Data Management, Visualization and Access Workshop

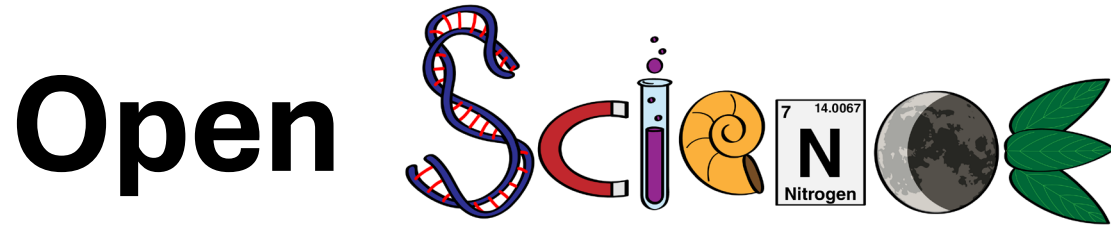Catarina Pien

Bureau of Reclamation

IEP Workshop | April 18, 2024

Open Science

Transparency of the scientific process

The Open and Transparent Water Data Act (AB 1755) (2016)

Open Government Initiative – OPEN Government Data Act

FAIR principles

What does FAIR stand for?

Applicable to data/metadata, tools, workflows

FAIR Principles - GO FAIR (go-fair.org)

Menti.com

Code: 5615 1936

What does FAIR stand for?

FAIR Principles

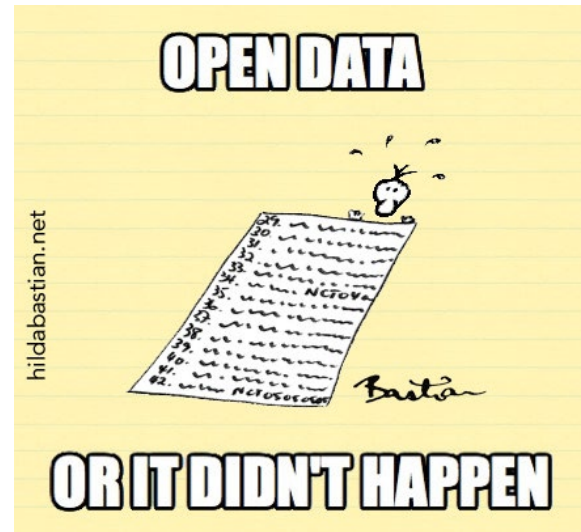**F** indability

A ccessibility

I nteroperability

R euse

Data and metadata **indexed** together in **searchable** resource

Associated with globally **unique and persistent identifier** (e.g. DOI)

FAIR Principles

F indability

A ccessibility

I nteroperability

R euse

Data and metadata **easily retrieved/downloaded** by identifier

Protocols/Methods **open, free, implementable**

FAIR Principles

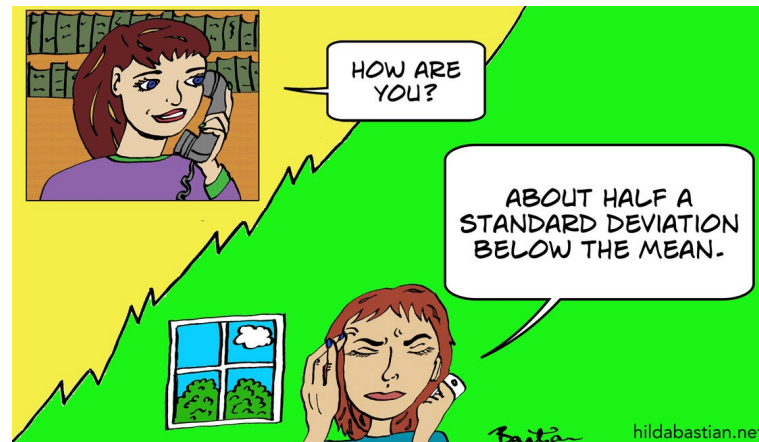**F** indability

A ccessibility

I nteroperability

R euse

Use **shared, relevant vocabularies**, terminology, data standards

Data organized to be read and **aggregated easily** with other sources

Machine readable across different systems, software, hardware

FAIR Principles

F indability

A ccessibility

I nteroperability

R euse

> **Descriptive** metadata
>
> Inclusion of **complementary files** (code, documentation) needed to understand data/analysis
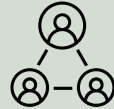>
> Clear, detailed **provenance** (data sources)
>
> Clear, accessible usage **license**

Challenges

An Open Data Framework for the San Francisco Estuary (SFEWS)
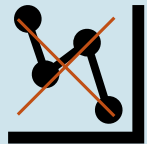
Lack of time, funding

Lack of knowledge for how to share data

Balance of data quality and timeliness of data

Misuse of data

Ownership of data

IEP Data Utilization Workgroup

- Define shared data standards (data descriptions, documentation) across member agencies
- Promote efficient and open data management practices by providing templates and resources for community
- Provide support for member agencies, coordinate across other groups

Contact:
Sam Bashevkin (sam.bashevkin@waterboards.ca.gov)
Dave Bosworth (David.Bosworth@water.ca.gov)
IEP Data Utilization Working Group (ca.gov)

IEP DUWG

DMP QA/QC METADATA DATA PUBLISHING DATA REUSE & VISUALS

Join our data journey

Workshop Objectives

Share practices and methods that support open science, FAIR principles
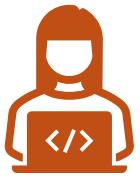
- Provide data managers and users with resources, templates, guidance for data management
- Share data sources, packages, code for streamlined, transparent data analysis, synthesis
- Connect community with visualization tools, code, venues for increasing and improving data communication
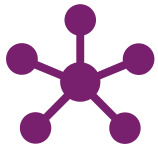
Agenda

Data Management and Access	**9:10** Data Management (35 minutes)
	9:45 Coded Data Access (30 minutes)
	10:20 Break (15 minutes)
	10:35 Metadata and Data Publication (75 minutes)
	11:50 Break (1 hour)
Visualization	**12:50** Visualization Tools (60 minutes)
	1:50 Break (15 minutes)
	2:05 Visualization Examples (50 minutes)
	2:55 Panel Q&A (30 minutes)
	3:25 Closing (5 minutes)

Data Management and Access

9:10 Data Management (35 minutes)

9:45 Coded Data Access (30 minutes)

10:20 Break (15 minutes)

10:35 Metadata and Data Publication (75 minutes)

11:50 Break (1 hour)

Data management plan
Structure and format of data
Quality assurance/ Quality control
Data sharing

Data Management and Access

9:10 Data Management (35 minutes)

9:45 Coded Data Access (30 minutes)

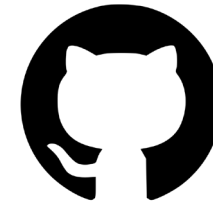**10:20** Break (15 minutes)

10:35 Metadata and Data Publication (75 minutes)

11:50 Break (1 hour)

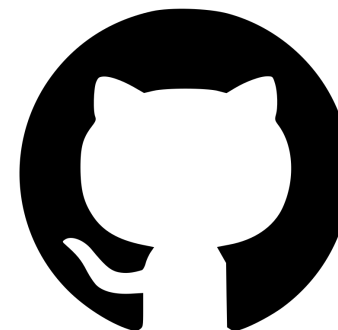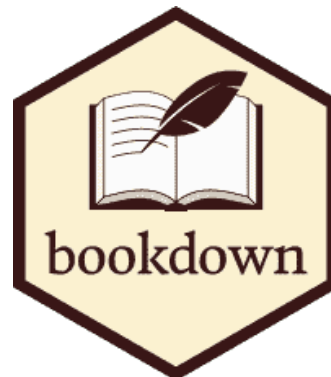|	
Data Management and Access	**9:10** Data Management (35 minutes)
	9:45 Coded Data Access (30 minutes)
	10:20 Break (15 minutes)
	10:35 Metadata and Data Publication (75 minutes)
	11:50 Break (1 hour)

Visualization	**12:50 Visualization Tools (60 minutes)**
	1:50 Break (15 minutes)
	2:05 Visualization Examples (50 minutes)
	2:55 Panel Q&A (30 minutes)
	3:25 Closing (5 minutes)

SacPAS: Central Valley Prediction & Assessment of Salmon
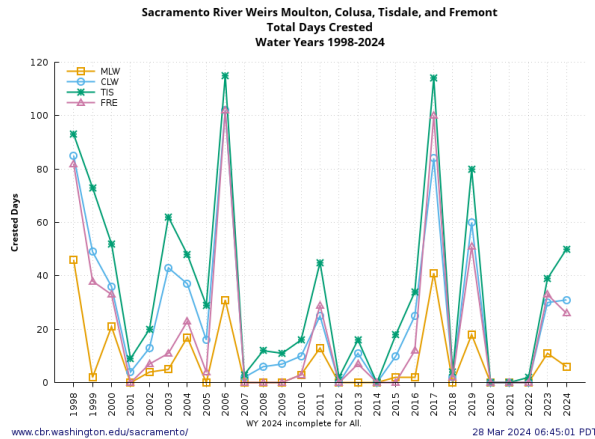
Bay-Delta Live

Visualization

12:50 Visualization Tools (60 minutes)

1:50 Break (15 minutes)
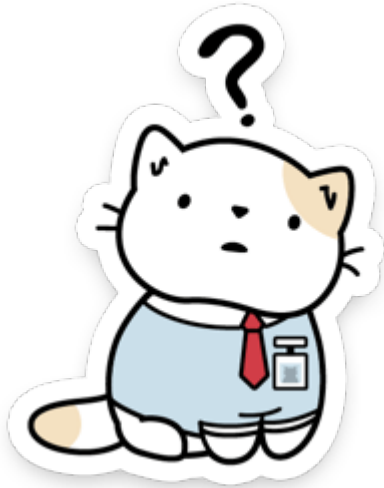
2:05 Visualization Examples (50 minutes)

2:55 Panel Q&A (30 minutes)

3:25 Closing (5 minutes)

Save questions for the end
Put questions in the Teams chat

12:50 Visualization Tools (60 minutes)

1:50 Break (15 minutes)

2:05 Visualization Examples (50 minutes)
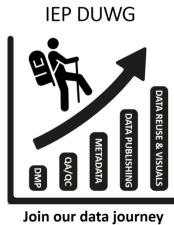
2:55 Panel Q&A (30 minutes)

3:25 Closing (5 minutes)

To be shared out:

- Resource list
  - Templates
  - Guidance
  - Useful data packages
  - Synthesized datasets
  - Examples of tools demonstrated
  - Other resources
- Code and slides from this workshop: https://github.com/InteragencyEcologicalProgram/iep-data-workshop-2024/tree/main
- Recording of this training (youtube)

Thanks

- Christine Joab, Rosie Hartman, Dave Bosworth, Sam Bashevkin, Trinh Nguyen, Rachel Pisor, Denise Goodman, Nicole Kwan, Perry, Susannah Iltis, Amye Osti

- DUWG and IEP community

- See speaker bios (with contact info): https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=220327&inline