

MINUTES
of the
WATER RESOURCES COMMITTEE
Xylem Reservoir Center for Water Solutions
Washington, DC
March 14, 2024

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MEMBERS AND ALTERNATES PRESENT *(via zoom)*

ALASKA	Julie Pack Christina Carpenter
ARIZONA	
CALIFORNIA	<i>Joaquin Esquivel</i>
COLORADO	Jojo La Becky Mitchell
IDAHO	Mat Weaver
KANSAS	Connie Owen <i>Earl Lewis</i> <i>Tom Stiles</i>
MONTANA	
NEBRASKA	Jesse Bradley Justin Lavene <i>Jim Macy</i>
NEVADA	Cathy Erskine <i>Jennifer Carr</i> <i>James Bolotin</i>
NEW MEXICO	
NORTH DAKOTA	Andrea Travnicek
OKLAHOMA	Julie Cunningham <i>Sara Gibson</i>
OREGON	<i>Doug Woodcock</i>

SOUTH DAKOTA

Nakaila Steen

TEXAS

Jon Niermann

UTAH

John Mackey
Candice Hasenyager
Teresa Wilhelmsen

WASHINGTON

Ria Berns
Leslie Connelly

WYOMING

Jennifer Zygmunt
Chris Brown
Jeff Cowley

GUESTS

Kara Cafferty, State of Idaho
Yifan Luo, Cornell University
Joan Carlson, USDA Forest Service
Lane Dickson, The Ferguson Group
Bob Joseph, U.S. Geological Survey
Victoria Asbury, Kansas Water Office
Dave Raff, U.S. Bureau of Reclamation
Norm Semanko, Parsons Behle & Latimer
Jaclyn Buck, Texas Water Development Board
Katherine Rowden, U.S. Army Corps of Engineers
Hannah Singleton, Southern Nevada Water Authority
Jordan Beamer, Oregon Water Resources Department
Shelby Hagenauer, American Farm Bureau Federation
Jim Rizk, Texas Commission on Environmental Quality
Lane Kisonak, Association of Fish and Wildlife Agencies
Trent Blomberg, Arizona Department of Water Resources
Jennifer Verleger, South Dakota Attorney General's Office
Kim Nugren, Texas Commission on Environmental Quality
Kathy Alexander, Texas Commission on Environmental Quality
John-Cody Stalsby, Texas Commission on Environmental Quality
Christopher Estes, Instream Flow Council / Chalk Board Enterprises, LLC
Cathy Erskine, Nevada Department of Conservation and Natural Resources

WESTFAST

Lauren Dempsey, U.S. Air Force
Mike Eberle, U.S. Forest Service
Chris Carlson, U.S. Forest Service
Mindi Dalton, U.S. Geological Survey
Chad Abel, U.S. Fish and Wildlife Service
Travis Yonts, U.S. Bureau of Reclamation
Stephen Bartell, U.S. Department of Justice
Michael Whitehead, Bureau of Indian Affairs
Paula Cutillo, U.S. Bureau of Land Management
Roger Gorke, U.S. Environmental Protection Agency
Heather Hofman, Natural Resources Conservation Service
Stephanie Granger, National Aeronautics and Space Administration
Madeline Franklin, U.S. Bureau of Reclamation (WestFAST Liaison)

STAFF

Tony Willardson
Michelle Bushman
Elysse Campbell
Adel Abdallah
Ryan James

WELCOME AND INTRODUCTIONS

Andrea Travnicek, Chair of the Water Resources Committee, called the meeting to order. Introductions were made around the room.

APPROVAL OF MINUTES

The minutes from the Fall meetings held in Anchorage, Alaska on September 13, 2023, were moved for approval. The motion was seconded, and the minutes were unanimously approved.

SUNSETTING POSITIONS

Andrea reviewed each of the sunsetting positions.

Position #459, regarding Probable Maximum Precipitation Standards, has a few updates to some of the Whereas clauses: (1) is regarding funding and the direction for NOAA as it relates to the Flood Act of 2022; (2) relates to the Association of State Dam Safety Officials 2023 report on a number of high hazard potential dams and the estimated cost to repair or rehabilitate them; and (3) updating the Colorado New Mexico regional extreme versus participation precipitation study. The motion to approve the revised position was seconded and the committee unanimously approved forwarding the position on to the Full Council.

Position #460, supporting the use of Forecast Informed Reservoir Operations and Innovations, has a few updates to the Whereas clauses on Page 2, relating to: (1) the Water Resources Development Act (WRDA) 2022; (2) update water control manuals for water resources development projects; (3) Forecast Informed Reservoir Operations (FIRO) screening process that has tested in the South Pacific Division; and (4) states having that exclusive authority over the allocation administration of rights to the use of surface water located within their borders. It also has an added “BE IT FURTHER RESOLVED, nothing stated in this position is intended to apply to the interpretation or application of any interstate compact, court decrees, international treaty or tribal settlement agreement.”

Teresa Wilhelmsen: About the “Be It Further Resolved” clause where it says nothing stated is to intend to “apply,” should it be affect or is apply the right word?

Chris Brown: I don’t think it particularly matters. It’s just a stated intention of the Council that it is not to be applied to those particular things. Either way, there’s no legal binding with these resolutions.

Andrea: Any other comments? I think it could go either way. Is everyone fine with leaving the word “apply,” or do we want to put in affect? Ok, we will leave it as apply.

The motion to approve the revised position was seconded and the committee unanimously approved forwarding the position on to the Full Council.

Position #461, supporting Weather Station Networks has no changes. Tony offered the explanation that the Council has done some work with the State of California. They have an information management system for irrigation, and ground truthing the base ET for some of the remote sensing data, depends on these weather stations, which is why we have supported the continuation of the programs. We are recommending no changes at this time. The motion to approve the revised position was seconded and the committee unanimously approved forwarding the position on to the Full Council.

Position #462, supporting Water Infrastructure Funding has no changes. The motion to approve the revised position was seconded and the committee unanimously approved forwarding the position on to the Full Council.

Position #463, regarding Integrating Water and Energy Planning and Policy, has some minor changes. We know that there's been a lot of discussion related to clean hydrogen hubs programs across the country with the Department of Energy, so adding in a Whereas clause related to those energy discussions that are taking place right now. "WHEREAS, the Regional Clean Hydrogen Hubs Program (H2Hubs) includes up to \$7 billion to establish 6-10 regional clean hydrogen hubs to form the foundation of a national clean hydrogen network." Then under the "Now, Therefore Be It Resolved," adding number 14 stating "evaluating the water resources needed for hydrogen energy development."

Michelle Bushman mentioned that the additions were generally discussed by the Executive Committee without any specific recommended language, so staff prepared these additions.

Andrea: Thanks Michelle. North Dakota has looked at it as well and it's been discussed in our State.

Tony: I would just say that the intent of this is recognizing that both energy and water development and management are interrelated in a number of areas. This was hopefully a pretty comprehensive list of how we think those plans should knit together.

Andrea: Any questions, concerns?

The motion to approve the revised position was seconded and the committee unanimously approved forwarding the position on to the Full Council.

Position #464, supporting Federal Research on Climate Adaptation has no changes. The motion to approve the revised position was seconded and the committee unanimously approved forwarding the position on to the Full Council.

AGRIMET

Dave Raff, Chief Engineer, Bureau of Reclamation (USBR) provided an update on Agrimet, the agricultural meteorological stations.

In 1983, there were only three stations, in Idaho, Oregon, and Washington. We now have a network of 143 of these stations across 10 western states. That number is soon to jump to 170 with quite a bit of input from the State of Oregon in the last couple of years. These stations are used for all sorts of things: estimating evapotranspiration, estimating crop water usage, real time information across the states, calibration of non-*in situ* measurements, remote sensing of the same variables. They also go into USBR's water information systems in terms of how we develop both annual operating plans as well as how we develop long-term planning processes, and a variety of other information systems. This information is also made available publicly and is used for a variety of research other purposes throughout the western U.S.

In many cases, USBR has provided funding to operate the stations. In other cases, USBR provides funding to states to operate our networks together. It's really an example of a collaborative process where there is no set framework. However, it works for USBR and the states individually.

The budget for Agrimet is relatively stable, if not growing. USBR receives on the order of \$250,000 to \$300,000 in annual appropriations. We have recently received an influx. There has been some budget participation from the U.S. Army Corps of Engineers (Corps), and the State of Oregon. I think as we're all experiencing wild swings in weather and climate over the past number of years, with big droughts, lots of water, big floods, having real-time information has proven itself to be more valuable than ever. I think that is being shown and how this funding and how the operation of the network is going.

Andrea: Thanks, Dave. It sounds like you've been having good discussions with Washington and getting some more out there. How do other states continue to have discussions with you, or what's the best way as states want to participate?

Dave: I'm a great doorway and will get you in touch with the right people.

Tony mentioned that at the request of the State of California a number of years ago, we looked at the number of different weather stations and systems that are out there. California center system, I think is near 250 different sites. They also provide an app for that. As with everything, if you're in the field, you can get that app and measure what your ET is using that weather station data. We also found that there are a lot of small systems in Arizona. Colorado State used to operate some, which I think now may be an Agrimet. One of the challenges with those systems has been the funding and bringing all of that together and so we're glad to see the growth in the Agrimet system and Reclamation's commitment and stable funding.

LANDSAT NEXT

Tim Newman, U.S. Geological Survey (USGS), gave an overview on the upcoming Landsat Next presentation. It's hard to believe that it's been two and a half years since the launch of Landsat 9. I don't know how many of you actually got to go to Vandenberg and see that. I know Tony was there. Because it takes so long to work on these missions, to put that on a rocket and watch the rocket take off and think, is this thing going to make it into space? It's emotional. Landsat 9 has been a great success. That was in September of 2021, and before that, Andrea was at Department of Interior, working with her NASA counterpart, she ordered the first study to be done on the next mission. That study is what led to Landsat Next.

The study started off by looking at users and trying to figure out what they needed for their next mission, what was working, what wasn't working. Here we are in 2024 - it has taken a long time. A lot of studies went into the project. Teams from the National Aeronautics and Space Administration (NASA) and the USGS were established to begin developing the mission. They

came up with a fantastic concept and some of the details for that mission greatly improved spectral temporal, and spatial resolution over previous missions. The hard part of this was getting the funding. We progressed, we're in Phase A of the NASA development cycle, which is great to get past that first milestone.

If you're not familiar with Landsat, it's used all across the federal government, all across the country and around the world. Because it has so much capability, it's like a Swiss Army Knife in space with lots of applications. We have a fleet of satellites up there right now. Landsat 9 was launched in 2021. Landsat 7 is about to be decommissioned - going out of service. Landsat data is being used more now than it ever has been in the past, with user access reaching over 14 billion. All of our data is in the commercial cloud now and so people can get to it. You don't have to download the images and mess with that. It's been really popular. Some of the science products that we've been developing related to the ability, the thermal imagery that we have on Landsat allows you to look at evapotranspiration at the field scale. We have a number of these products that are free and accessible. Some are national products, some are global products. If you haven't used these before, it might be interesting to try one out and see if it works in your area and your state. A lot of scientific analysis and algorithm development goes into these. You can see this kind of effect of lakes shrinking, expanding, and riverbeds changing and so forth. There's a lot of snow cover products. We look at fractional snow cover. Within a pixel, you can determine what the percentage of snow is. You can do time series to look over years, months, or whatever you want to look at to see how that's changed. We have an evapotranspiration product that's a global product so you can do whatever area in the world you want to see. Landsat is one of the contributing datasets, the algorithm that we use for evapotranspiration is one of several that's used within OpenET. Landsat helps make that possible. The long-term projection model I talked about yesterday, the 4C it's a USGS product that allows you to pick an area and forecast what the land change and land use might be over an area. We are still working on development of this and so it's not an operational product. If you're a land manager, or a state manager, you can kind of play with these tools, change the guidelines, the assumptions that go in to help you manage your watershed, or whatever it is that you want. This just speaks to Landsat Next. Again, the improvements that we see coming with the mission are driven by the users and so we spent a lot of time on how we can make this better and what NASA can do technically. There isn't any doubt about the benefits. This is just another way it goes across all applications, not just the water area, we see lots of benefits across agriculture, forestry, and so forth.

We have twice as many bands on Landsat Next. This allows you to see things that you haven't been able to see before with more clarity. You can see those effects on water quality on crop monitoring. We have five thermal bands on this Next mission at 60 meter spatial, right now it's about 100 meters spatial. You'll be able to see a lot more detail when you do evapotranspiration. It will improve your accuracy for those numbers. These are just all the driving applications. As you can see, it's that Swiss Army Knife, you can use it for everything. I think unfortunately, because it is used everywhere there's no one great voice saying we must do this. It takes everyone across all these applications to say "hey, this is useful. I've been using it for a long time and it matters. So let's do another one." That's what Landsat Next is all about.

In order to pay for this mission, historically the USGS gets its funding through the Department of the Interior (DOI), through the Environment Committee on the Hill. NASA goes to Commerce, Justice, and Science to get its funding. NASA develops the space segment - they build the satellites and launch it. USGS develops the ground system that allows us to fly the satellite, but also to collect archive process and distribute the data. All of that costs money. It's people that you're paying to develop these systems. Both agencies put in for big increases in the President's FY24 budget. Of course, there were some things that happened on the Hill, and they did not provide the full funding that both agencies sought for Landsat Next. Now we're trying to figure out what we can do with the funding we're going to get in FY24. The good news is, it shouldn't totally disrupt what we're doing. We should be in fairly good shape, if we get our FY25 appropriation. The President's FY25 budget is spot on. We spent a lot of time putting the right numbers in and we got approval through the Administration. The President's FY25 budget seeks an increase for NASA up to about \$150 million for Landsat Next, and it seeks an increase for another \$12 million for the USGS. If Congress recognizes the importance of Landsat based on people coming and talking to them, and we get those funds, we will be in great shape to finish building it and launch it probably in 2031. Andrea, you guys called it back in 2017, and it will launch in 2031 (estimated) and so that's how long some of these missions take. It's a challenge for all of us. We're in that really delicate period right now and we need to get support on the Hill! We need people to say, "Hey, I use Landsat, this really does matter."

If you have any questions, or if you'd like more material related to Landsat, let us know! We'd be happy to give you some. We have a lot of information. There's a new Landsat fact sheet that's out for every state. Every state in the country uses Landsat, but they use it in different ways and so there are different applications relevant to those states. Those are free and open and available, you can just access those very easily. There are state mosaics that we build that are online, and you can download that make really pretty pictures and gifts for people. Thanks again for your time. I really appreciate it.

Questions:

Roger Gorke: Does Landsat Next look at water quality things other than HABs?

Tim: It was driven by HABs more than anything else. A lot of times when you add any capability, you learn it can see something else as well. We've had a latecomer - we've been exploring whether we can see plastics in the ocean with these bands, at this spatial resolution of 20 meters or 10 meters instead of 30. We have questions that are still open that we need to answer.

Julie Cunningham: Is anybody else using this?

Mat Weaver: We've been using Landsat in real-time administration for more than 10 years now. We use it for water budget and water planning efforts to characterize land use where irrigation is occurring. And of course, I use it in a lot of our EP generation products. So I'm very supportive of it. Let me know who I need to write letters to.

Julie: Just kind of a follow up. Is it in a format where you're actually able to use it for enforcement and oversight and water use determination?

Mat: Yes, it is, but it takes a pretty sophisticated staff. We have a GIS section and programming section that's about eight people and maybe 50% of their work is using Landsat data for administrative processes and water budget processes.

Tony: (recording is unintelligible)

Mat: Tony is referring to some conjunctive administrative delivery calls that have occurred in Idaho over the last 20 years. In the one instance he refers to, a senior groundwater delivery call against junior groundwater users, and Landsat data was used to establish that there was no injury after evaluating evapotranspiration data that was taking place on the calling parties acres. We had another delivery call filed in 2005, from senior surface water users that diverted from the Snake River against junior groundwater users. We used Landsat data to administer that delivery call, which is updated every year. Every year we use Landsat data to evaluate water supply, forecast water supply, and to evaluate consumptive use and forecast consumptive use to determine injury, which directly leads to curtailment in some years.

Tony: Mat, if I might add to that too, the courts have upheld your administration using that as evidence.

FEDERAL LEGISLATION

Tony provided an update on legislation the WSWC has been tracking. The Weather Reauthorization Act would re-authorize the National Integrated Drought Information System (NIDIS). Tony is the NIDIS Executive Council Co-Chair. He believed everyone was familiar with NIDIS and the products that it provides in tracking drought. One of the things that NIDIS is working towards, which is also authorized in the Weather Act Reauthorization, is a pilot projects for seasonal to subseasonal predictions. Can we get from weeks, out to months, with some degree of skill? We have been encouraging NOAA to make the investments necessary to be able to do that. There is a report from NOAA that was required by Congress that identified four pilots. Three of them are actually in our member states. One was related to western snowpack - if they could improve their ability to estimate snowpack months out ahead. The other was related to Midwest precipitation. There was one in the Arctic, which I think is just Alaska for our member states. And then there was another one in the tropics. We have pressed Congress to request funds particularly for the first two. In fact, the last couple of years, staff has been working with a number of your representatives on their appropriations member requests. We heard yesterday from some of the Congressional staff, that the only way to get into the budget is through member requests. This is a programmatic request. It's not considered to be an earmark, which are community funding requests. Anything you can do in that area to support S2S funding through your state delegations would be helpful.

The Water Data Act, introduced in the 117th Congress by Representative Melanie Stansbury from New Mexico, would provide USGS with authority for some state grants. We heard from Mindy Dalton (USGS) about the Water Use Data and Research (WUDR) grants yesterday, which are very important. The WUDR grants are limited to \$250,000, and a number of states have already hit that limit, and so they're unable to participate further. We have looked at those member states of the Council who have not fully utilized those opportunities and have been working with them. That legislation has not yet been reintroduced in this Congress. I think they are looking at building support for it.

The third item, Open Access Evapotranspiration Data Act (OpenET), introduced by Representative Susie Lee (Nevada). Senator Catherine Cortez Masto (Nevada) has introduced companion legislation on the Senate side. We've talked about OpenET and the importance of it based on the remote sensing and how it's been used in a number of our states. The Upper Colorado River Commission this past year has operated a system conservation pilot program to conserve water on a voluntary temporary basis, and to pay for those savings. With money from the USBR, my recollection is it was about \$15 million and a savings of about 40,000 acre-feet, which is not going to raise Lake Powell very much, but is a good faith effort, and shows the opportunities for conservation and also for marketing through leasing.

I made a presentation about our past support for OpenET to the Family Farm Alliance and we're going to have a discussion here later about some of the challenges or concerns with using OpenET.

Chris Brown mentioned a couple of bills his office is interested in. H.R. 4385 would reauthorize the 1991 Reclamation State's Emergency Drought Relief Act, that would extend Reclamation's authority through 2028. I know that's been reauthorized on a regular basis. I'm not certain about all of the authorities that USBR has, but it has been supporting western states drought planning. I think the original act provided for USBR to help with some well drilling and emergency cases, some activities to protect fish and wildlife and so that's essentially just extending those authorities through FY28.

Chris, I think there was one other bill that was an extension of the authority for the Water Data Improvement Act, and of the 2011 Omnibus Public Lands Act, which authorized or increased funding for the National Stream Information Program. I don't recall everything else that was in the 2011 Act, but it was pretty extensive. The new legislation would simply extend that authorization through FY28.

We spent Tuesday on the hill making some visits. I'm sure some of you have been on the hill as well. If there are any bills, or any legislation that you're interested in that we can help with, please let us know.

OpenET DISCUSSION

Andrea: We know that there's been a lot of discussion related to OpenET. We've had discussions within this Committee and with the Council overall related to it and know that it's come up at various conferences in other parts of the country also. We've got Shelby with the Farm Bureau and Lane Dixon with the Ferguson Group next to discuss OpenET, and how the states are looking at it, how different stakeholders might be looking at utilizing it, and also maybe some concerns that might come with that open use of data.

Tony commented that last month, he and Lane were at the Family Farm Alliance, and Tony made a presentation to their board about what the Council is doing with our WaDE program and an OpenET. He also wanted to note for those who may not have been aware that Pat O'Toole, the longtime president of the Family Farm Alliance passed away. Pat had been active with us in discussing issues related to grazing and was a longtime leader in the agricultural community, particularly when it came to water use. He will be deeply missed.

Shelby Hagenauer: I think we will give you background on our organizations and on us individually, so you understand where we're coming from. I am the Sr. Director of Government Affairs at the American Farm Bureau Federation (AFBF). We have affiliates in all 50 states and in Puerto Rico. Each affiliate is a state or county Farm Bureau, and the parent organization is also often simply called the Farm Bureau. Every year, the organization holds an annual convention and adopts new policies to guide its work. The convention is attended by farmer and rancher delegates from across the United States. My portfolio is primarily in natural resources. I work on grazing, land management and western water issues. My last job was at the USBR and so I understand water management and water managers. I also worked on Capitol Hill for a long time. For folks from the Central Valley of California, where water is a huge issue, I certainly understand the real challenges in the West.

Lane Dickson said they represent a lot of irrigation districts and water interests around the West. However, I'm representing the Family Farm Alliance (FFA) today. Thanks for mentioning Pat O'Toole. It was a tough meeting. I also appreciate you being there and talking to us about OpenET. Frankly, this is an issue where we don't all see eye to eye on all the time, but at FFA, we really value the engagement, making constructive progress on things.

The FFA is structured with a Board of Directors that is comprised of all agricultural producers. You have to have an interest in a production agriculture operations to be on the board. That allows us to really stay focused on irrigated agriculture in the West, and the issues that impact it. We also have an advisory committee, which is made up more of water professionals such as irrigation districts, lawyers, engineers that help advise on water policy. Like Shelby, my background has been on western water policy. I'm from California, but I have lived in DC for 20 years and have worked in the House and Senate, Department of the Interior, and private sector.

I appreciate all the discussions we've had with the Council, and many of you over the OpenET issue. I think it's important, at least from the FFA perspective, to start by separating the

data, and the importance of technology. This technology can be used constructively both on a farm and beyond. The open part of OpenET has caused a lot of challenges for the FFA and its members. There's a lot of concern about how it's going to be used, especially when it's combined with some of the overall narrative in this country about trying to minimize the value of irrigated agriculture in general. You have to look at it from that perspective. As an example, we're listening in on calls to get rid of alfalfa completely in the Colorado River Basin, or that "broad brush" characterization of the problems that, as water professionals, we know glosses over a lot of details; and combining that mindset with the publishing of field-level data on the internet to target specific water users with incomplete data is a source of concern. Tons of our members utilize ET data themselves or hire services that use the data. I hear weekly about ag operations hiring companies to improve operations on the farm, improve economics, comply with various statutes like California's SGMA, etc., so there's no concern there. It's really just when you start to push it out without a lot of nuances, and really ET is one factor in the bigger picture. In terms of water use, there's no detail about what that water is producing. There's nothing on loss, seepage or anything like that. That concern about lack of nuance has come to the forefront with this new OpenET legislation, and we're asking questions about what everyone is trying to do and what is needed.

Shelby: For a lot of people, at the farm level, I would say that the AFBF is a very strong private property rights organization. Our members tend to be landowners, sometimes they have leases, but they generally work with USDA, which really has robust data protection provisions when they collect data from farmers and ranchers. If you think about crop insurance in other places where members are engaging with the federal government, they're used to that protection of data that is being shared at an aggregated level. As Lane mentioned, farmers/ranchers want to do the best they can with the resources they have and so they work extensively with the private industry where there is a sharing of that farm data. We work with folks in the private industry to help start the Ag data transparent group, which has a fundamental belief that farmers should own information originating from their farming operations. It's a group that helps set out a framework for businesses who do sort of ag tech/ag data stuff on farms and provide value to our members. They're used to working in a structure where on farm data is protected. In contrast, there is discomfort with the recent news articles, criticisms that we've seen about agriculture, especially irrigated agriculture in the West, especially in the last few years. Our members feel like they're doing the best they can with the resources they have. They pay money to get on-farm data about water use because they want to be more efficient, because using water costs them money. It's a little bit like the pesticide and fertilizer conversation; you don't use more, because it costs you more. This isn't an organization that wants their members to overuse water resources.

We heard about this OpenET legislation, which takes a group that exists now and will either provide federal funding, or a good housekeeping seal of approval. I don't really know when the original bill was introduced, but we've been asking questions about whether USGS wants to take over OpenET, or will federal funding just get passed through to the group the created it, and various other conversations we've had with folks on the Hill. We've appreciated the chance to come and get a sense from the WSWC's member states on what the issues may be and how this legislation would solve problems.

Andrea: We really appreciate the comments. I think we wanted to make sure that as western states we're hearing some of the other perspectives that were out there related to OpenET, to get a real understanding of boots on the ground, landowners, and what they're working through as they're making decisions related to data and how that data could have impacts. We'd like to open up the floor to anybody who wants to talk about OpenET from their state's perspectives, or if there are any questions for Lane or Shelby, as they've been up on the Hill having discussions.

Tony: I think from the Council's perspective, we've been involved since about 2007 with ensuring that the tool was available on the Landsat satellites. Landsat 8, 9 and now Landsat Next, I think where OpenET has come in, and we heard earlier from Mat Weaver (Idaho), they've used this for administration for a long time. It's a real challenge to have someone on staff with the technical capabilities to be able to interpret those pixels, hot and cold pixels, and what that means. I think, with our NASA friends that have developed OpenET that the intent is to make it more transparent and more easily usable by everyone by providing that kind of mapping. I was in New Mexico when they had the first OpenET conference. There were like 250 people there, including academics, government, consultants, but the agricultural community was not represented. I think that's one area where we can have more dialogue as to what the impacts are.

Lane: I would make one other distinction and respond to that a little bit. I mean, if you're collecting this data, and want to provide that to the states who do administer water rights, that's a whole different conversation because, frankly, we're fiercely defensive of the states administering water rights. But we know there are flaws in this data. When we first saw this OpenET data, we had major concerns. A lot of this has to be ground truthed in the districts, for example in central California for compliance with SGMA. They can't just use that data as it's not precise enough. They found a lot of issues. And this data is only one part of the water use budget. So, are there ways to make it easier for states to use this data while still protecting the individual farmers? I'm not smart enough to dig into the details of that. But I think there is such a thing as making it too easy to target individual water users. I was in the middle of negotiating language for this OpenET bill when the news article on the Imperial Valley came out, calling out the top 20 water users by name. And all the newspaper did was use the OpenET data, then went to the land office to find the addresses and owners, put them together, and published a huge article without understanding or explaining the complex nuances of what that data means. And it only talked about ag lands without discussing any other kind of water use on other lands, such as ET loss on forested lands and other challenges on lands that produce ET. And it drew protesters against those ag families. It's not paranoia about a hypothetical circumstance, this is really happening. My point is that there is probably a sweet spot for everyone that has a stake in this, but this is going to take some deeper thought.

Shelby: The Farm Bureau has strong policies supporting states being the regulators of groundwater and being the managers of groundwater. In fact, last fall, we were getting calls from the New York Times wanting to write a piece. They were asking questions that seemed to imply that the federal government should be involved in groundwater management. The Farm Bureau was the reason why that didn't happen. I recall thinking, have you talked to the states because I don't think the Farm Bureau was the one keeping the federal government from regulating

groundwater. This isn't something that we just suddenly decided to go lobby on. That's an example where there are news organizations who are sometimes almost being advocates on pieces. There was a piece a couple months ago, where they basically were saying the states aren't doing enough to regulate groundwater and so the federal government should be doing it. We disagree with that. We think that it should be a state-based approach, and I will let our State Farm Bureau's work with you guys on the nuances. I know there have been big changes in Utah and some of the other states, but that's the appropriate space for it. Our members support ag technology and want to be doing the best they can with the resources they've got. But when you have people who don't really understand the data making assumptions about things, and then this anecdotal piece about how the data isn't even entirely accurate - those things combined, just make our members nervous.

Candice Hasenyager: Thank you so much for being here today. I am really interested in the concerns that your members and your organizations have regarding OpenET data. In Utah, we have a history of collecting irrigated land use data (since the 1980s). I mean, back when we used to drive around cars, and take a map and draw it on the map and then take it back to the office and try to figure that out. We've used this historically to try to understand how we use water in the state and to help with state water planning. We are exploring OpenET and how we could potentially use it to help us answer some of those questions. I'm really interested in the conversation and wanted to let you know how we've historically used it and those types of things.

Lane: I appreciate that, thank you. Again, I think that when it comes to the use of ET by the states, our members are more familiar and understand how that is used. That's a place I think we could probably come together.

Chris Brown: I'm not exactly sure how far to go into this, but I think we've been both kind of on the defensive and offensive end with regard to remote sensing, with the different ways to use it. There are ways it can be used very effectively, or not. Just a couple of examples. Wyoming is part of the Upper Colorado River Basin and a couple years ago, the Upper Colorado River Commission adopted OpenET remote sensing as the uniform method of calculating irrigated ag consumptive use in the Upper Basin. This wasn't for in-state regulation necessarily. In fact, it potentially is not incredibly helpful, maybe just a piece of the puzzle with regard to in-state regulation of diversions. Unless you've got a very, very tight system it doesn't work tremendously well. The right to divert is something different than the ET value on the field; there are gaps with regard to accurate measurements of irrigated ag. At the same time, especially for headwater states like Wyoming or Colorado with downstream compact delivery obligations, I will advocate forever that the best way for Wyoming to defend its water users is with the best information we can get. I can't manage or defend what I can't measure. For the Colorado River Basin, we're in a bit of a tipping point right now trying to figure out how to move forward. Having this tool that you can apply on a regional scale, in a timely way, is, if nothing else, a way to remove future controversy, not just between the Upper and Lower Colorado River Basins, but among the upper division states where we have those obligations. Up until two years ago, we were all doing it in different ways and so not only do we get to argue about whether or not things are true, we argue about how do you do it right. I think one of the main driving factors with regard to moving to the OpenET consistent measurement is to try to remove some of those future controversies. I think we observed

that, in the end, that uncertainty is a greater risk to our water users than having the information as accurate as we can.

Lane: What you're saying makes a ton of sense. I don't know that we understood initially how this is being used by the states, and it sounds like you may be using aggregated data. We aren't really debating the value of the data for various purposes. We've had a lot of farmers who use OpenET for various things that have helped our guys understand how they may be able to utilize it.

The concern comes when you're looking at field-specific data. For example, you go to the website, and you click on Pat O'Toole's Ranch and say, "Hey, Pat, you put on three feet of water?" He says "No, that's old," or whatever. That's where you get into it - not looking at the whole watershed. If the data was published at the watershed scale to determine use, that would be a different conversation as well. There's a lot of those pieces. I think the details matter and they're the things that we get kind of concerned with.

Chris: And you jump right to my second point, because that's exactly what we're seeing as well with regard to the concerns from our irrigated ag community. Being from Wyoming, as soon as that bill dropped, I got a call from Pat O'Toole saying, "What the hell is the State of Wyoming..." I made the decision to give him my cell number years ago, and he wasn't afraid to use it. I talked with Dan Keppen with regard to how can we massage this? A question I have is, is the current legislation in place that your organizations are at least comfortable with moving forward? Is there enough value here to be supportive despite lingering concerns with who's using the data and the unintended consequences with regard to that data? The Imperial Irrigation District news article, for example, and those sorts of things.

Lane: I would say for the FFA, I don't know if there's a formal position on the OpenET legislation. I don't think we truly support it, but it is more of an agreement to reluctantly be silent. In its current form, we certainly appreciate a lot of the changes that were made, and as mentioned, I think one of the big things that helps is making sure that the other landscapes that are transpiring water are included in that, especially forested landscapes. There are other changes too, but that's a positive move in our mind. It also appeared to us the scope of the thing narrowed a little bit. In a lot of ways, this brought something that was already occurring into visibility for a lot of our members. We've had to constantly remind our members, look, they clearly don't think they need the authority to collect or publish this data, so let's work to make it better, to become something that we're more comfortable with. I think that's probably the distinction there. Certainly, we would have loved to have seen a lot of other changes. I think there is a lot of reluctance about how the funding in the bill will be utilized. Again, is this for USGS to do work, or for the states to do it? Or is it to basically a pass-through the OpenET NGO that's now basically in charge of it. We don't want to necessarily support a new program that expands in ways that we're uncomfortable with. We're more comfortable, but not completely comfortable, on what has happened in the bill.

Shelby: I would say from the Farm Bureau, we've had lots of conversations with the committee staff and really appreciated all the work that they did to collaborate on making some

improvements, some tweaks to the bill when they marked it up. Last November, we did not support the bill as it was drafted. We still have questions. Particularly, what is the role of the federal government in this.

Chris: I appreciate that. That's exactly where I understood your organizations were at. We've been listening to feedback on the implementation of the system conservation pilot program in the Upper Basin, which is using the remote sensing to try to establish a consumptive use amount in order to pay those folks for quantifiable water conservation. Of course, they're not very excited about using this tool, because it's a new tool. It's not something we used to historically measure the amount of water at the head gate. There's gaps, and we're trying to figure out how to fill those gaps. For another perspective from the states, and put it under the category of coming to litigation near you, when you get into those sorts of lawsuits, I think we're going to start seeing this on an intrastate basis as well. When Montana sued us under our Yellowstone River Compact, the primary data they used was the remote sensing to try to figure out whether or not Wyoming was using water in such a way that it was violating the Compact. That has been recognized as being probably the best consumptive use data out there and folks are going to leverage that to try to make their claims. You need to understand it, in my opinion, so that you know what its limitations are. I had to do a lot of work a few years ago on that data and there's lots of value there, but it does have some limitations. Be aware, because even if it wasn't OpenET, those remote sensing tools are out there and they're available to be used. And they're probably the best at least on field estimates of consumptive use.

Lane: Actually, that raises another point that is probably a little bit separate than legislation. With or without OpenET, a lot of our members that do utilize remote sensing want to make sure that there's some of these contractors, companies, technologies and systems that do this stuff, are protected, because there's a lot of value in them. People are finding that certain ones are better than others at different components. We kind of feel that's important to have in the marketplace and we don't want any of that to get pushed out. Frankly, I think they probably all use the data that we're talking about. Again, this is not a fear of the data, it's about how it's presented, how it's used, and how public it is.

Since we're moving off of OpenET, two really quick things. On your policy positions, the seasonal to subseasonal forecasting is really good stuff. A lot of the folks I've been working with generally, not necessarily FFA, see value in S2S along with the airborne snow observatory. In the Drought Relief Act, in addition to the reauthorization, there's some language to allow certain infrastructure relief to be a little bit more permanent. The law right now says the solutions have to be temporary. I've been involved with a few folks that have put in the same drought relief pumps three times in 10 years. But when there's no drought, they have to take them out. Where drought is becoming more frequent, it makes sense to have some accommodation to allow a permanent drought relief pump - and then just use it when needed. That's just an example. But that's in the STREAM Act, that was a Feinstein bill.

Tony: Shelby, I read that New York Times article too and we do not think the federal government should regulate groundwater.

Shelby: When our press people sent us the inquiry, I didn't even know how to respond to that as it seemed insane. I think it just illustrates our concerns.

Tony: I appreciate the comments. I wanted to note that at the Western Governors' Association meetings this past December, Secretary Vilsack was there. He talked about the number of lost acres of farmland and emphasize the point that 80% of the farm income was going to 500 corporations, or large family farms, and 20% is the other 2 million small farmers, and that about half of the farms didn't make any money at all and the 40% of those who did, it was because of off-farm income, they had another job. I saw him emphasize some of the things that the Department of Agriculture is trying to do as far as local farm markets and things to improve the bottom line for family farmers. The point I made to the FFA board was this may be an opportunity because of voluntary temporary transfers for you to take advantage of your water rights by leasing and marketing, when it makes sense for you and where the law allows that. I appreciate the points that you've made about the aggregation of data and the inaccuracies on individual on-farm data. I'm sure Pat wasn't too happy about what he saw. My background is in political science, but as an economist, I know to have well define markets, you have to have well defined rights. I think that farmers in the West are in an enviable position because in general, they have senior rights.

Shelby: Folks are interested in flexibility as you mentioned. I've heard Secretary Vilsack say that same thing quite a bit. I'm not sure he follows up with costs, which has certainly contributed to farm loss, as well as issues surrounding consolidation. If the cost of inputs increases that much, especially if your loan last year was 4%, and now it's 8%, that's a huge hit to your bottom line.

Mindy Dalton: I'm with USGS and thought I would make a couple of comments since the USGS is at the center of a lot of this legislation. I've been the main technical point of contact, working congressionally on the bills that have come forward. Obviously, none of those have passed. Currently, we're operating under our appropriations that we get for OpenET, which is \$3 million a year. With those appropriations, I talked about this very briefly yesterday, but I just wanted to reiterate that our focus is on verification of the methods. We all know that one of the reasons OpenET exists is because actually doing the monitoring for OpenET is very expensive. Coming up with some techniques to do verification of the data that's provided through OpenET is the primary goal for us. Second is to develop approaches for non-irrigated lands in the West, because for USGS, our interest in ET is improving the data that we have, that we can use in understanding water availability across the country. That's not just on irrigated lands, it's on all lands. The third is developing approaches to do ET, broadly in the east, because we're a national science organization. We don't just focus on the west. That's how we're currently using the resources and we do partner externally to do that. I would also just like to add a little bit of a plug again for our new water use data because we are producing consumptive use estimates at the HUC12 level for irrigation and so there's another opportunity to use some data to get some field level validation.

DRAFT FY2024-2025 COMMITTEE WORK PLAN

Andrea: The workplan is under Tab H in the briefing book. In talking with Michelle, we want to make sure that you are all reviewing this document. The North Dakota meeting is coming up in July, where we'll take action on this so please send any recommendations to Michelle as soon as you can.

SUNSETTING POSITIONS FOR SUMMER 2024 MEETINGS

Position #468, regarding the Rural Water Supply Project/Infrastructure Needs is scheduled to sunset at our next meeting and so everybody should be taking a look at this position. If you've got feedback, please let us know so we can get any of those updates or changes in before the summer meeting in North Dakota.

OTHER MATTERS

Andrea: Under Tab L in the briefing book is WGA policy resolution 2021-08, Water Resource Management in the West. We know that this is something that the WGA has been looking at and I think we want to make sure that all of our states are reviewing that and providing any feedback, because I think they'll be looking at that during their summer meeting in June.

Michelle: I have not been privy to those conversations between WGA staff and others, but I think some of you have. If you would like to get information to get to WGA, there are two ways: (1) the primary one is going through your governors' staff; and (2) going through WSWC Staff as we have communications with WGA staff.

Andrea: Finally, under Tab M, there are copies of the following letters regarding: (1) Weather Act Reauthorization Act of 2023; (2) Coalition Support for USGS Streamgauge Networks & Modernization; (3) Council of Infrastructure Financing Authorities (CIFA); and (4) Good Samaritan Remediation of Abandoned Hardrock Mines.

The summer meeting is going to be held in Fargo, North Dakota. We hope that many of you will make the travel. It will be a beautiful time of year in July. If you want selfies with the woodchipper from the movie Fargo, I mean, hotspot! Come on out. Let's get a group picture there. We got some great places that we're working on for a field trip. We know the first P3 was with the Fargo diversion with the Corps. We're looking to get a great tour with that very large \$2 billion infrastructure project going on, the wastewater treatment plant, and also the Grand Farm. We're still working on some things, but look forward to having you in North Dakota.

There being no other matters, the meeting was adjourned.