioned. Benefits from this conversion include better two-way communication, improved reliability and cost savings.

John Weeks, lead technician at the WCM Electronics Maintenance Facility (EMF) led a discussion on plans for the next Field Operations Workshop. John proposed another set of training activities for next year, including smaller, hands-on workshops. The Colorado Data Collection Office offered to host the next workshop.

John then provided an update on the new 565 radios and Master Station equipment, followed by status of pressure transducer and other sensor testing.

Deb Harms from the WCM team gave the SnowPAC group an overview of the Soil Climate Analysis Network (SCAN) proposal she recently submitted to Deputy Chief Smith for consideration. The proposal outlines how the Soil Survey Division could assist the program by providing maintenance on SCAN sites located in their regions.

Deb then discussed the direction of the Soil Emphasis Committee, including creation of standards for SCAN site selection and soil sensor installation, the development of soil data editing protocols and soil climate products, and an evaluation of soil climate sensors for possible future use.

The Information Systems Team (IST) lead, **Laurel Grimsted**, took the podium to report on the recent, week-long visit of NRCS Chief Information Officer **Ray Coleman** to the Portland office. She also provided a status on the migration of Water and Climate Information System (WCIS) applications from the Portland Data Center to the

National Information Technology Center (NITC) in Kansas City.

Laurel also announced her retirement as of December 31, 2015 along with the plan for how the program will apportion her current responsibilities. Laurel announced that **Deb May** will be the new investment manager, **Jolynne Lea** will continue to be the business liaison and Rashawn Tama will serve as subject matter expert. Ray Coleman's office will assign a project manager to WCIS at a later time.

The SnowPAC meeting wrapped up on Thursday with Mike encouraging greater involvement by our Program in science conferences and workshops. Because we are recognized as the authority in snow science, Mike would like to see increased participation by the Snow Survey and Water Supply Forecasting Program in national and international meetings and publishing analyses of our data.

The next SnowPAC annual meeting will be held the first week in December 2016.

Center hosts Airborne Snow Observatory, ISNOBAL discussions

[Gus Goodbody](#)

NWCC Forecast Hydrologist

The National Water and Climate Center recently hosted a meeting between members of NASA's Airborne Snow Observatory ([ASO](#)) team, the Agricultural Research Service ([ARS](#)) Northwest Watershed Research Center, and the California Department of Water Resources ([DWR](#)).

ASO Project

A major area of discussion during the two-day meeting was the ASO Project, carried out at NASA's Jet Propulsion Laboratory (JPL). ASO collects high resolution spatial altimetry and spectral data, which provides detailed information on snowpack, terrain, and vegetation.

ASO collects these data from an aircraft-mounted platform using Lidar, an imaging spectrometer, and a global positioning system.

Lidar, a remote sensing technology that measures distance by illuminating a target with a laser and analyzing the reflected light, provides high resolution surface height information. When used in conjunction with a bare ground (snow-off) survey, high resolution distributed snow depth data can be calculated.

Surveys are currently being routinely done in several watersheds in the central Sierra of California and in the upper Rio Grande Basin in Colorado.

ISNOBAL

To determine snow water equivalent, ASO relies on ISNOBAL, a gridded, physically-based snowpack model developed by the ARS Northwest Watershed Research

Center. ISNOBAL provides distributed density estimates for use in converting Lidar snow depth observations to snow water equivalent.

In addition to supporting the ASO effort, the ARS team currently operationally models snowpack in the Boise River Basin to support water resource management by the Bureau of Reclamation. The team demonstrated these capabilities along with the use of forecast data from a numerical weather model ([Weather Research and Forecasting Model](#)) as input to ISNOBAL.

Representatives from the California Department of Water Resources also attended the meeting. The DWR is currently funding a portion of the work being done by ASO and is interested in a data assimilation scheme for using the ASO data.

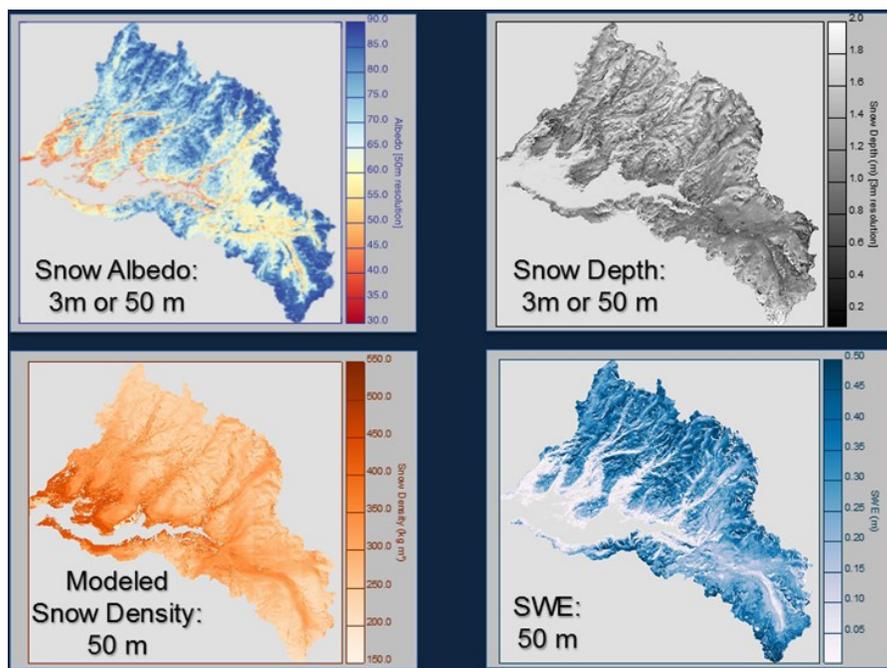
What's Next?

As a possible next step, the ARS and DWR have expressed interest in coupling ISNOBAL with a hydrologic simulation model to generate streamflow forecasts.

The Precipitation Runoff Modeling System (PRMS) was suggested as a good candidate for this coupling. The intent is for ISNOBAL to replace the snow component in the hydrology model.

The NWCC already has an ongoing development project with Colorado State University and Portland State University to implement PRMS, and this work was described and discussed as an example framework for a possible ISNOBAL-PRMS coupling. If ARS and DWR pursue this project, NWCC will provide guidance as requested.

For more information, contact [Gus Goodbody](#), 503-414-3033.



ASO measures snow albedo and snow depth at 3 m and 50 m spatial resolutions. Snow density is modeled using ISNOBAL at a 50 m resolution. Snow water equivalent (SWE) is calculated from the snow depth and snow density.



Call for Papers: Western Snow Conference

The 84th Annual Western Snow Conference (WSC) is scheduled for April 18-21, 2016. This year's theme is "Snow Drought and Hydrologic Impacts."



Attendees are invited to submit 150- to 300-word abstracts for paper submissions, including, but not limited to:

- Snow Drought
- Climatology of Droughts
- Water Supply Forecasting in Drought Conditions

- Dichotomy of Precipitation and Snow Conditions
- Impacts and Mitigation of Low Snowpacks
- Record Events in the Snow Environment

All aspects of any cryosphere topic are always welcome.

The North Pacific Committee will compile a full agenda of oral and poster papers. In addition, a Monday short course is being planned, as well as a Thursday technical tour of Northwest geology and hydropower complexes in the North Cascade Mountains. Additional information will be posted on the WSC web page.

Abstracts are due by January 31, 2016. Submit abstracts through the [submission form](#).

Conference information

This year's conference will be held at the [Best Western Plus Executive Inn](#) near the historic Space Needle in downtown Seattle.

Restaurants, shopping, tourist activities, museums and spectacular scenery of Puget Sound are within walking distance or nearby.

Check the [WSC web page](#) for conference registration and the latest information, or contact westernsnowconference@gmail.com for more information.

Upcoming events

Events of interest in the coming months.



What: Westwide Snow Survey Training School

When: January 10-15, 2016

Where: Seventh Mountain Resort, Bend, OR

More information: [Tony Tolsdorf](#), 503-414-7006.

What: American Meteorological Society, Seventh Council on Weather, Climate, Water and the New Energy Economy

When: January 10-14, 2016

Where: New Orleans, LA

More Information: Confer-

ence Chairs ([Andrew Clifton](#) and [Brian D'Agostino](#))

What: Climate Leadership Conference

When: March 8-10, 2016

Where: Seattle, WA

More information: www.climateleadershipconference.org/

What: Loyola University Third Annual Climate Change Conference

When: March 17-19, 2016

Where: Chicago, IL

More information: www.luc.edu/sustainability/initiatives/climatechange/2016conference/

What: 84th Western Snow Conference

When: April 18-21, 2016

Where: Seattle, WA

More information: westernsnowconference@gmail.com.



Spotlight on ... Lucas Zukiewicz



Growing up in Pittsburgh, Lucas remembers snowy winters spent rooting for the Steelers.

But, when his family relocated to western North Carolina, he immediately saw it had a few advantages, too. He could rock climb and surf during the summer months and still spend winters on the slopes (yes, there are actually five ski areas in North Carolina).

Snow has always been one of Lucas' passions. Right out of high school, he started the pursuit of "bigger mountains and more snow," moving to Steamboat Springs, Colorado. Shortly thereafter, he enrolled at the University of Colorado, Boulder, focusing his studies on snow with the idea of may-

be going into avalanche forecasting. One of his advisors suggested an emphasis on physics and snow mechanics, which really appealed to Lucas.

After graduating from CU with a degree in hydrology, Lucas was hired by his former advisor to participate in a long-term ecological research project at the Niwot Ridge Mountain Research Station.

As a coordinator of field operations at the Station, Lucas got to experience first-hand what it's really like to work at very high elevations (often up to 13,000 feet).



The next big challenge is teaching three-year-old Josie to ski.



Soloing the last pitch of a multi-pitch climb in the Northern Bridger Range, Montana.

In 2008, Lucas decided to make the move to Bozeman, Montana, enrolling at Montana State and taking a seasonal summer job with the Montana Data Collection Office.

When a position as a hydrologist opened at the Montana office, Lucas officially joined the Snow Survey and Water Supply Forecasting Program. His passion for snow was now helping water users in Montana understand and forecast their water supplies.

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Spotlight on... Lucas Zukiewicz

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During the summer months, you'll find the family hiking, rock climbing and just generally wandering around Big Sky country.

Not bad for a guy in search of big mountains and more snow.



Lucas, Josie and Melissa in search of their Christmas tree.

When Lucas was named Montana Water Supply Specialist in 2014, he was able to expand his role to include outreach activities and building strong relationships with water users. He especially enjoys taking complex ideas and making them easy for anyone to understand.

On a more personal note, one fine day in 2009, while Lucas was tuning skis at the Eldora Mountain Ski Resort, he met his future wife, Melissa. They were married in 2011, and together have a three-year-old, snow-loving daughter, named Josephine.

No big surprise here, but Lucas continues to be a ski enthusiast. Not one to take sides, he's equally comfortable on skis, a snowboard or a split board.



The steeper, the better! Split boarding in the Madison Range, Montana.

NRCS CIO and Investment Managers visit Portland

The Chief Information Officer (CIO) for the NRCS and several investment managers and key support staff recently met with members of the National Water and Climate Center and Snow Survey Program.

NRCS CIO **Ray Coleman**, along with **Ken Rojas** (Acting

Director, OCIO-Information Technology Center), **Deb May** (IT Business Operations Acting Director) and **Beverly Sherry** (Vistronix Program Manager) were present for several days.

Several of the group's meetings focused on the current effort to migrate the Water and Climate Information System (WCIS) applications to the secure envi-

ronment at the National Information Technology Center in Kansas City, MO.

Along with several break-out meetings, the delegation spent one, full day touring the Electronics Maintenance Facility (EMF) in Portland, and then travelling to the Clear Lake SNOTEL site near Mt. Hood.



NRCS Chief Information Officer Ray Coleman, OCIO-Information Technology Center Acting Director Ken Rojas and NWCC Director Mike Strobel visit Timberline Lodge near Mt. Hood, Oregon.

Overview: Snow Survey and Water Supply Forecasting Program Code of Regulations

Code of Federal Regulations, Title 7; Subtitle B; Chapter VI; Subchapter B; Part 612

§612.1 Purpose and scope.

This part sets forth Natural Resources Conservation Service (NRCS) policy and procedure for the administration of a cooperative snow survey and water supply forecast program. The program provides agricultural water users and other water management groups in the western states area with water supply forecasts to enable them to plan for efficient water management. The program also provides the public and the scientific community with a data base that can be used to accurately determine the extent of the snow resource. The western states area comprises Alaska, Arizona, California (east side of the Sierra Nevada mountain range only), Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

§612.2 Snow survey and water supply forecast activities.

To carry out the cooperative snow survey and water supply forecast program, NRCS:

(a) Establishes, maintains, and operates manual and automated snow course and related hydro meteorological networks. Planning for such networks is carried out in accordance with OMB Circular A-62.

(b) Determines and provides information on the expected water supply, including seasonal streamflow data. If pertinent and appropriate to the needs of cooperators and not otherwise available to them, may provide necessary interpretative analyses and forecasts required for operation of water-control structures and/or agricultural operations.

(c) On request and to the extent NRCS resources and any required cooperator contributions are available, establishes hydrometeorological stations to collect and provide data and necessary interpretive analyses to the requesting party. By written agreement NRCS may accept cooperators' funds, materials, equipment, and services for this purpose.

(d) Develops and encourages use of new techniques and improving data collection and processing.

(e) Cooperates with other federal, state, and local agencies, organizations, and Canadian provinces and agencies.

§612.3 Data collected and forecasts.



Snow Survey and Water Supply Forecasting Program Resource Locator

Here's a handy reference for finding resources in the Snow Survey and Water Supply Forecasting Program.

Where	What	Who	How
Alaska	Forecast Hydrologist	Jolyne Lea 503-414-3040	jolyne.lea@por.usda.gov
	Data Collection Office Supervisor	Daniel Fisher 907-671-7746	daniel.fisher@ak.usda.gov
Arizona	Forecast Hydrologist	Gus Goodbody 503-414-3033	angus.goodbody@por.usda.gov
	Water Supply Specialist	Dino De Simone 602-280-8786	dino.desimone@az.usda.gov
California	Forecast Hydrologist	Jolyne Lea 503-414-3040	jolyne.lea@por.usda.gov
	Water Supply Specialist	Greg Norris 530-792-5609	greg.norris@ca.usda.gov
Colorado	Forecast Hydrologist	Cara McCarthy 503-414-3088	cara.s.mccarthy@por.usda.gov
	Hydrologist	Vacant	
	Data Collection Office Supervisor	Brian Domonkos 720-544-2852	brian.domonkos@co.usda.gov
Idaho	Data Collection Officer	Phil Morrissey 208-685-6983	phil.morrissey@id.usda.gov
	Forecast Hydrologist	Rashawn Tama 503-414-3010	rashawn.tama@por.usda.gov
	Water Supply Specialist	Ron Abramovich 208-378-5741	ron.abramovich@id.usda.gov
Montana	Data Collection Office Supervisor	Mage Hultstrand 406-587-6844	mage.hultstrand@mt.usda.gov
	Forecast Hydrologist	Cara McCarthy 503-414-3088	cara.s.mccarthy@por.usda.gov
	Water Supply Specialist	Lucas Zukiewicz 406-587-6843	lucas.zukiewicz@mt.usda.gov
Nevada	Forecast Hydrologist	Jolyne Lea 503-414-3040	jolyne.lea@por.usda.gov
	Water Supply Specialist	Jeff Anderson 775-857-8500 x152	jeff.anderson@nv.usda.gov
New Mexico	Forecast Hydrologist	Gus Goodbody 503-414-3033	angus.goodbody@por.usda.gov
	Water Supply Specialist	Chris Romero 520-292-2999 x107	chris.romero@nm.usda.gov
Oregon	Forecast Hydrologist	Rashawn Tama 503-414-3010	rashawn.tama@por.usda.gov
	Hydrologist	Melissa Webb 503-414-3270	melissa.webb@or.usda.gov
Utah	Data Collection Officer Supervisor	Scott Oviatt 503-414-3271	scott.oviatt@or.usda.gov
	Forecast Hydrologist	Gus Goodbody 503-414-3033	angus.goodbody@por.usda.gov
Washington	Snow Survey Supervisor	Randy Julander 801-524-5213	randy.julander@ut.usda.gov
	Forecast Hydrologist	Rashawn Tama 503-414-3010	rashawn.tama@por.usda.gov
	Water Supply Specialist	Scott Pattee 360-428-7684	scott.pattee@wa.usda.gov
Wyoming	Forecast Hydrologist	Cara McCarthy 503-414-3088	cara.s.mccarthy@por.usda.gov
	Water Supply Specialist	Lee Hackleman 307-233-6744	lee.hackleman@wv.usda.gov
All States	Center Director/Program Manager	Mike Strobel 503-414-3055	michael.strobel@por.usda.gov
	Information Systems Team Lead	Laurel Grimsted 503-414-3053	laurel.grimsted@por.usda.gov
	Water & Climate Monitoring Team Lead	Tony Tolsdorf 503-414-3006	tony.tolsdorf@por.usda.gov
	Water & Climate Services Team Lead	Cara McCarthy 503-414-3088	cara.s.mccarthy@por.usda.gov
	Database Manager	Maggie Dunklee 503-414-3049	maggie.dunklee@por.usda.gov
	Database Manager	Del Gist 503-414-3007	del.gist@por.usda.gov
	Hydrologist (Water & Climate Monitoring)	Deb Harms 503-414-3050	deb.harms@por.usda.gov
	Modeling Hydrologist	David Garen 503-414-3021	david.garen@por.usda.gov
	Operations Specialist (SNOTEL/SCAN)	Vacant	
	Resource Conservationist	Vacant	
Statistical Assistant/SCAN QC	Denice Schilling 406-727-7580	denice.schilling@mt.usda.gov	

New!
Contact Help Center

There's a new online tool to help locate resources within the Snow Survey and Water Supply Forecasting Program.

Click [here](#) to open the **Contact Help Center**. Don't forget to bookmark the url.

U.S. Drought Portal: A comprehensive drought resource

This web resource is a product of National Integrated Drought Information System (NIDIS). Since its inception in 2006, NIDIS has worked to implement an integrated drought monitoring and forecasting system which could be used as an "early warning system" at federal, state and local levels.

The [U.S. Drought Portal](#) is part of NIDIS' interactive system to provide infor-

mation about the risks and impacts of drought to different agencies and stakeholders. In addition to current data, the portal offers information about past droughts, explains how to plan for and manage the impacts of drought, and provides a forum for users to discuss drought-related issues.

As a "one-stop shop" for drought information, the portal brings together news and resources from several agen-

cies. Users can quickly move from the U.S. Drought Monitor, to the Seasonal Drought Outlook, the Drought Impact Report, and Current Wildfire Risks. A summary of the week's drought conditions is included, as well as regional drought summaries. The portal also includes links to the NIDIS [Map and Data Viewer](#) and the National Drought Mitigation Center's [Drought Management Database](#).

Photo of the month



The summer maintenance period is when many of the state Data Collection Offices (DCOs) install new SNOTEL and SCAN sites. Pictured here is the Héén Latinee SNOTEL site which was installed this year about 25 miles northwest of Juneau. This site is a cooperative effort between the University of Alaska and NRCS.

Because Héén Latinee is located on marshy ground during the summer months, the site required some creative footings and foundations for both the precipitation gage and the SNOTEL equipment shelter. In addition to being installed in a scenic area, we think this may be the only SNOTEL shelter with a built-in sun deck!

Photo by Daniel Fisher, Alaska DCO



Helping People Help the Land.

National Water & Climate Center
Natural Resources Conservation Service
US Department of Agriculture
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For issues of **SnowNews** go to:
www.wcc.nrcs.usda.gov/SnowNews/SnowNews_landing.htm

Our mission is: *"To lead the development and transfer of water and climate information and technology which support natural resource conservation."*



With a vision of the future as:

"A globally-recognized source for a top quality spatial snow, water, climate, and hydrologic network of information and technology."

Director's Corner



I often wonder what it would be like to have a job where it was only about getting a paycheck and where you really didn't care about your customers. I've never had that type of job, but I suspect some of those people I see working behind the counters at places like fast food restaurants, DMV or the Post Office who seem to show little emotion or don't seem stressed that the lines are out the door must not have a love for their jobs or care about those they are serving. I would guess that they weren't always this way, and maybe months or years of seeing long lines and having frustrated customers yell at them and be rude has made these workers more calloused. Shutting out emotion and not caring would be one way to cope.

I see the opposite reaction in the people I work with at the NWCC and in the Snow Survey. These folks truly have a passion for their jobs. I see true concern, to the point of being stressed, when our networks aren't delivering data or when a site goes down or when some bug impacts one of our computer programs. I see real anxiety when people can't meet deadlines and when workloads get impossible to manage. Our folks don't shut down at these times, but instead seem to double down and work that much harder to fix things.

We take so much pride in what we do that it is an embarrassment to us when our program isn't delivering data 24/7 without a hitch, when our forecasts are off the mark, and when our products and reports are not on time. I laugh when I hear people talk about the lazy, overpaid government workers, because nothing could be further from the truth in this agency.

Stress is an interesting thing, though, where a little is critical for keeping us in our game, but too much can take us down. We all handle stress differently and have different approaches

to coping with it. If you don't think that stress has a real impact on a person, just look at pictures of any President at the start of their term verses the end. Most of them seem to age 20 years or more. But rarely do you see them become unraveled by stress.

The important thing for each of us is to manage stress so that we work within the level that drives us to perform but back off of the level that can lead to becoming negative, exhausted or angry to the point of lashing out at colleagues. That level is different for each of us, but something to try to understand in oneself. We all need to know when to push forward and when to let it go.

On the other hand, the stress that people in our program feel may be related to external factors such as workloads, vacancies, technology malfunctions, leadership decisions, or even interpersonal relationships with those around us, but ultimately it is caused by internal factors of caring a great deal for serving others, pride in our work, a sense of duty, and just loving our job. It is a blessing in one's life to truly love the job you have.

I hope we never get callous.



USDA NRCS is an equal opportunity employer and provider