

April 21, 2026

Laying the foundation for a Delta Modeling Collaboratory: a project-based collaborative modeling approach to complex management challenges

Michelle Stern, PhD
Delta Science Program

California Water and Environmental Modeling Forum
CWEMF Annual Meeting

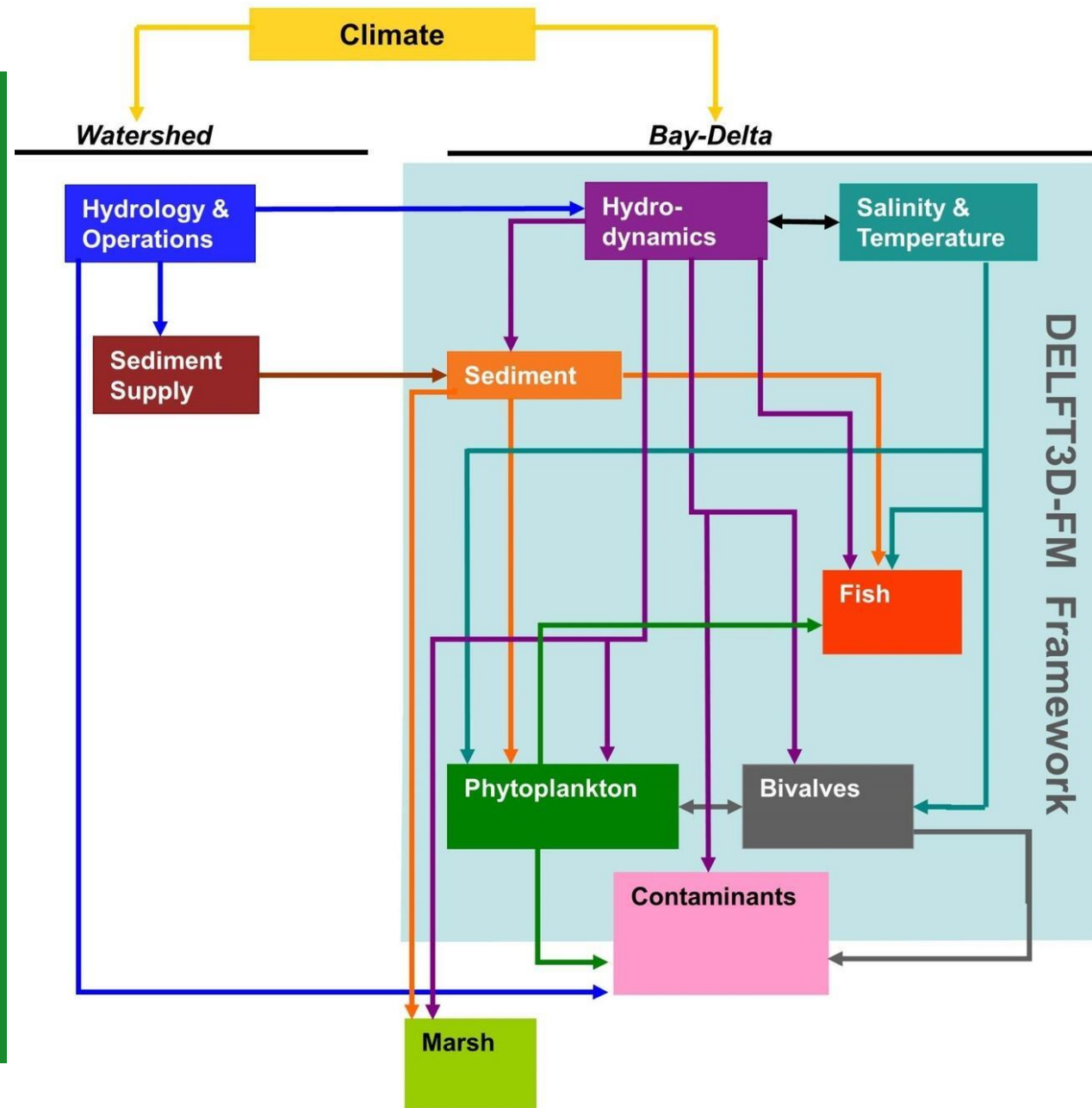


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CASCade II

Computational
Assessments of Scenarios
of Change for the Delta
Ecosystem



Three Working Group Projects:

How can we assess options and tradeoffs in salinity management?

Project goal: Develop integrated modeling resources that support evaluation of salinity management actions and impacts of salinity intrusion, particularly in the face of changing Delta geometries, climate, and extreme events.

Contact:

Josué Medellín-Azuara^c, UC Merced



Can we predict harmful algal blooms?

Project goal: Develop modeling resources that inform and support management actions, including forecasting conditions and events, and optimizing monitoring and data collection efforts.

Contacts:

Dave Senn^a, SFEI

Keith Bouma-Gregson^b, USGS



How can we manage tidal wetlands to optimize food webs?

Project goal: Develop a tidal wetlands food web model that provides the community with tools to better design, monitor, and assess restoration effectiveness.

Contact:

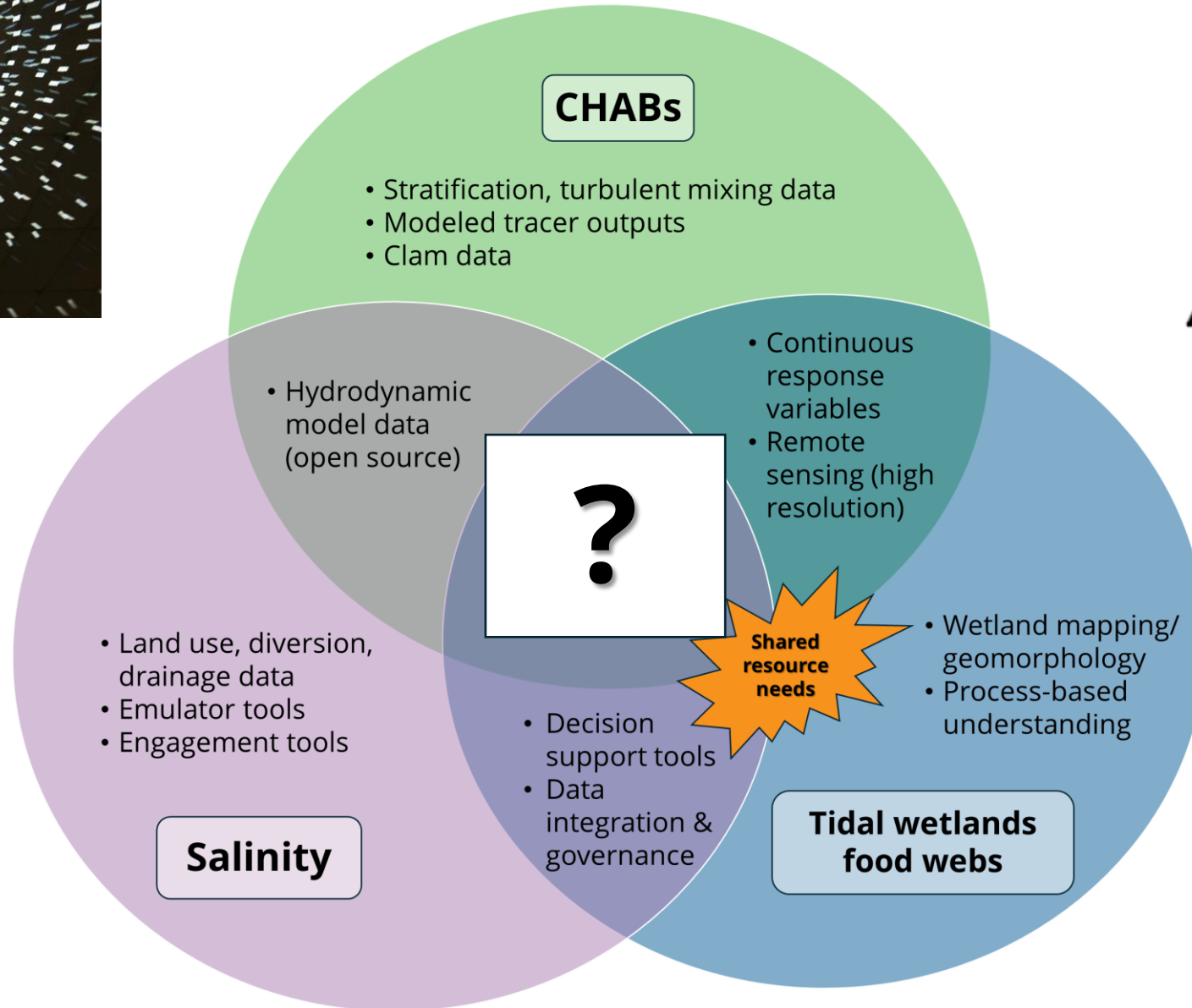
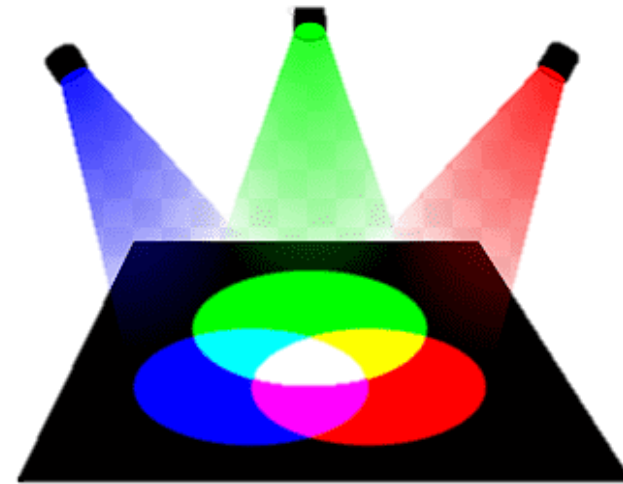
Matt Young^d, USGS



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Working Group Dance Floor



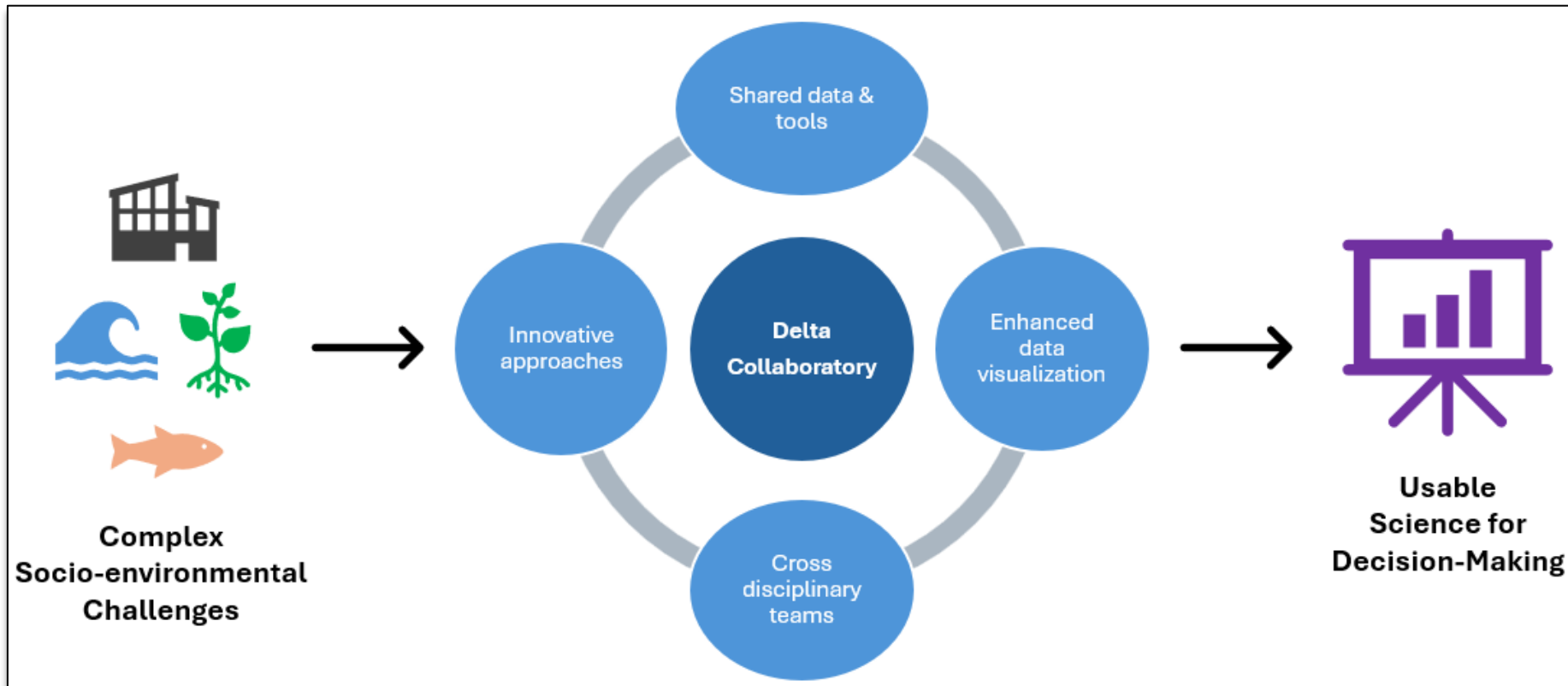
What is a Collaboratory?

- **Collaboration** is the general (unstructured), active process of people working together toward a common goal.
- A **Collaboratory** creates a supportive and inclusive environment through physical and virtual participation using shared digital tools, data, and other resources to enhance efficiency and discovery of collaborative research focused on a common goal or problem.



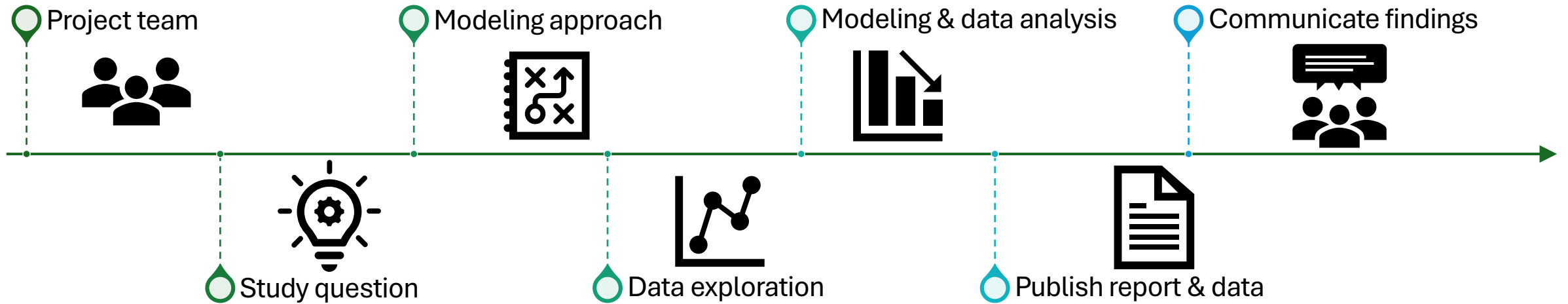
Delta Modeling Collaboratory - Purpose

- Enhance collaborative activities between modelers and non modelers alike
- Share curated input data, scenarios and results
- Support data streaming between different models
- Provide training and collate existing resources



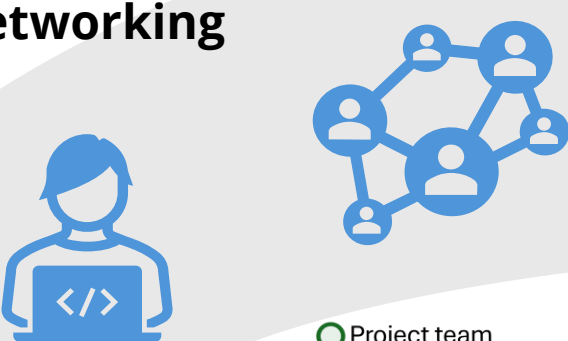
...to support a modeling community that is at the forefront of predicting the outcomes of water and environmental management scenarios.

Common Project Timeline

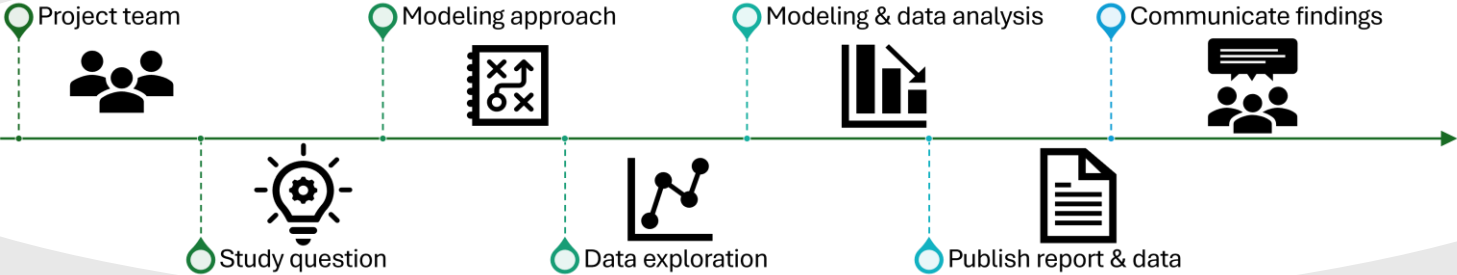


Collaboratory Benefits

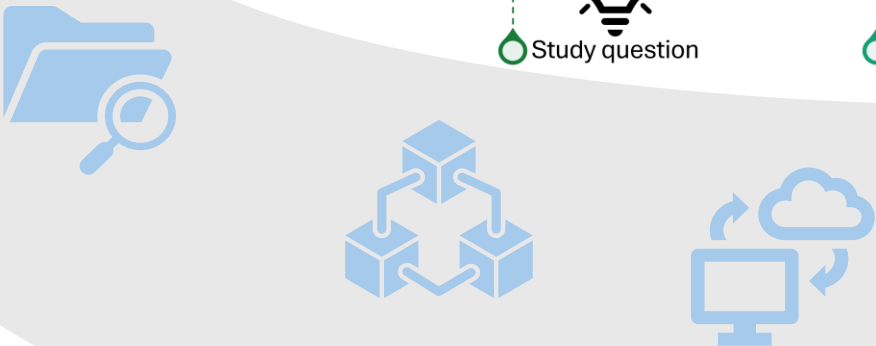
Team expertise & networking



Educational resource library



Modeling support & cloud computing

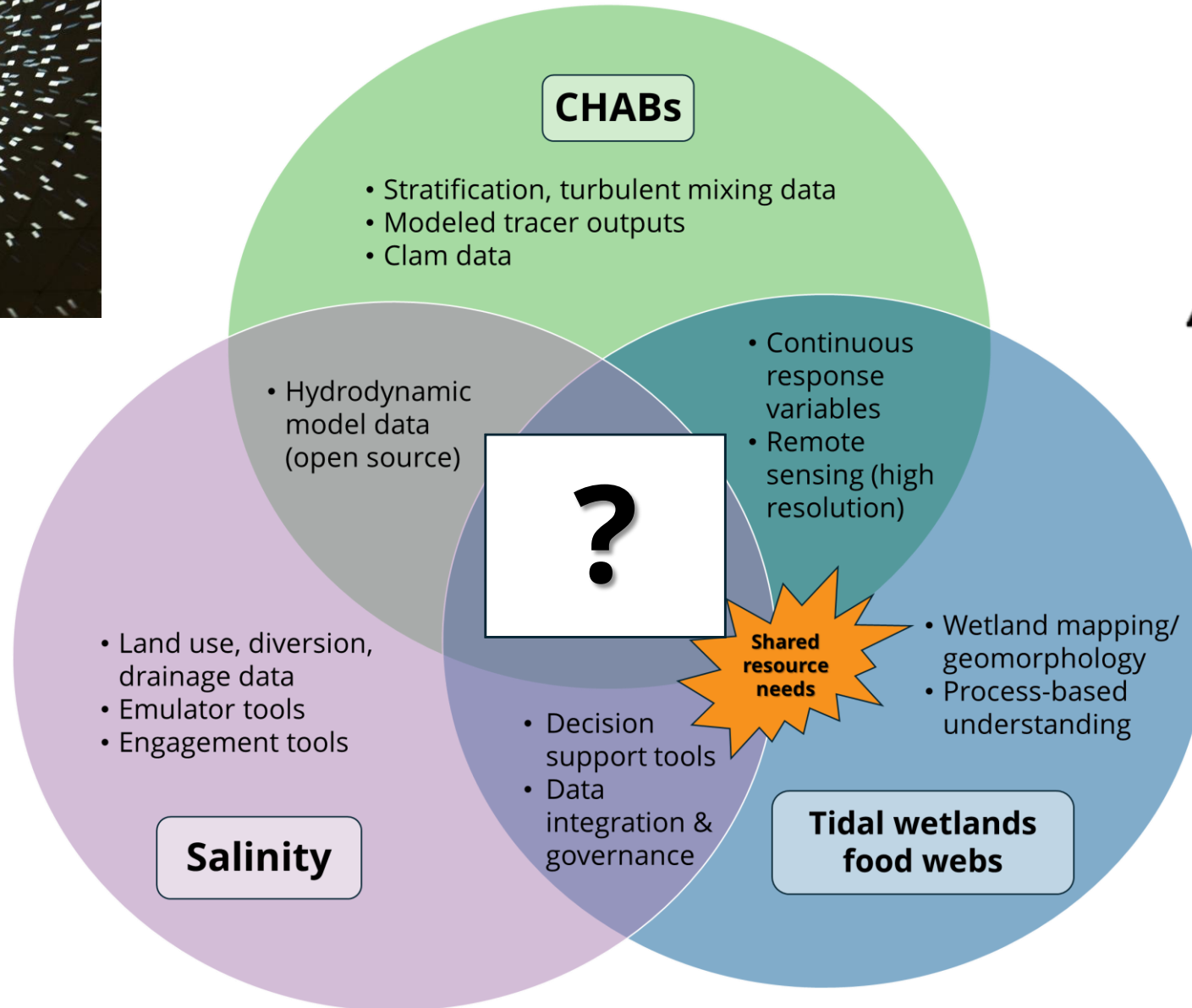
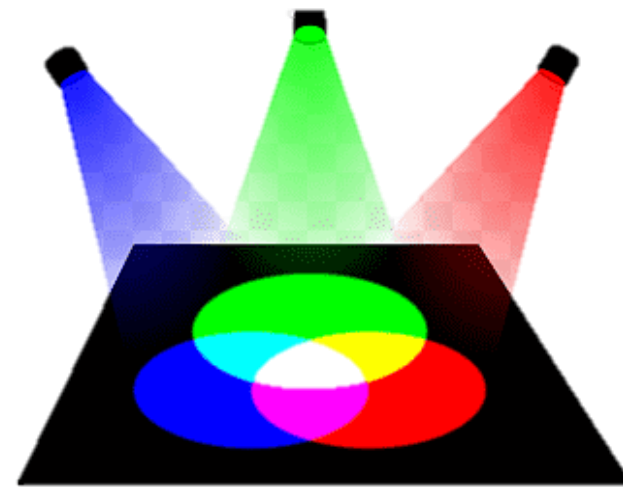


Data science training & workshops



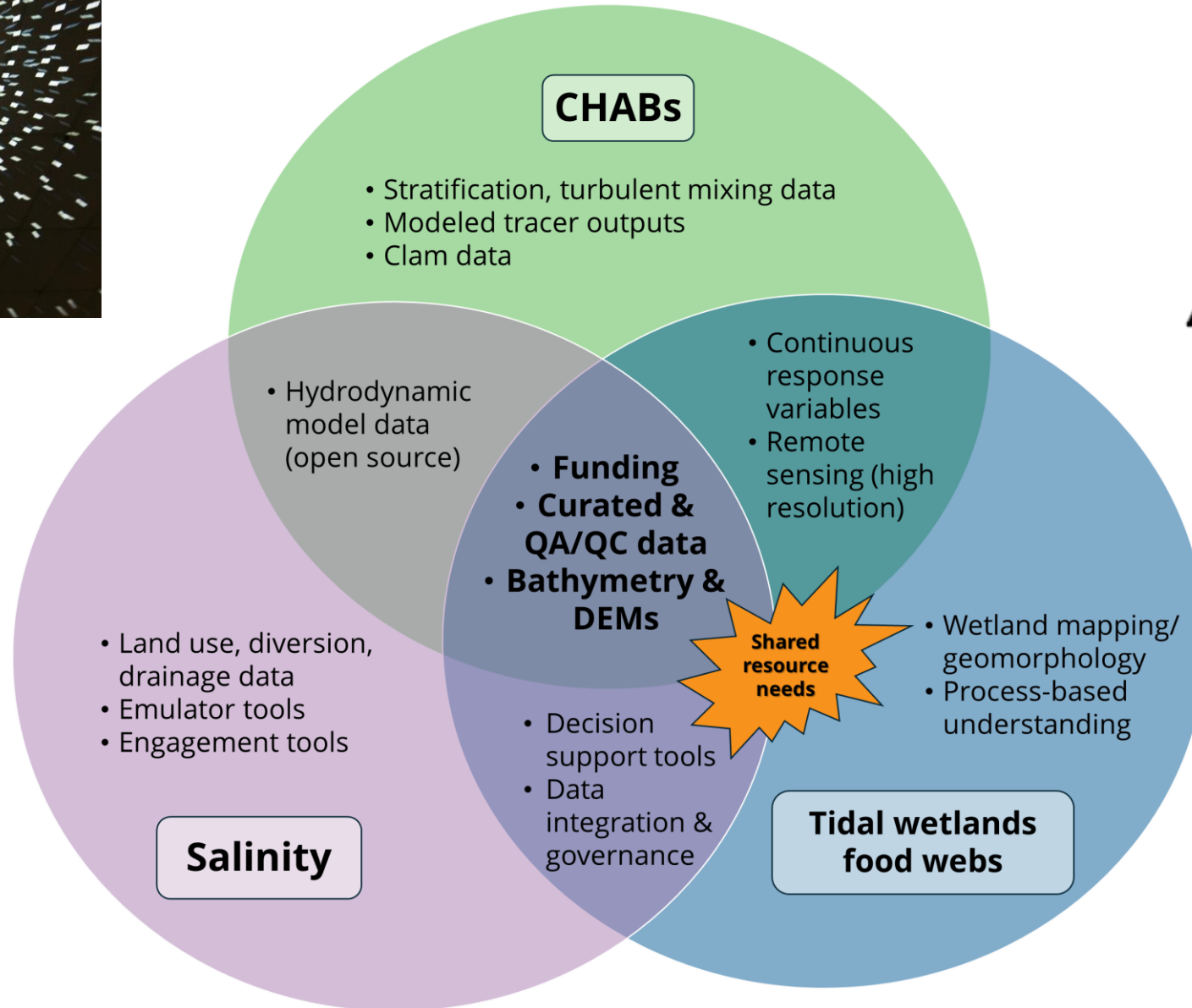
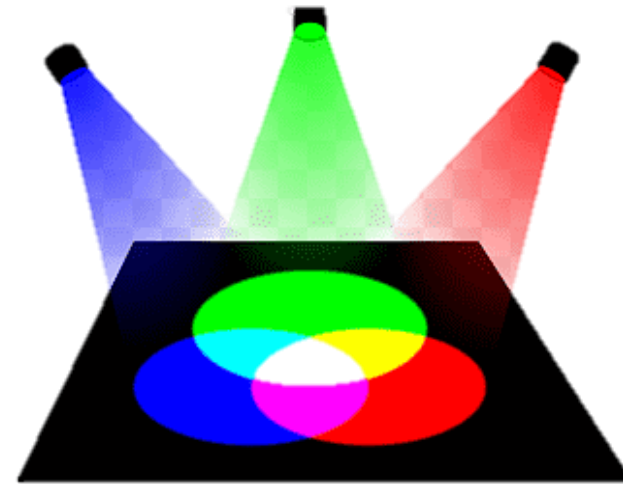


Working Group Dance Floor

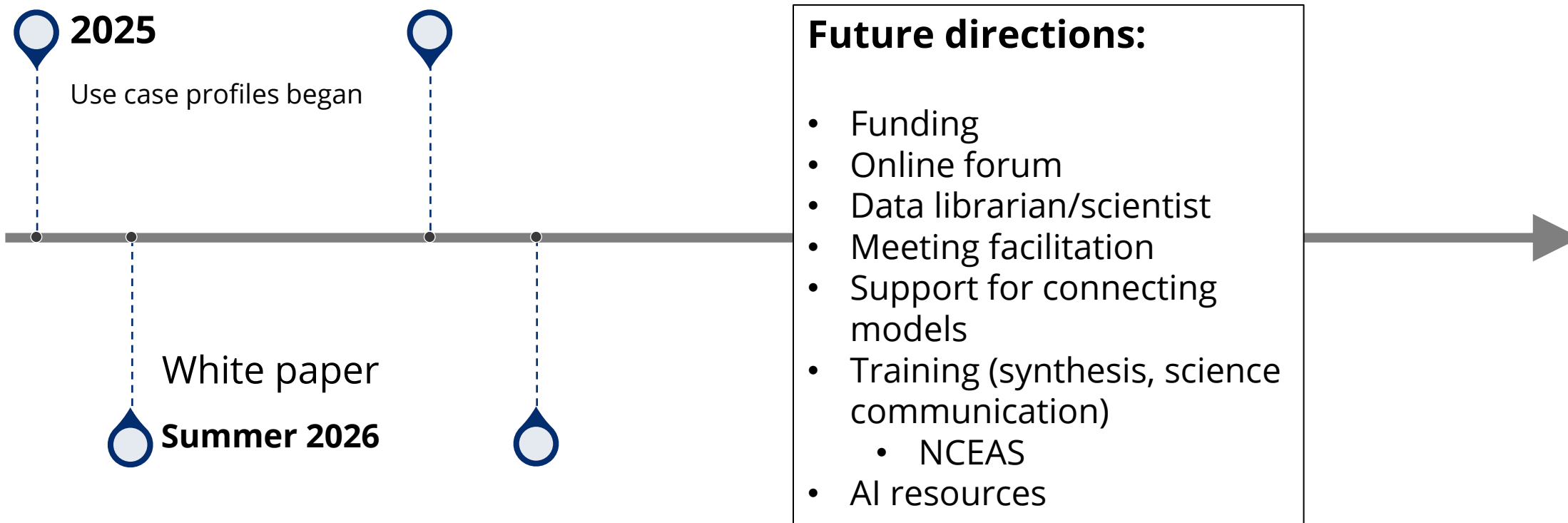




Working Group Dance Floor

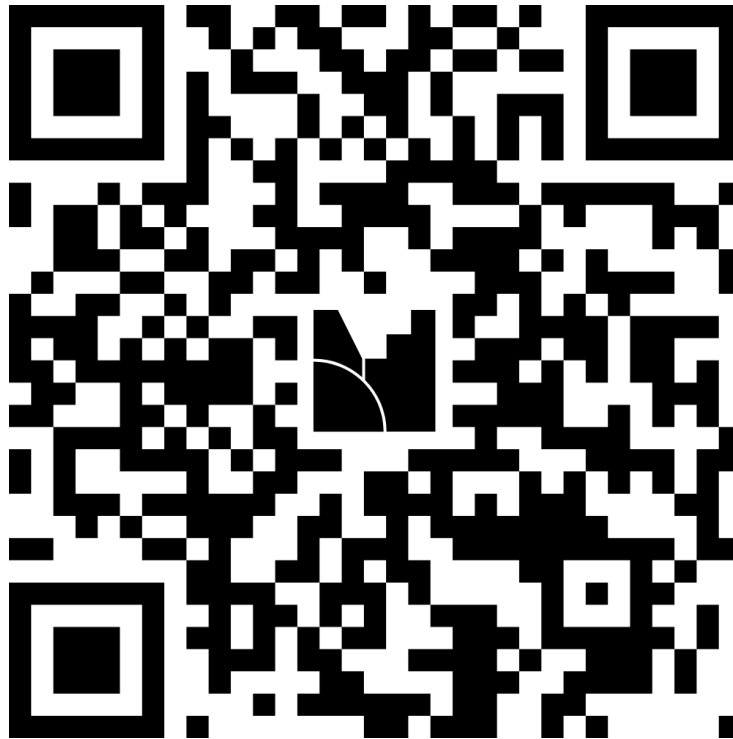


Where we are headed



Mentimeter Question

Name 1-3 tools or resources you would join a Collaboratory to use? Or contribute to?



Join at [menti.com](https://www.menti.com) | use code 6212 8426

<https://www.mentimeter.com/app/presentation/alj3ypc92od4zq75eqydh9egmpzedyze/results>

Conclusions



The Delta Modeling Collaboratory can bring people, tools, and data together to support efficient, shared Delta modeling.



Uses common resources and data to save time, improve consistency, and support shared learning.



Strengthens decision-making and enables more coordinated Delta management.



Next steps include a white paper synthesizing working group results.



Join us to help grow a stronger, more connected modeling community. The dance floor is always open!

Thank You!



Lisamarie Windham-Myers - *Delta Science Program & US Geological Survey*

Maggie Christman - *Delta Science Program*

Nick Rowlands - *Delta Science Program*

Denise Colombano - *Delta Science Program*

Stephen Elser - *Delta Science Program*

Jonathan Huang - *Delta Science Program*

Steve Culberson - *Delta Science Program*

David Senn - *San Francisco Estuary Institute*

Keith Bouma-Gregson - *US Geological Survey*

Matt Young - *US Geological Survey*

Lisa Lucas - *US Geological Survey*

Josué Medellín-Azuara - *UC Merced*

Michelle Stern

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**Delta
Stewardship
Council**

A CALIFORNIA STATE AGENCY

Q&A panel:

Lisamarie Windham-Myers - *Delta Science Program & US Geological Survey*

David Senn - *San Francisco Estuary Institute*

Keith Bouma-Gregson - *US Geological Survey*

Josué Medellín-Azuara - *UC Merced*

Matt Young – *US Geological Survey*



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What are your 1-2 main takeaways from this collaboratory profile process, or from a recent collaboration?



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What is one roadblock you have encountered collaborating with other groups and how did you overcome it? How could a Collaboratory have helped?



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How can a modeling
Collaboratory help to
accelerate progress
towards the goals of the
CWEMF community?



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Where would you like
to see the
Collaboratory go next?



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Audience Q & A



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