

# OPENET

## Applications Conference

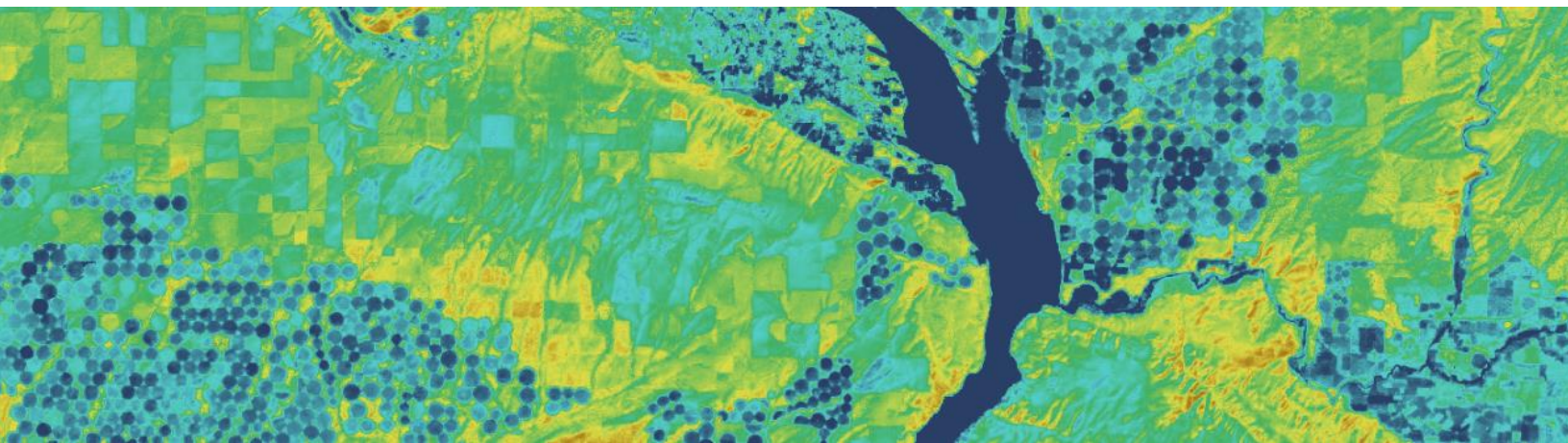
February 27-28, 2024  
Santa Ana Pueblo, New Mexico



California State University  
MONTEREY BAY



MISSISSIPPI STATE  
UNIVERSITY.



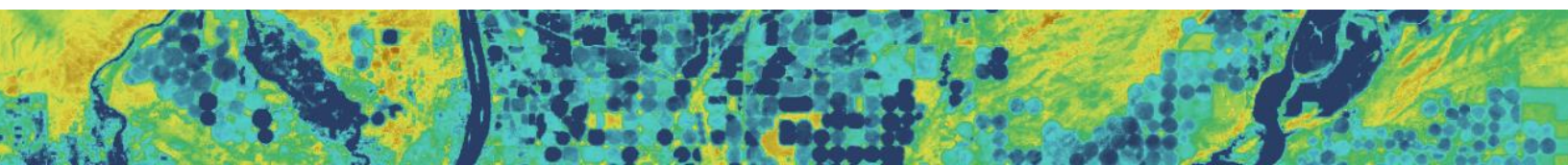
## Program at a Glance

### Tuesday, February 27

Time	Event	Location
8:00am–9:00am	<b>Breakfast</b>	Ballroom
9:00am–10:45am	<b>Day 1 Plenary</b> <i>Welcome and Updates from the OpenET Consortium</i>	Ballroom
10:45am–11:00am	<b>Break</b>	
11:00am–12:30pm	<b>Session Block 1</b>	
	<i>Water Resource Management across the Semi-arid Southwestern United States: Insights from OpenET Applications in California, Utah, and New Mexico</i>	Badger
	<i>Testing the Use of OpenET for Modernizing Crop Insurance Policies and Conserving Groundwater in Kansas and Beyond</i>	Hawk
	<i>Branching Out: Exploring Applications of ET Data in Forested Landscapes (Part 1)</i>	Wolf
	<i>Workshop: Data Explorer and API Training</i>	Puma
12:30pm–1:30pm	<b>Lunch</b>	Ballroom
1:30pm–3:00pm	<b>Session Block 2</b>	
	<i>Evapotranspiration Insights: Comparative Analyses and Practical Applications for Agricultural Water Management</i>	Badger
	<i>From Data to Action: Integrating OpenET into Decision Support Tools</i>	Hawk
	<i>Capturing the Dynamics of Hydrologic Systems through Consumptive Use Measurements</i>	Wolf
	<i>Workshop: API Office Hours</i>	Puma
3:00pm–3:15pm	<b>Break</b>	
3:15pm–4:30pm	<b>World Café</b>	Ballroom
4:30pm–5:30pm	<b>Reception</b>	Veranda

### Wednesday, February 28

Time	Event	Location
8:30am–9:15am	<b>Breakfast</b>	Ballroom
9:15am–10:45am	<b>Day 2 Plenary</b> <i>Government Panel: Using OpenET Data to Support Agency Objectives</i>	Ballroom
10:45am–11:00am	<b>Break</b>	
11:00am–12:30pm	<b>Session Block 3</b>	
	<i>The Role of OpenET in Streamlined Water Use Measurement and Reporting</i>	Badger
	<i>Sowing Resilience: Advancing Conservation and Sustainability with OpenET</i>	Hawk
	<i>Branching Out: Exploring Applications of ET Data in Forested Landscapes (Part 2)</i>	Wolf
	<i>Workshop: Comparing OpenET to Meter and Other Water Use Data</i>	Puma
12:30pm–1:30pm	<b>Lunch and Closing Remarks</b>	Ballroom



## Conference Objectives

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The OpenET Consortium is excited to bring together the ET data community to showcase water and land management successes, foster collaboration and shared learning, and continue building a community of practice. Together, we can accelerate the advancement of the science and usability of OpenET data to support solutions that address critical water management challenges. The conference aims to:

- 1) highlight applications of ET data and promote cross-geography and cross-sector learning;
- 2) bring together the OpenET user community with the OpenET Science Team to foster shared learning, innovation, and collaboration;
- 3) strengthen a community of practice that can continue to advance the science, applications, and usability of OpenET data; and,
- 4) provide opportunities for feedback to the OpenET Consortium regarding user data needs and requirements, and to identify technical and scientific priorities for future improvements to the OpenET system.

## Registration

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Name badges and conference programs will be available at the registration desk in the Mountain View Foyer on Monday, February 26 from 5:00pm-7:00pm, as well as on Tuesday, February 27 from 7:30am-8:30am.

## Notice of Filming and Photography

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Please be advised that photography, filming, and recording will take place throughout the OpenET Applications Conference. By attending the event, you consent to photography, video recording, and audio recording, and its/their release, publication, exhibition, or reproduction to be used by the OpenET Consortium and its representatives. By participating in the OpenET Applications Conference, you are agreeing to release, defend, hold harmless, and indemnify the OpenET Consortium and its representatives from any and all claims involving the use of your picture or likeness.

# Tuesday, February 27

## Day 1 Plenary: 9:00am-10:45am

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### Welcome and Updates from the OpenET Consortium

Location: Ballroom

#### Maurice Hall, OpenET

*Welcome and Non-Profit Updates*

#### Rachel O'Connor, Environmental Defense Fund

*Conference Objectives and Agenda Overview*

#### Ted Kowalski, Walton Family Foundation

*Opening Remarks*

#### Forrest Melton, NASA

*Introduction to OpenET Consortium Science Team Updates*

#### John Volk, Desert Research Institute

*Review of the Phase II Intercomparison Study*

#### Conor Doherty, NASA AMES

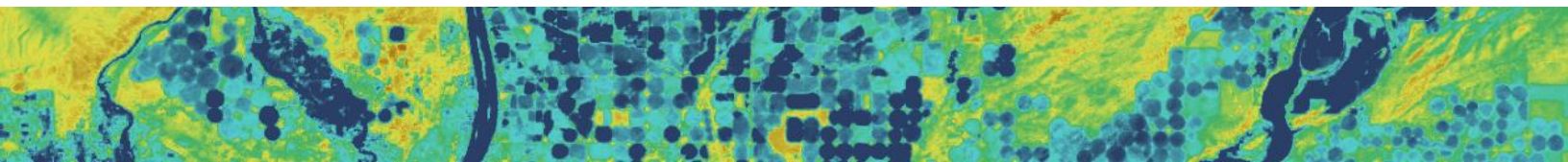
*Updates on Effective Precipitation*

#### Will Carrara, OpenET

*Upcoming Features & Functionalities*

#### Yun Yang, Mississippi State University

*Eastward Expansion and Future Data Advancements*



## Session Block 1: 11:00am-12:30pm

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### Water Resource Management Across the Semi-arid Southwestern United States: Insights from OpenET Applications in California, Utah, and New Mexico

Location: Badger

Moderator: Nick Santos, UC Merced Secure Water Future

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**Nick Santos, UC Merced Secure Water Future**

*High Volume OpenET Data Access Using Open-Source Python Clients for the OpenET API and Google Earth Engine*

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**Alfonso Torres-Rua, Utah State University**

*Identifying Utah Water Conservation Opportunities by Farm Water Balance and OpenET Data*

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**Emily Waring, UC Merced**

*Using OpenET to Demonstrate Water Savings Potential via Deficit Irrigation in the Southwestern U.S.*

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**Robert Sabie, New Mexico Water Resources Research Institute**

*Comparisons of OpenET to Pecan and Alfalfa Field Measurements in the Mesilla Valley, New Mexico*

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### Testing the Use of OpenET for Modernizing Crop Insurance Policies and Conserving Groundwater in Kansas and Beyond

Location: Hawk

Moderator: Robyn Grimm, Environmental Defense Fund

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**Matt Sanderson, Kansas State University**

*Attitudes toward Water Conservation*

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**Dwane Roth, Front Porch Farms**

*Cultivating Change: A 4th Generation Kansas Farmer's Quest for Sustainability*

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**Amy Kremen, Colorado State University/Irrigation Innovation Consortium**

*Effective Methods to Engage Producers and Encourage Advanced Water Management*

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**Jisang Yu, Kansas State University**

*Crop Insurance and Conservation Practices: Some Economic and Policy Considerations*

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### Branching Out: Exploring Applications of ET Data in Forested Landscapes (Part 1)

Location: Wolf

Moderator: Anderson Ruhoff, Universidade Federal do Rio Grande do Sul

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**Ge Sun, USDA Forest Service**

*Forest Evapotranspiration: Unsung Hero for Understanding Watershed Functions and Their Response to Disturbances*

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**Jami Nettles, Weyerhaeuser Company**

*Managed Forests and Advanced ET Measurements: Using Satellite ET to Fill Gaps in Research and Management Practices*

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**Yun Yang, Mississippi State University**

*Enhancing Forest Management with OpenET through Forest Health Monitoring*

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### Workshop: Data Explorer and API Training

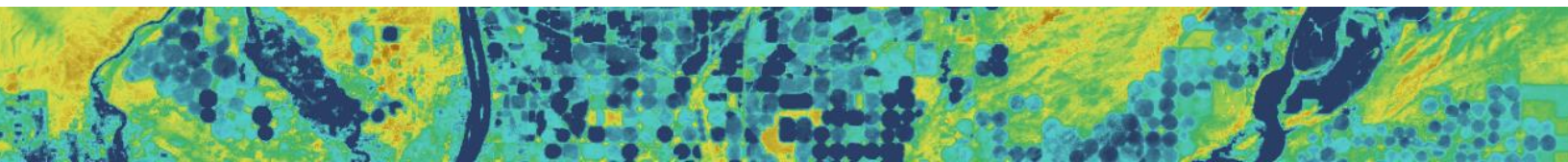
Location: Puma

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**Jordan Harding, HabitatSeven**

**Will Carrara, OpenET**

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## Session Block 2: 1:30pm-3:00pm

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### Evapotranspiration Insights: Comparative Analyses and Practical Applications for Agricultural Water Management

Location: Badger

**Moderator: Mac Friedrichs, USGS EROS**

**Pamela Nagler, USGS Southwest Biological Science Center**

*Using Ground-Validated Remote Sensing Methods for Determining Actual Evapotranspiration (ETa) with a Simple Vegetation Index-Based Equation*

**Kyle Knipper, USDA ARS**

*A Comparative Analysis of OpenET for Evaluating Evapotranspiration in California for Irrigation Management*

**Cameron Wobus, CK BlueShift**

*Quantifying Patterns and Trends of Agricultural Water Use in New Mexico Using OpenET*

**Greg Young, Zanjero**

*Using OpenET to Inform Water Resource Management Solutions: A Consultant's Perspective*

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### From Data to Action: Integrating OpenET into Decision Support Tools

Location: Hawk

**Moderator: Lee Johnson, California State University Monterey Bay / NASA**

**Olivier Jerphagnon, AgMonitor**

*Integration of OpenET Data into AgMonitor Platform for Groundwater Recharge Project in California*

**Michael Cahn, UC Cooperative Extension**

*Integrating OpenET Data with the CropManage Irrigation and Nutrient Management Decision Support Tool*

**Ray Lee, Environmental Science Associates**

*Leveraging OpenET in a Scalable Open-Source Groundwater Accounting Platform*

**Jordan Harding, HabitatSeven & Will Carrara, OpenET**

*Intro to the OpenET Farms and Ranch Management Support Tools*

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### Capturing the Dynamics of Hydrologic Systems through Consumptive Use Measurements

Location: Wolf

**Moderator: Matt Bromley, Desert Research Institute**

**Gabriel Senay, USGS EROS**

*Characterizing Crop Water Use Dynamics and Water Budget Parameters in the High Plains Aquifer*

**Jeff Davids, Davids Engineering, Inc.**

*Quantifying California's Slow-Motion Invisible Atmospheric River: Leveraging OpenET for Sustainable Groundwater Management and Wetland Characterization in California*

**Sayantan Majumdar, Desert Research Institute**

*Regional and Field Scale Estimates of Groundwater Withdrawals Using Remote Sensing and Climate Data*

**Eli Asarian, Riverbend Sciences**

*Contrasting Hydrologic Effects of Irrigation Curtailment in Two Northern California Valleys Evaluated with Remote Sensing and Streamflow Gages*

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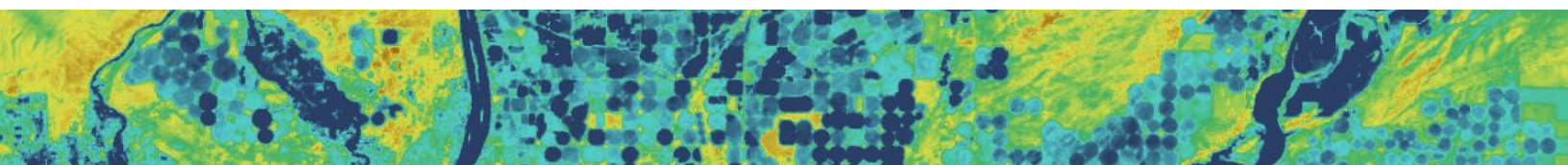
### Workshop: API Office Hours

Location: Puma

**Will Carrara, OpenET**

**Alberto Guzman, OpenET NASA-ARCREST**

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## World Café: 3:15pm–4:30pm

World Café conversations are a method of creating a collaborative dialogue around key issues or questions. Participants sit in small groups and discuss one of the topics below for a set period. Participants then move to a different group, cross-pollinating ideas and perspectives. This leads to open conversation, sharing knowledge, and allows for collective brainstorming and problem-solving, fostering a sense of community and a deeper understanding of the subject matter.

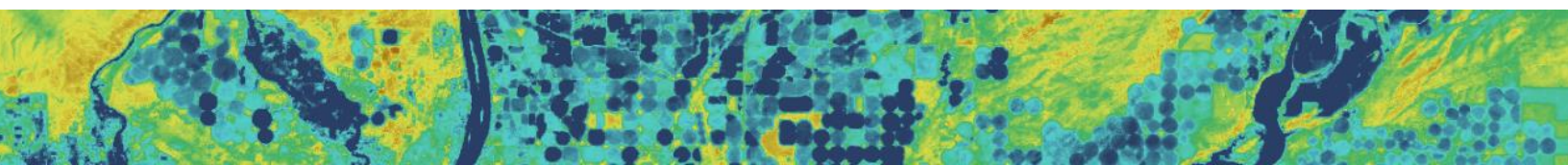
A member of the OpenET Consortium will serve as a facilitator for each dialogue. Participants will choose a topic of interest and join that table for a 20–25-minute conversation. After 25 minutes, an announcement will be made for participants to move to a new table with a different topic.

### World Café topics and table facilitators:

<b>Open water evaporation</b>	Chris Pearson, Desert Research Institute
<b>Applications for wetlands, groundwater-dependent ecosystems, and riparian vegetation</b>	Blake Minor, Desert Research Institute
<b>Cloud masking and quality assessment layers</b>	Mac Friedrichs, USGS EROS Charles Morton, Desert Research Institute
<b>Integration of additional satellite observations</b>	Martha Anderson, USDA ARS Yun Yang, Mississippi State University
<b>Improving quality of gridded meteorological products used to compute reference ET</b>	AJ Purdy, California State University Monterey Bay
<b>OpenET accuracy assessments</b>	John Volk, Desert Research Institute
<b>Forest management applications</b>	Anderson Ruhoff, Universidade Federal do Rio Grande do Sul
<b>OpenET farm &amp; ranch management support tool and desired features and functionalities for the data explorer, API, and custom reporting tools</b>	Will Carrara, OpenET Jordan Harding, HabitatSeven
<b>What to include in an OpenET best practices manual?</b>	Rick Allen, Professor Emeritus University of Idaho Ayse Kilic, University of Nebraska-Lincoln Lee Johnson, California State University Monterey Bay/NASA
<b>Virtual trainings, YouTube, and workshops wish list</b>	Garshaw Amidi-Abraham, Environmental Defense Fund
<b>Communications and storytelling ideas</b>	Josh Fisher, Chapman University Robyn Grimm, Environmental Defense Fund
<b>Effective precipitation methods</b>	Conor Doherty, NASA AMES
<b>ET in urban areas and municipal landscaping</b>	Matt Bromley, Desert Research Institute
<b>OpenET non-profit: future direction, partnerships and collaboration, Q&amp;A</b>	Maurice Hall, OpenET Luis Villa, OpenET Board Member

## Reception: 4:30pm–5:30pm

Please join us on the veranda for a reception with a hosted bar and hors d'oeuvres.



## Wednesday, February 28

### Day 2 Plenary: 9:15am-10:45am

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#### Government Panel: Using OpenET Data to Support Agency Objectives

Location: Ballroom

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**Moderator: Forrest Melton, NASA**

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**Tony Willardson, Western States Water Council**  
*Opening Remarks*

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**Jack Eggleston, USGS Hydrologic Remote Sensing Branch**  
*Using OpenET Data in USGS Water Science Programs*

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**James Prairie, Bureau of Reclamation**  
*Integrating OpenET Data into Reclamation's Upper Colorado River Basin Consumptive Uses and Losses Reporting*

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**Rachel Musil, Central Utah Water Conservancy District**  
*Harvesting Resilience: OpenET in Utah's Water Management*

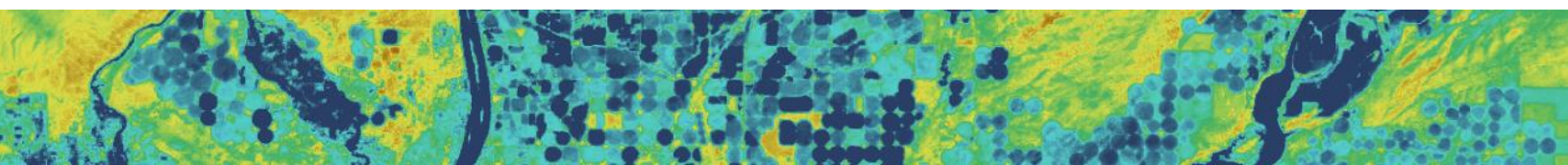
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**Jay Ziegler, California State Water Resources Control Board**  
*Bridging Understanding: State-Irrigator Cooperation Using OpenET in the Sacramento-San Joaquin Delta*

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**Jordan Beamer, Oregon Water Resources Department**  
*Use of OpenET in Oregon to Support Updated Water Budgets and Planning*

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## Session Block 3: 11:00am-12:30pm

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### The Role of ET Data in Streamlined Water Use Measurement and Reporting

Location: Badger

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**Moderator: Forrest Melton, NASA**

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**Brett Baker, Central Delta Water Agency**

*OpenET in the California Delta: If It Can Work Here, It Can Work Anywhere*

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**Josh Fisher, Chapman University**

*Water Management for the State of New Mexico*

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**Andrew Volkmer, Bureau of Reclamation**

*Transitioning to eeMETRIC for Computing Irrigated Agriculture Consumptive Use on the Upper Colorado River Basin*

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**James Schneider, Olsson**

*OpenET in Nebraska: Incorporating ET Data into Field-Scale Water Budgets for Irrigators and Water Managers*

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### Sowing Resilience: Advancing Conservation and Sustainability with OpenET

Location: Hawk

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**Moderator: Martha Anderson, USDA ARS**

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**Sara Larsen, Upper Colorado River Commission**

*Multi-Scale Use of OpenET/Remote Sensing for Irrigated Agricultural Consumptive Use Estimation and Water Conservation Program Implementation in the Upper Colorado River Basin*

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**Scott Morrison, Jacobs Engineering Group**

*Investigating Agricultural Resilience Opportunities in Utah – An OpenET Supported Approach*

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**Lauren Steely, Metropolitan Water District of Southern California**

*Investigating the Irrigation Efficiency Paradox with OpenET*

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**Maria Isabel Zamora Re, Oregon State University**

*Cultivating Collaboration and Innovation: OSU's Initiatives with OpenET Data Applications and Outreach for Sustainable Agriculture*

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### Branching Out: Exploring Applications of ET Data in Forested Landscapes (Part 2)

Location: Wolf

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**Moderator: Yun Yang, Mississippi State University**

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**Anderson Ruhoff, Universidade Federal do Rio Grande do Sul**

*Impacts of Deforestation on Evapotranspiration in the Amazon*

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**AJ Purdy, California State University Monterey Bay**

*Using OpenET to Map Wildfire Risk*

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**Devendra Amatya, USDA Forest Service**

*Preliminary Multi-Satellite Based Assessment of Seasonal Evapotranspiration of a Coastal Forest Watershed under Longleaf Pine (*Pinus Palustris*) Restoration*

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**Micah Elias, Blue Forest**

*OpenET and Forest Management: Linking Increased Water Yield with Economic Value*

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### Workshop: Comparing OpenET to Meter and Other Water Use Data

Location: Puma

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**Rick Allen, Professor Emeritus of Water Resources Engineering, University of Idaho**

**Ayse Kilic, University of Nebraska-Lincoln**

**Chris Pearson, Desert Research Institute**

**Carlos Wang, University of California, Berkeley**

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