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PICES

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

# International Data Management:

## Data Governance,
## Practical Insights,
## Building Trust Across Borders

PICES Training Session # 2
Brett Johnson. September 30th, 2024

Canada

# Canadian Integrated Ocean Observing System

CIOOS was created in 2019 to establish coordination of Canadian ocean data

Regional Alliance of the Global Ocean Observing System

My involvement: Data management, metadata standards, biological data standards

Catalogues Essential Ocean Variables from Canadian waters

https://cioos.ca

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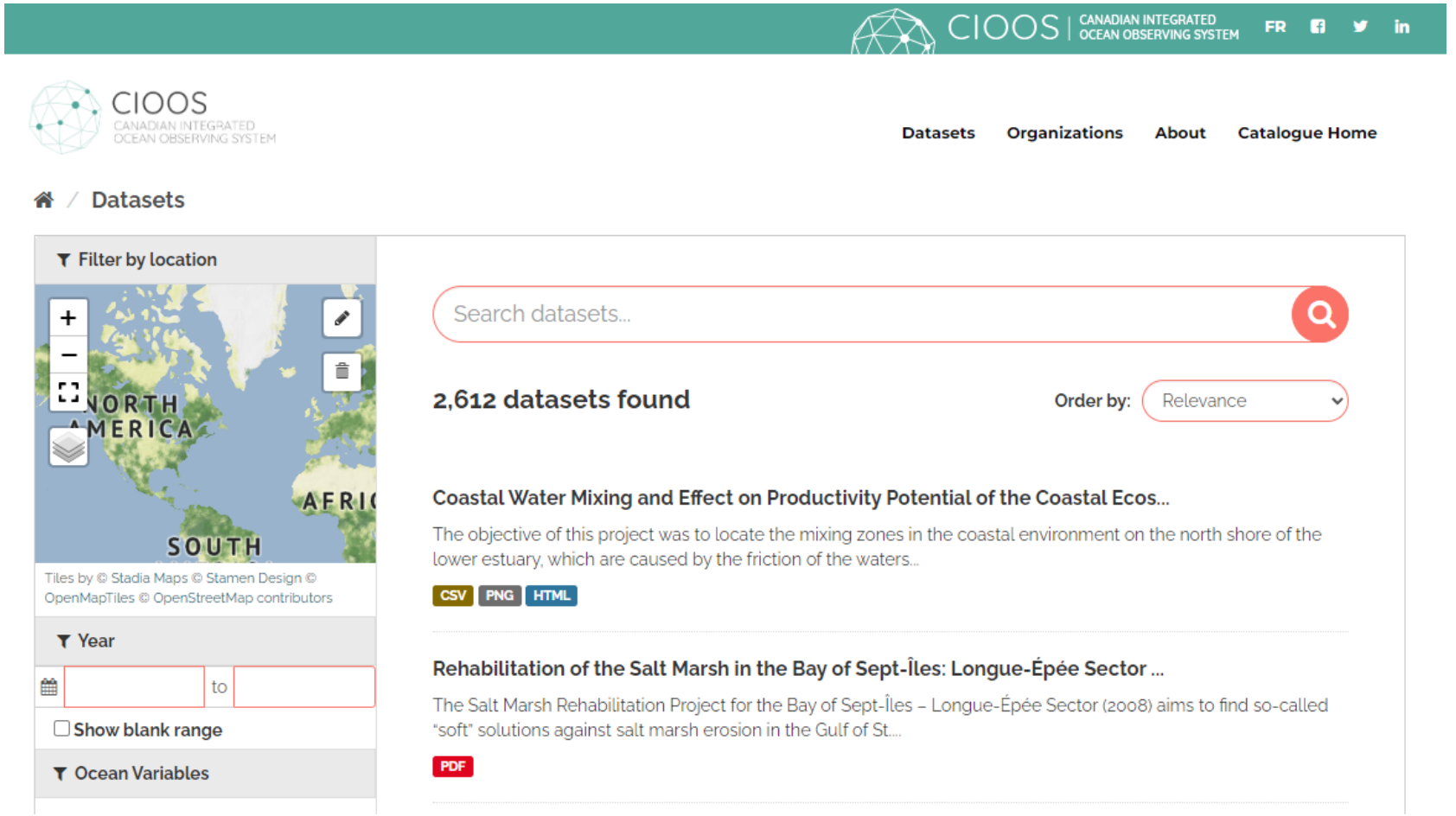
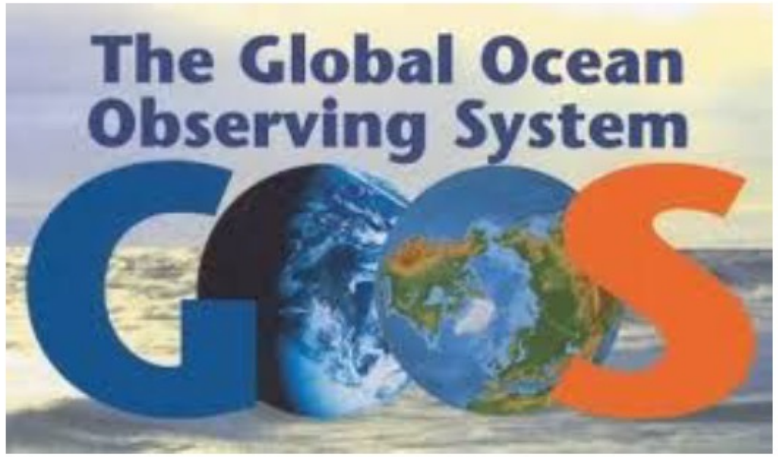
# Canadian Integrated Ocean Observing System

https://catalogue.cioos.ca/dataset/




Canada

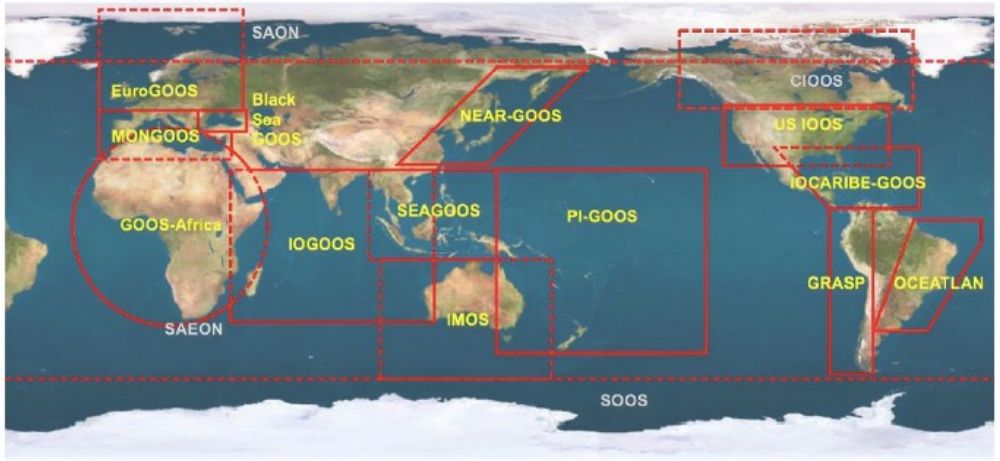
# Global Ocean Observing System



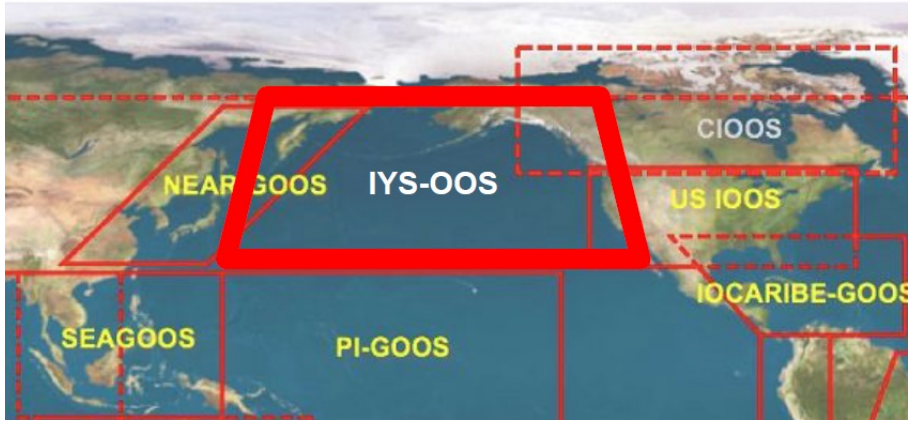

Sponsored by:

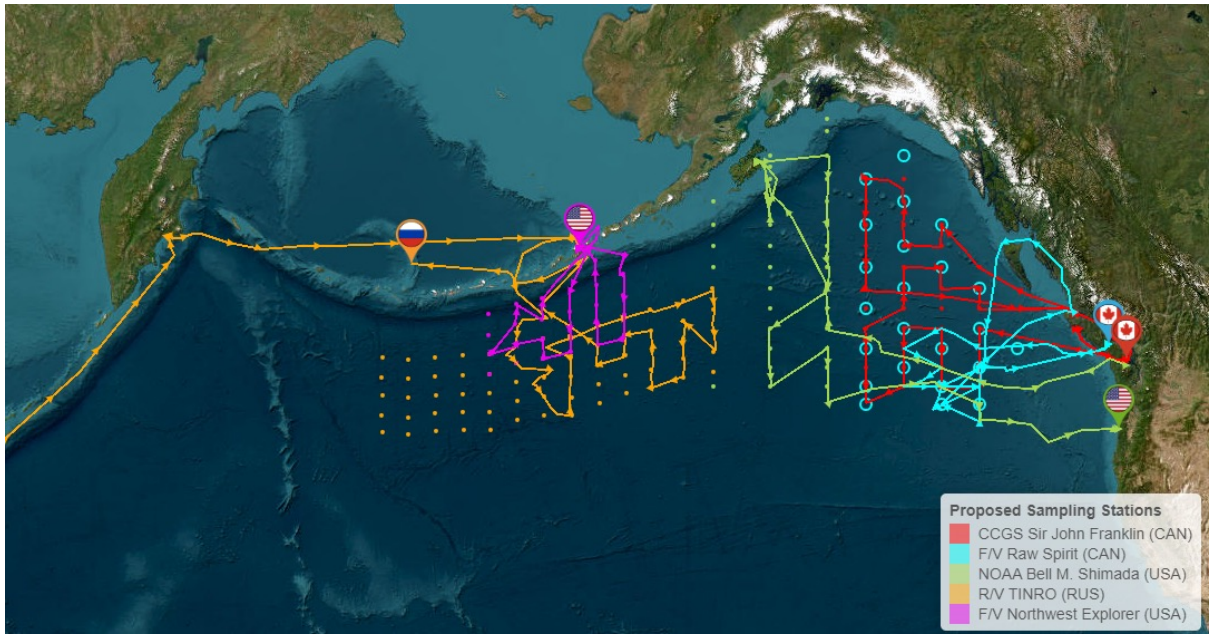
UNESCO | IOC | WMO | UN environment | International Science Council

- GOOS is executed by the Intergovernmental Oceanographic Commission – UNESCO program
- Relies on partnerships with National Oceanographic Data Centers or Regional Alliances (CIOOS, US IOOS, NEAR-GOOS)



# International Year of the Salmon




Objective of the 2022 Expedition was to demonstrate the utility of an international pan-Pacific winter ecosystem survey to understand how climate variability in the North Pacific Ocean influences the abundance, distribution, migration, growth, fitness and survival of Pacific salmon and surrounding species.

# International Year of the Salmon Data Mobilization

## Methods:

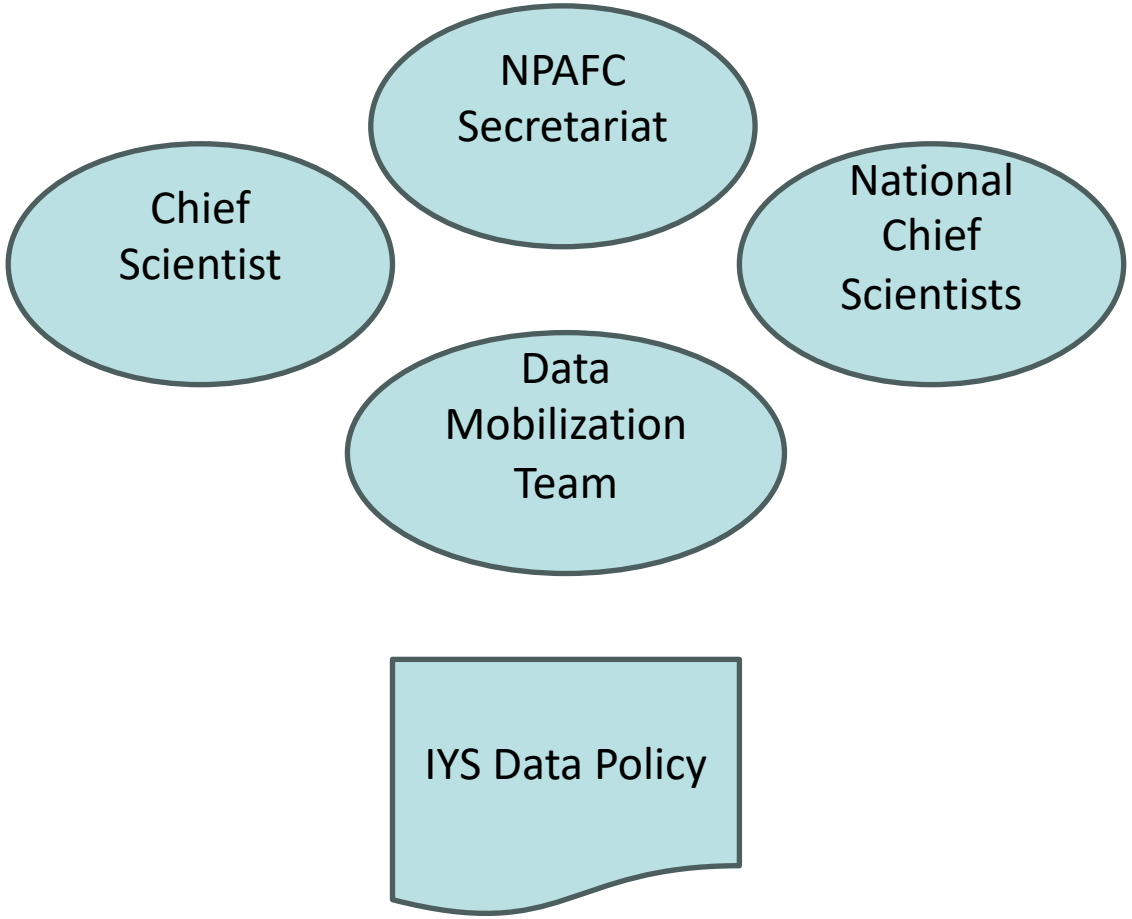
1. Organize under the Umbrella of the United Nation's Global Ocean Observing System
2. Establish governance policies
3. Build the technical infrastructure to store and catalogue data and make it FAIR

## Challenges:

1. Alignment very diverse field methods of data collection and sample processing
2. Integrating data and standardizing to international standards
3. Setting and managing expectations related to data sharing and publication

# International Year of the Salmon

IYS Data Governance Team




What the IYS Data Team did as an example:

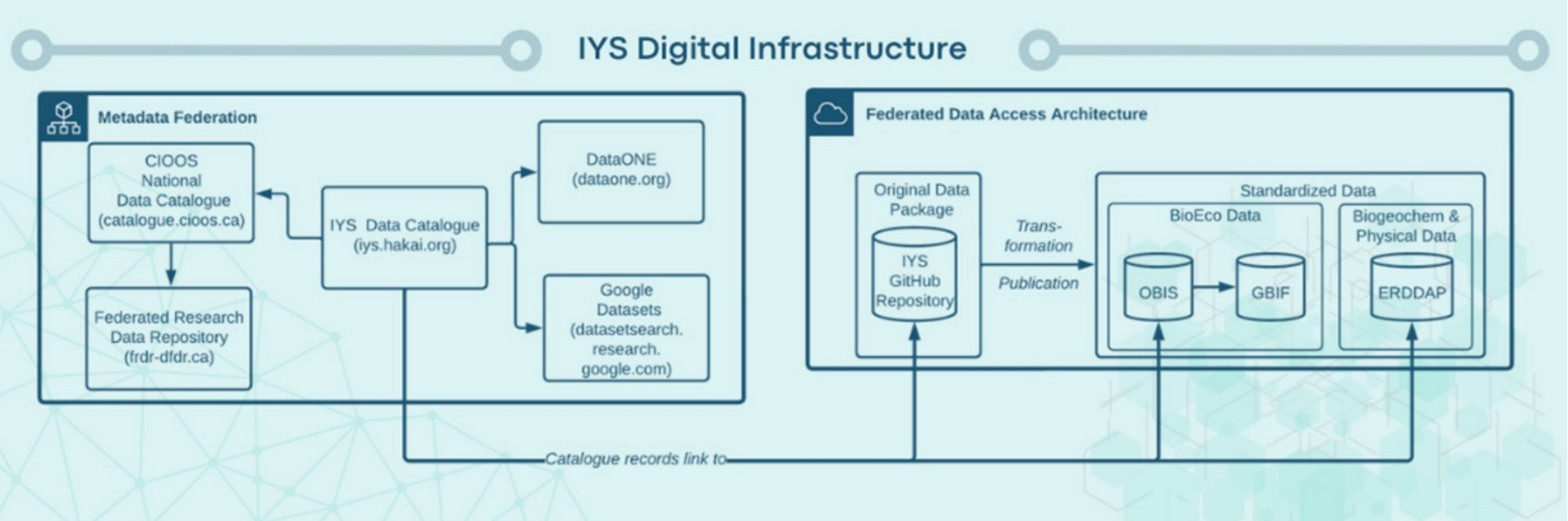
**Services:**

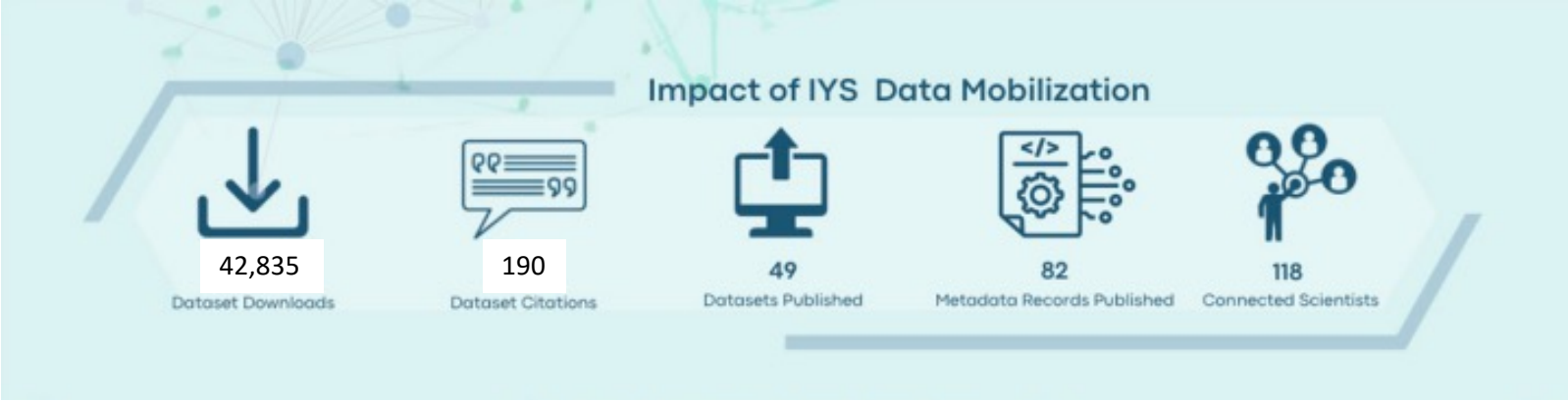
- Developed Strategic Plan
- Developed a Data Policy
- Built a Data Template
- Collected and curated metadata
- Standardized and published data for **global integration/access and project level integration and internal access**

**Infrastructure:**

- **Data Catalogue**
- Data Hosting
- **IYS Data Mobilization Portal**
- Federated Metadata Architecture

# International Year of the Salmon Infrastructure & Impact

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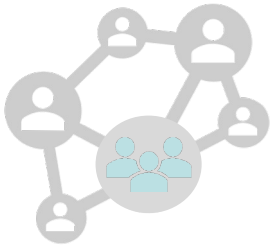
# Practical Insights: Governance

For data mobilization to succeed you need:

- A distinct governance team
- Central data team
- Central science team with small scope, and focused and clear goals



- Federated data and metadata architecture that integrates with global data services

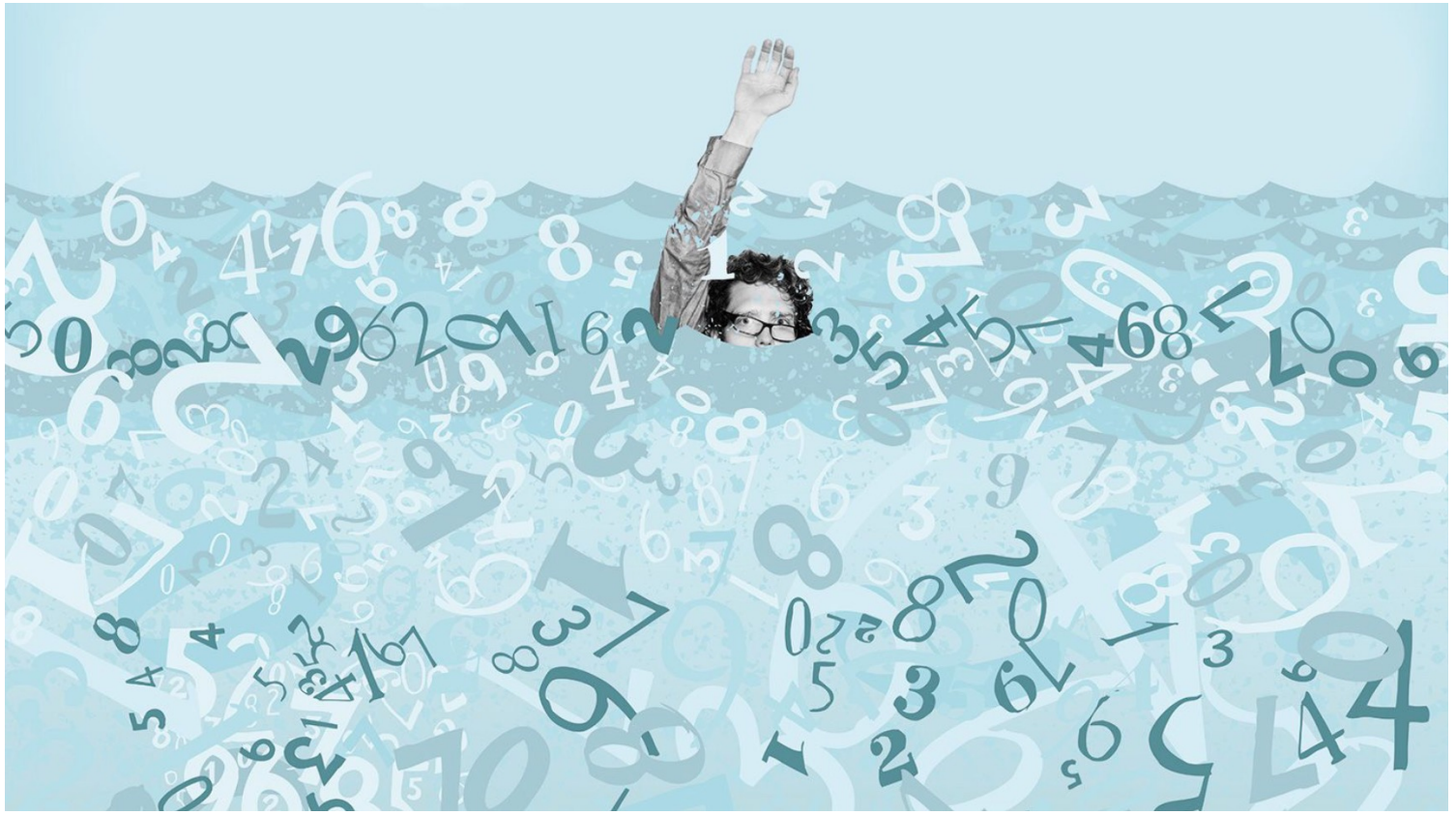
- FAIR Data? Start with making data Findable and Accessible

# Building Trust Across Borders: Key Insights

1) Rely on international frameworks & standards
2) Clarify governance early & establish clear expectations
3) Establish a central science team and central data team
4) Nothing builds trust better than working together in the field

The 2019 International Year of the Salmon Expedition Science team. With members from USA, Canada, Russia, China, Republic of Korea.

# Thank You

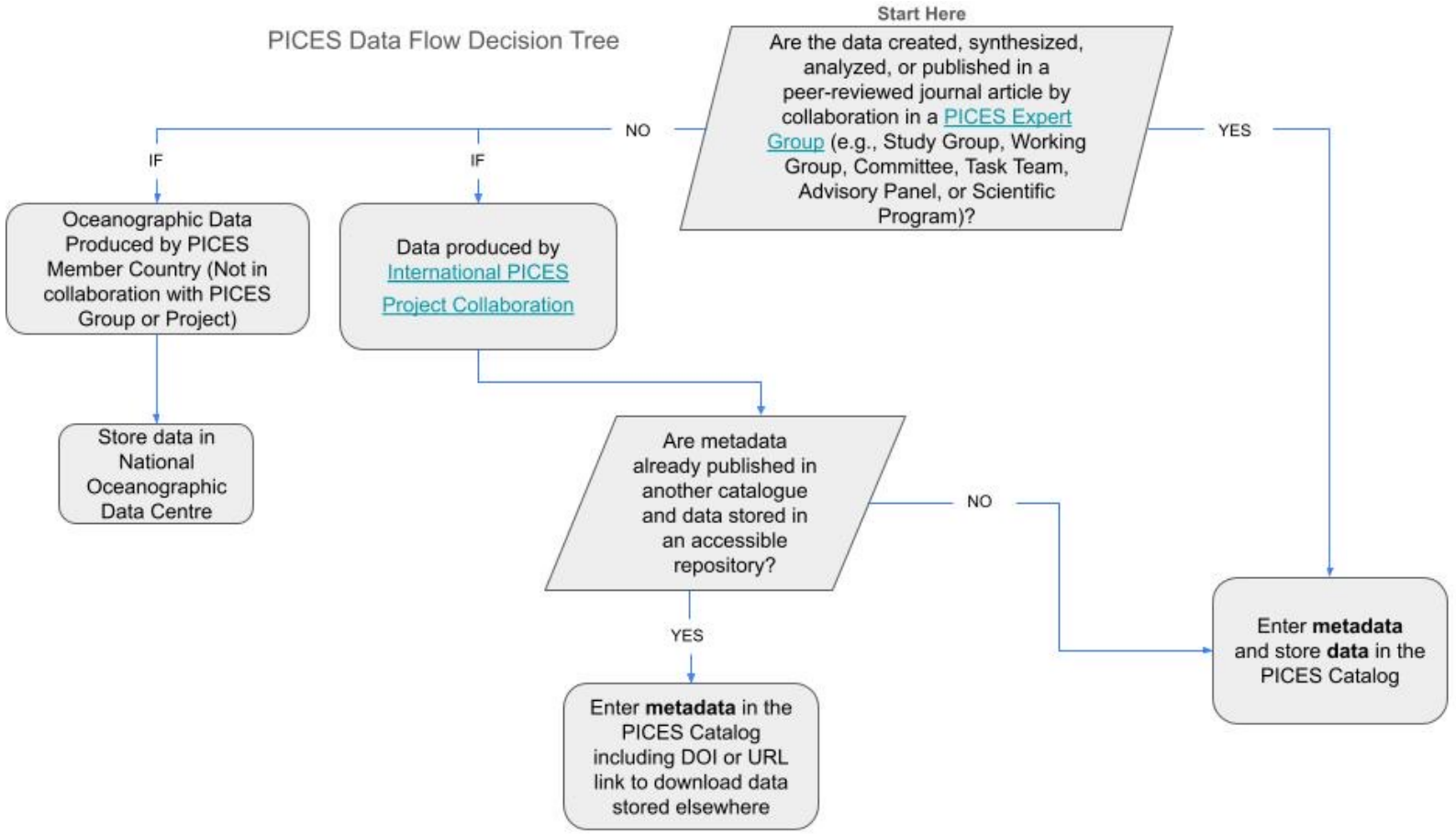


Brett Johnson. Data Stewardship Unit Program Head

Pacific Region Science Branch, Fisheries and Oceans Canada

Email: Brett.Johnson@dfo-mpo.gc.ca

# PICES WG on Data Management

**Terms of Reference**

1. Revise and update the PICES Data Policy.
2. Promote a culture of data sharing within PICES.
3. Recommend data management platforms, standards, and technologies.
4. Develop a data, metadata, and information (reports/pubs) flow diagram.