

# MEASURING WHAT WE MANAGE

evolution of hydrological data toward wisdom

Silvano Pecora  
Vice-President of WMO Commission for Hydrology



**WMO OMM**

World Meteorological Organization  
Organisation météorologique mondiale

Meeting of the Great Rivers of the World  
Rome, 23 October 2017

# What are you looking for?

I need hydrological data to manage water resources conflicts

I need hydrological data for river district planning

I need hydrological data to manage emergencies



What are your exact needs?

# What are you looking for?

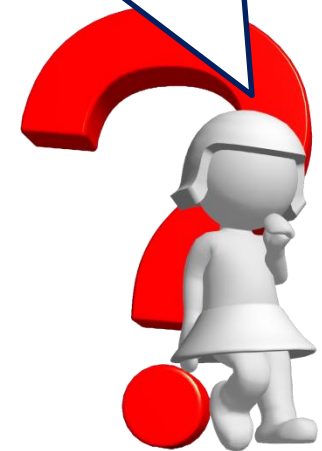


Different people, different languages, different perceptions but same needs

We need hydrological data from all over the world that  
are easy to access and use



We have a  
problem...



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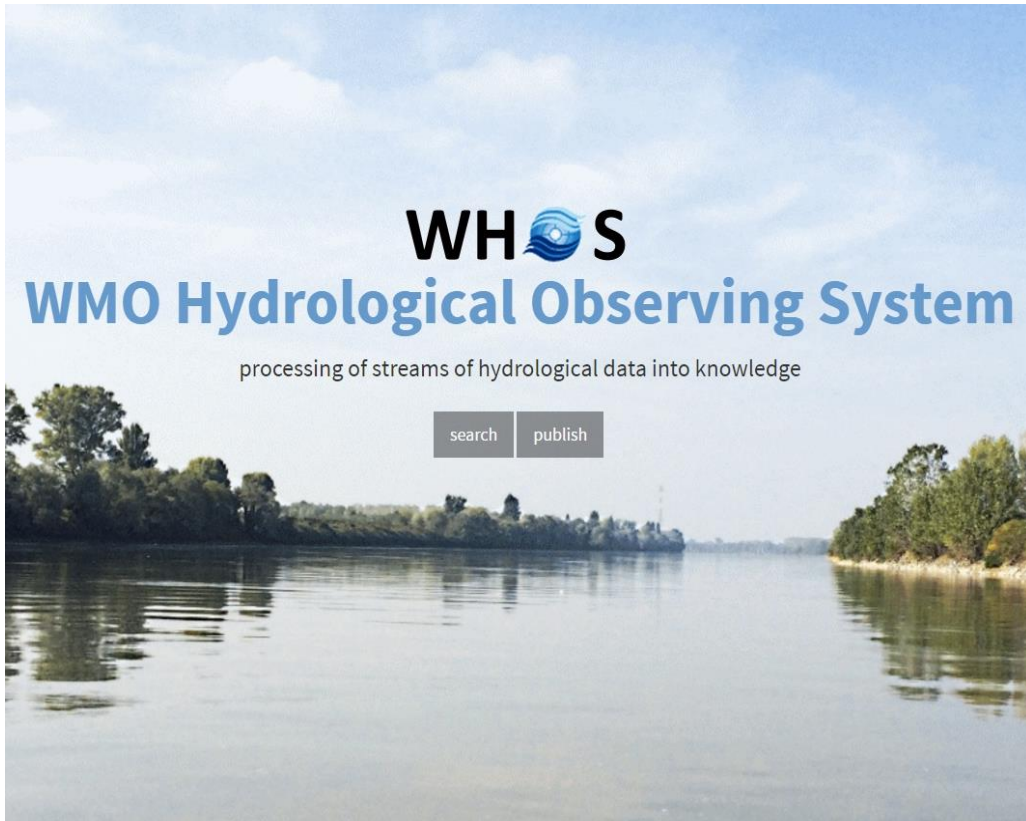
We can't stop extreme events, but we can be prepared to cope with them. Everyone should be informed about the current situation

All over the world people need a



# Which way?

An easy way to connect within the “water world”

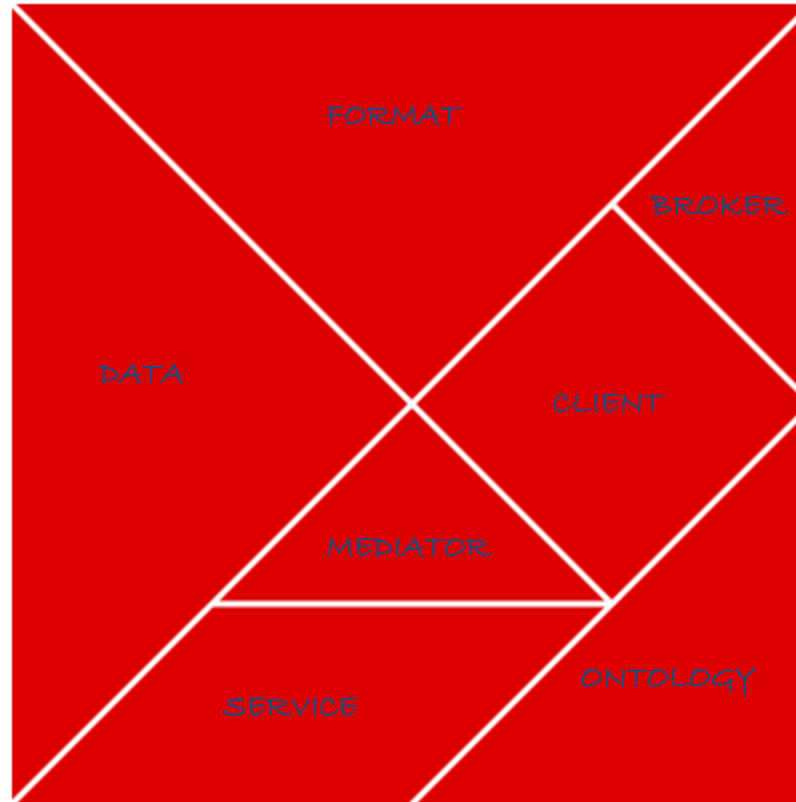


# It exists now!

# WMO INTEGRATED GLOBAL OBSERVING SYSTEM (WIGOS) and WMO HYDROLOGICAL OBSERVING SYSTEM (WHOS)



# WHOS

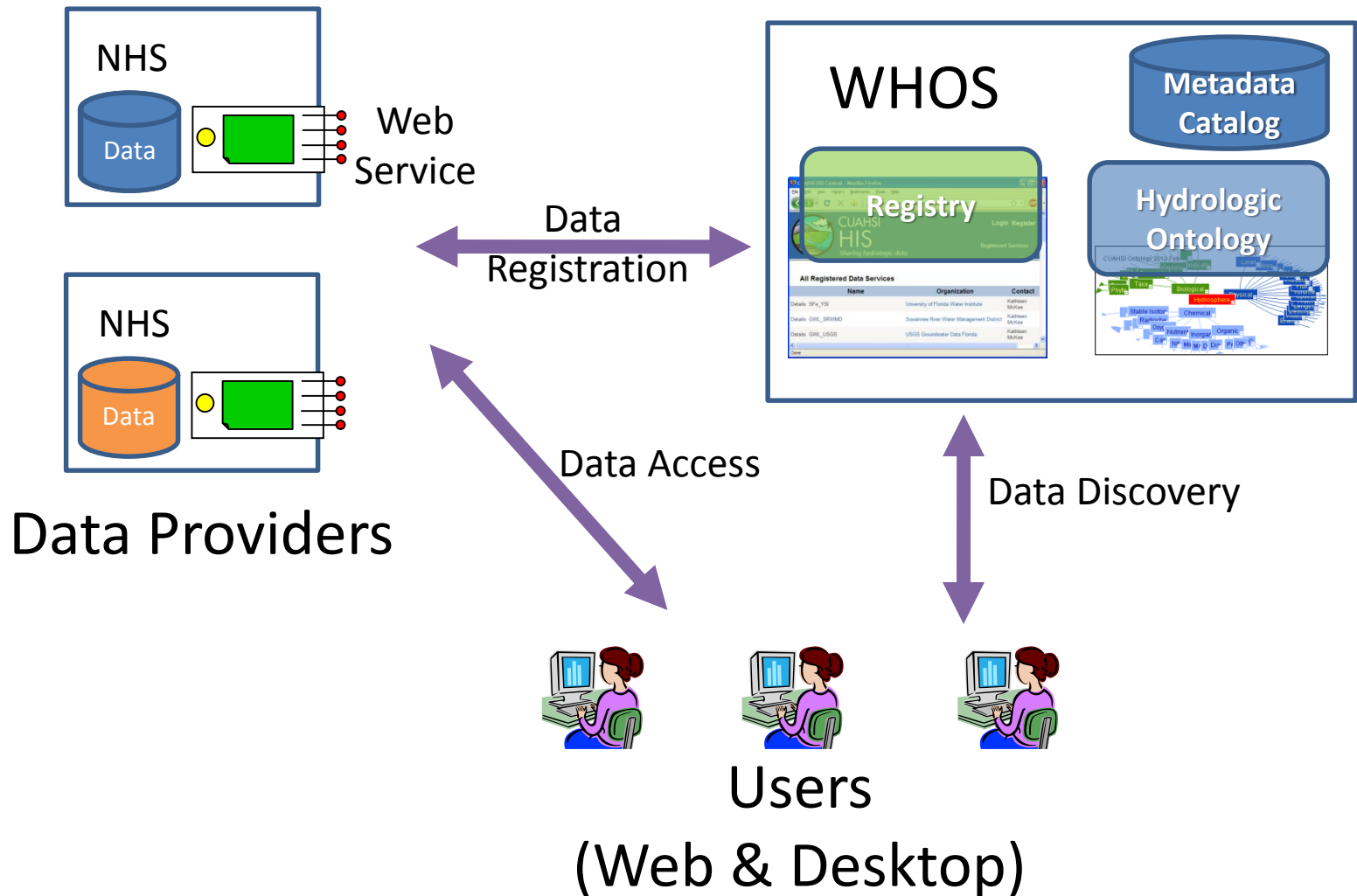


reshaping data in hydrology

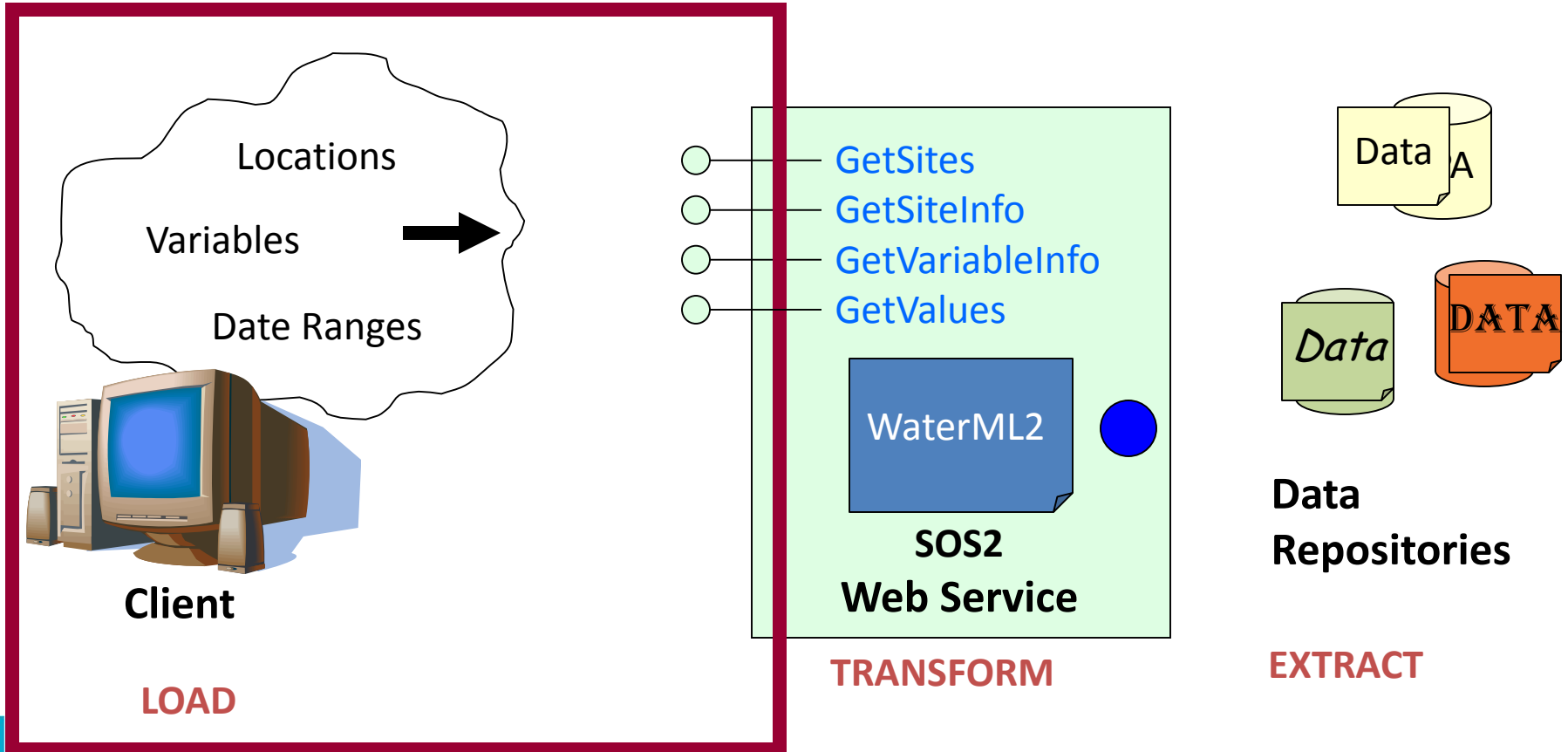




# WHOS Architecture Overview



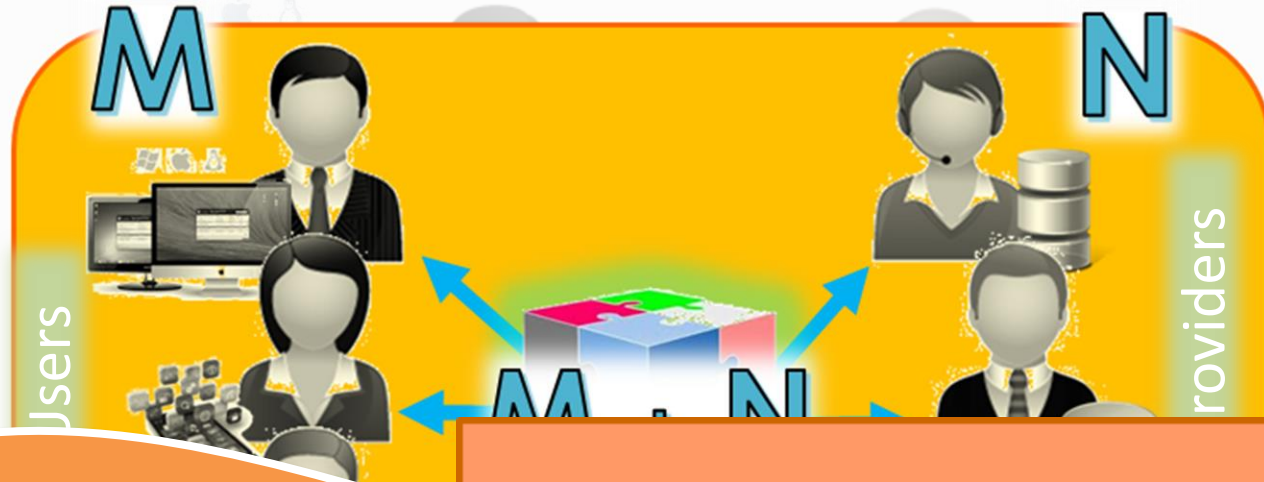
# WaterML2 and SOS2



**SOS2** is how you ask for data  
**WaterML2** is the format of what comes back

# Broker Approach

Applications



Data Infrastructures

**Collaborative-Access Management approach**  
[Governance]

Discovery and Access  
[functionality]



Dashboard

Sources

Catalogs

Favourites

[+ Add](#) [Delete](#) [Refresh](#)

Show 10 entries

Search:

<input type="checkbox"/>	Source	Description	Endpoint	Type
<input type="checkbox"/>	Argentina	Historical daily temperature		Thredds
<input type="checkbox"/>	Canada	Real-time discharge		Ftp
<input type="checkbox"/>	Emilia Romagna	Historical daily discharge		Hydroserver
<input type="checkbox"/>	Switzerland	Historical daily precipitation		Hydroserver

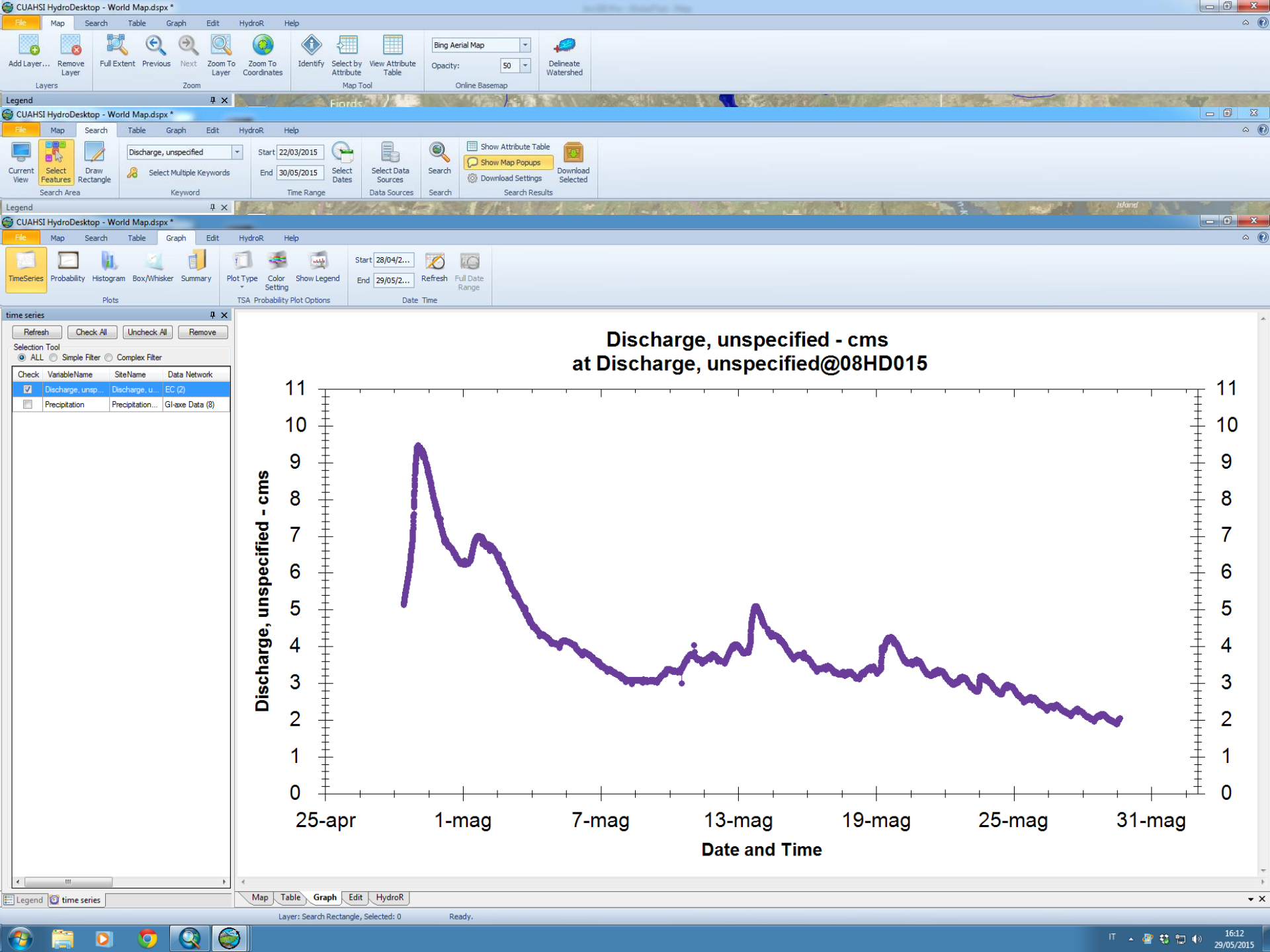
Showing 1 to 4 of 4 entries

Previous **1** Next

### Source Usage Information

Source editor is a very flexible, advanced plugin for data dissemination. In the admin interface, we are using a specialized version of the source plugin built for hydrological purposes. We have also customized the plugin with user-friendly editors in place of command-line tools. For complete documentation on the source plugin, visit the website [WHOS](#).

[View Source Documentation](#)



### Catalog sources

**Sources Available**  
Showing all 71

Filter

→ →

- ARC Canada
- ARC Denmark
- ARC Finland
- ARC Iceland
- ARC Norway
- ARC Russia

**Sources Selected**  
Showing all 6

Filter

← ←

- SAVA Bars
- SAVA FedBA
- SAVA Hr
- SAVA Me
- SAVA Rs
- SAVA Si

Save Cancel

Coordinates	Sources	Image

Showing 1 to 4 of 4 entries

Previous 1 Next

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[View Catalog Documentation](#)

## SAVA

The Sava hydrologic monitoring is a federated network composed by 5 States (Bosnia and Herzegovina, Croatia, Montenegro, Serbia and Slovenia), including 2 Entities (Federation of Bosnia and Herzegovina - Bosnia and Herzegovina, Republika Srpska), together with the International Sava River Basin Commission, an international organization established by the Framework Agreement on the Sava River Basin (FASRB), which is the unique international agreement integrating all aspects of the water resources management.

The portal provides access to the hydrological observations in the International Sava River Basin, commonly published as Hydrological Yearbooks. In particular, it provides additional operational capability, for in situ water observations, as a national registry of water data services catalogued using the standards and procedures of the Open Geospatial Consortium and the World Meteorological Organization.

The published interfaces of the portal retrieve data from distributed national water data providers, enabling plots and download.



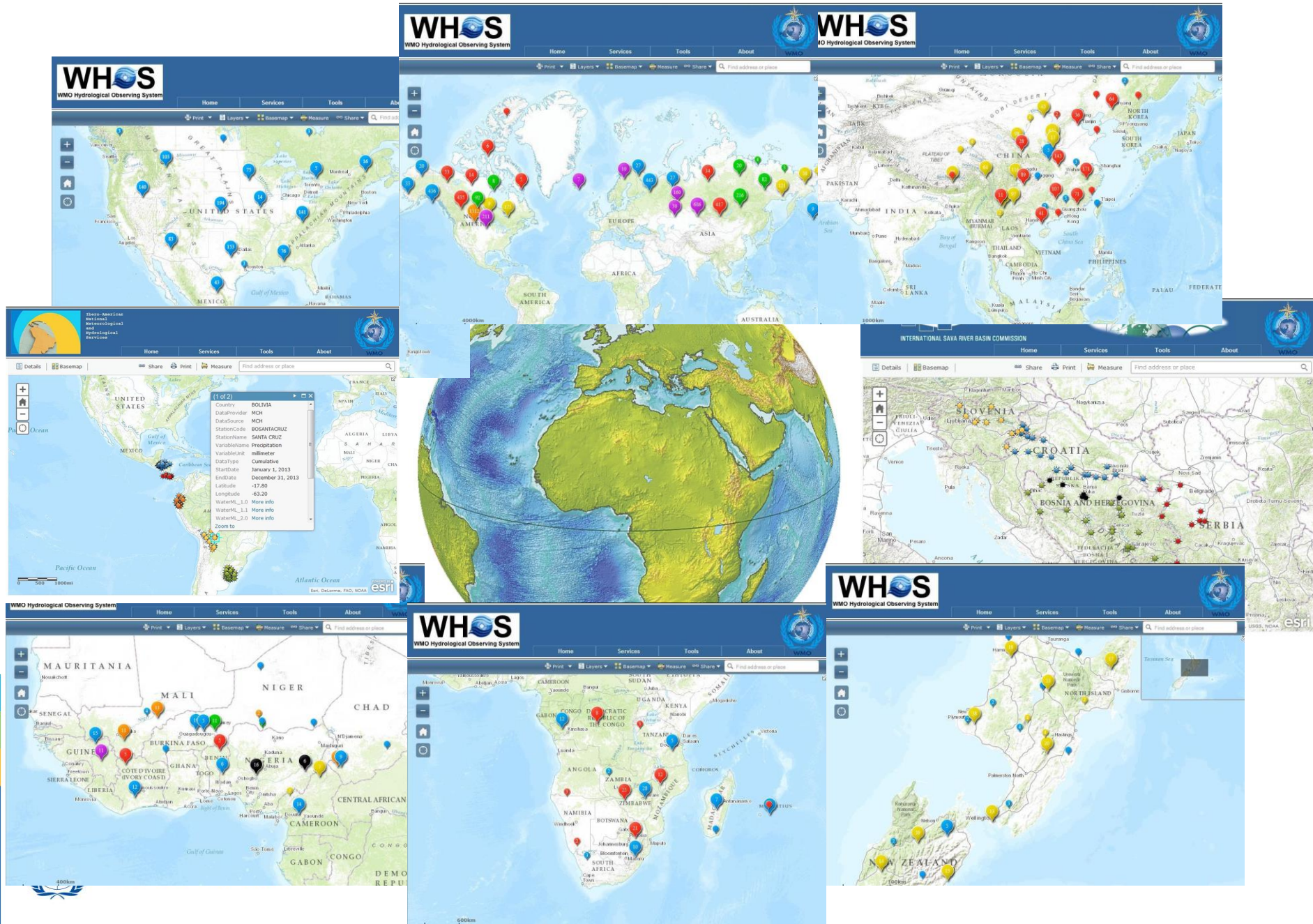
**Brokered services:** 6

**Brokered sites:** 114

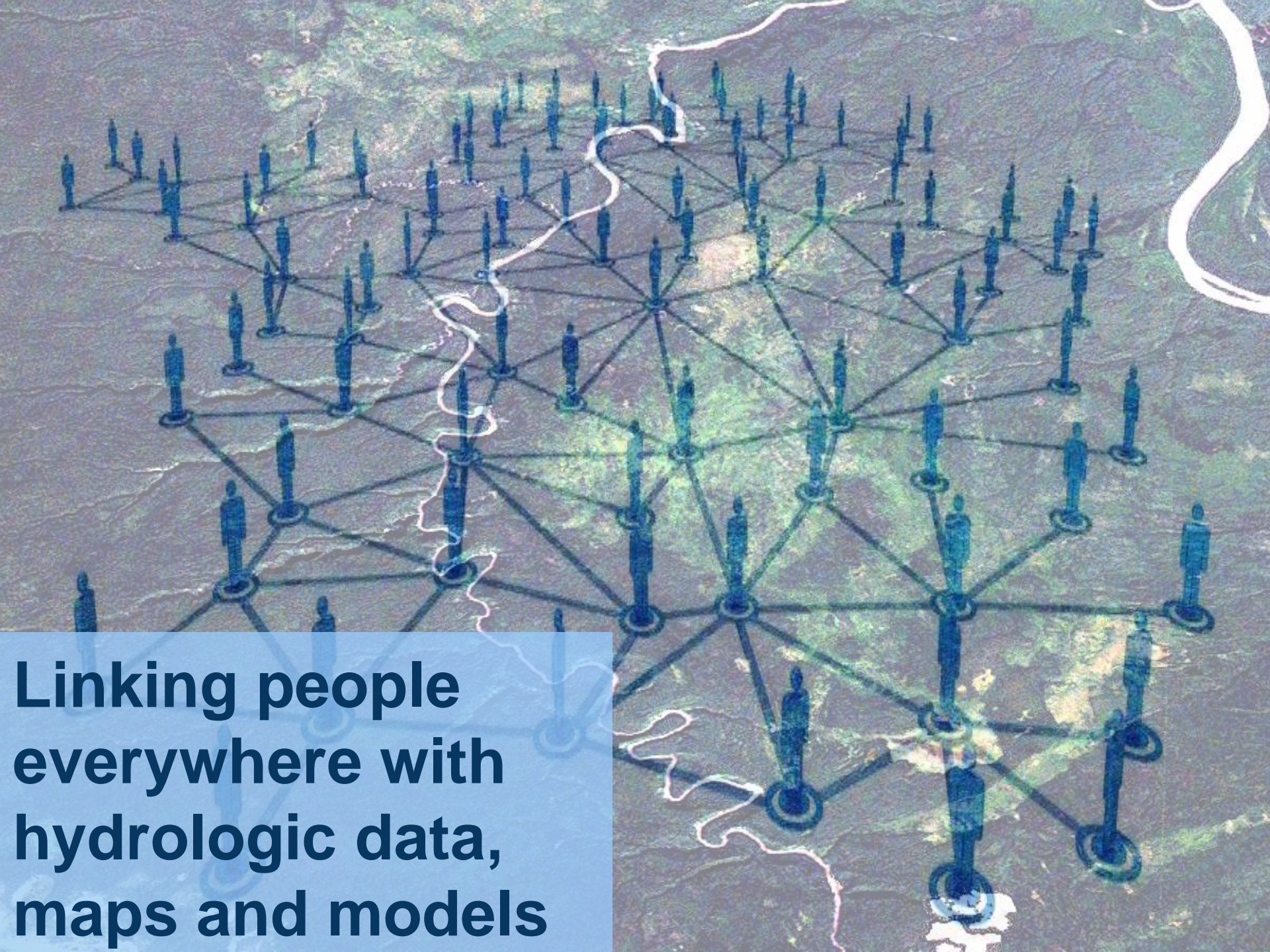
**Brokered variables:** 5

**Geographic extent:** [ 14.1653, 46.34, 20.4547, 42.8333 ]

# STANDARDIZED DATA EXCHANGE IN HYDROLOGY







**Linking people  
everywhere with  
hydrologic data,  
maps and models**

# Thank you Merci



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