



Freshwater Health Index

International Experience & Next steps





Learning from applications around the world



An FHI assessment plays a key role as a **standardized way** to involve *multiple agencies and stakeholders* towards better **water resource management.**



FRESHWATER HEALTH INDEX

TOOL

1

Freshwater Health Index Tool 1.0.18344.4 [Sprint 4 SSS]

Sekong, Sesan, Srepok

Ecosystem Vitality
59

Ecosystem Services
45

Governance
41

Find

Powered by Esri

2

.fhix

Basin Database

National Geographic Society
 Gilbert M. Grosvenor, Chairman
 John M. Fahey, Jr., President and CEO
 Chris Johns, Editor in Chief
 William E. McNulty, Director of Maps
 National Geographic Magazine

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Cuts of the Grand Canyon, the Colorado is one of the world's most managed rivers. Its main stream and tributaries are dammed and diverted for use by seven U.S. states and Mexico, leaving its mouth dry in most years.

The Mississippi River and its longest tributary, the Missouri, form one river system, draining 31 U.S. states and two Canadian provinces. The connected waters of the Great Lakes flow east to form the St. Lawrence River.

The most international river system, the Danube and its tributaries are used by more than 80 million people in 20 European countries. Winding east from Germany to the Black Sea, it is the continent's second longest river, after Russia's Volga.

The world's longest river, the Nile, and Africa's equatorial colossus, the Congo, both rise in the highlands where Africa's greatest lakes fill parts of the Great Rift Valley. The Congo, its volume second to that of the Amazon, is the only major river that crosses the Equator twice.

The Parana River drives one of the world's largest hydroelectric plants, the Itaipu Dam, on the Brazil-Paraguay border. Beyond the dam, the tributary Iguazu River enters with its famed waterfalls, all before the Parana picks up its major tributary, the Paraguay.

Almost 70 percent of Earth's fresh water is frozen in ice sheets, glaciers, permanent snow cover, and permafrost. Antarctica holds about 90 percent of that water, with most of the rest locked up on Greenland.

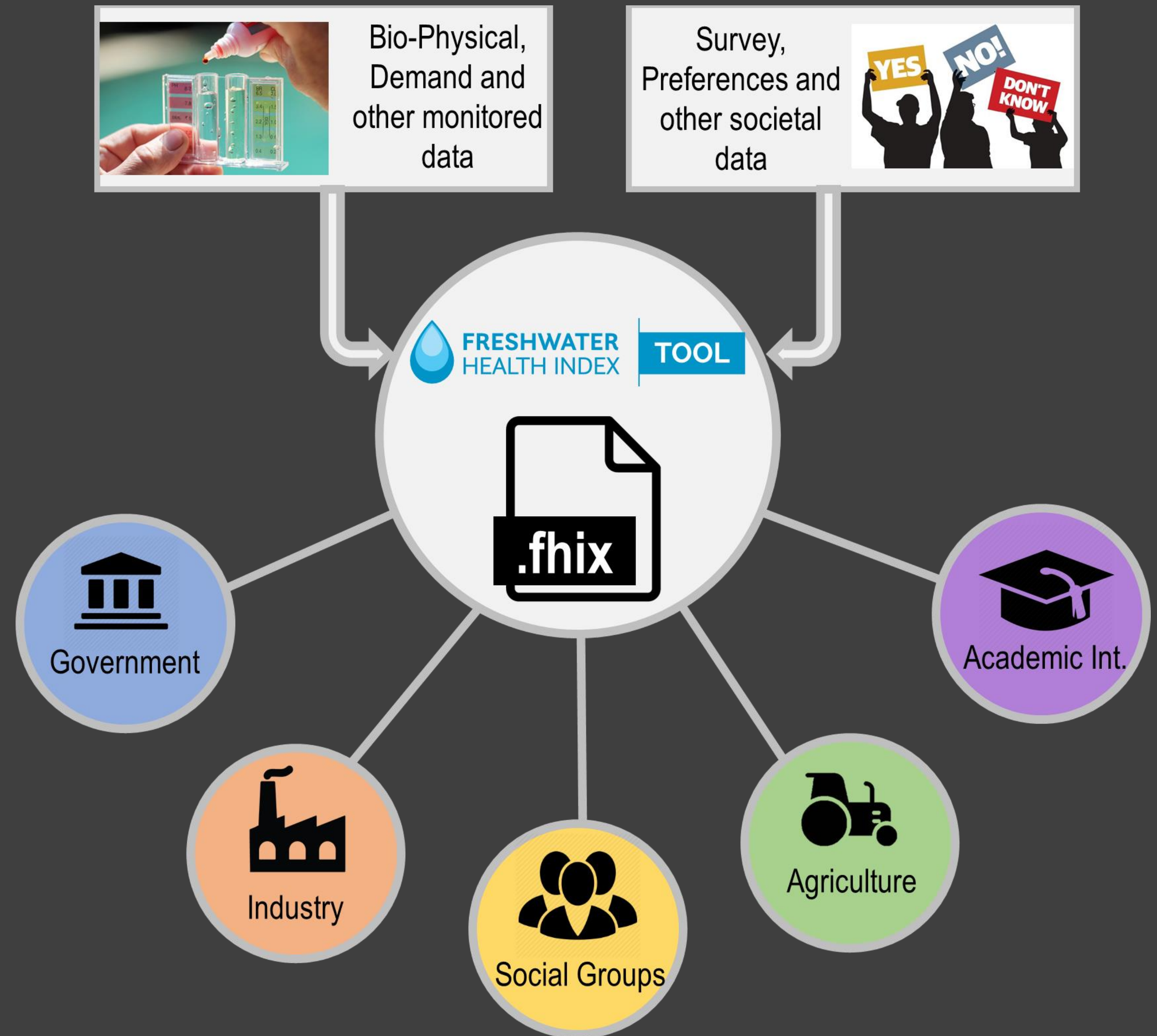
- Ten Longest Rivers**
1. Nile (Africa) 4,400 miles
 2. Amazon (South America) 4,150 miles
 3. Yangtze (Asia) 3,580 miles
 4. Mississippi-Missouri (North America) 3,780 miles
 5. Yenisey-Angara (Asia) 3,610 miles
 6. Yellow (Asia) 3,590 miles
 7. Ob-Irtysh (Asia) 3,430 miles
 8. Amur (Asia) 3,420 miles
 9. Lena (Asia) 3,200 miles
 10. Congo (Africa) 3,180 miles

The Water Below
 Most of the planet's liquid fresh water is groundwater, precipitation that seeps down to fill the spaces in layers of sand, gravel, and permeable rock called aquifers. Groundwater exists almost everywhere, at varying depths. Since the mid-20th century, its extraction for human use has accelerated, often at unsustainable rates. How readily groundwater recharges depends on precipitation, geology, and topography. Groundwater can emerge as a spring, the start of many rivers and for some a major contributor. Up to 40 percent of the volume of the Mississippi River is estimated to come from groundwater.

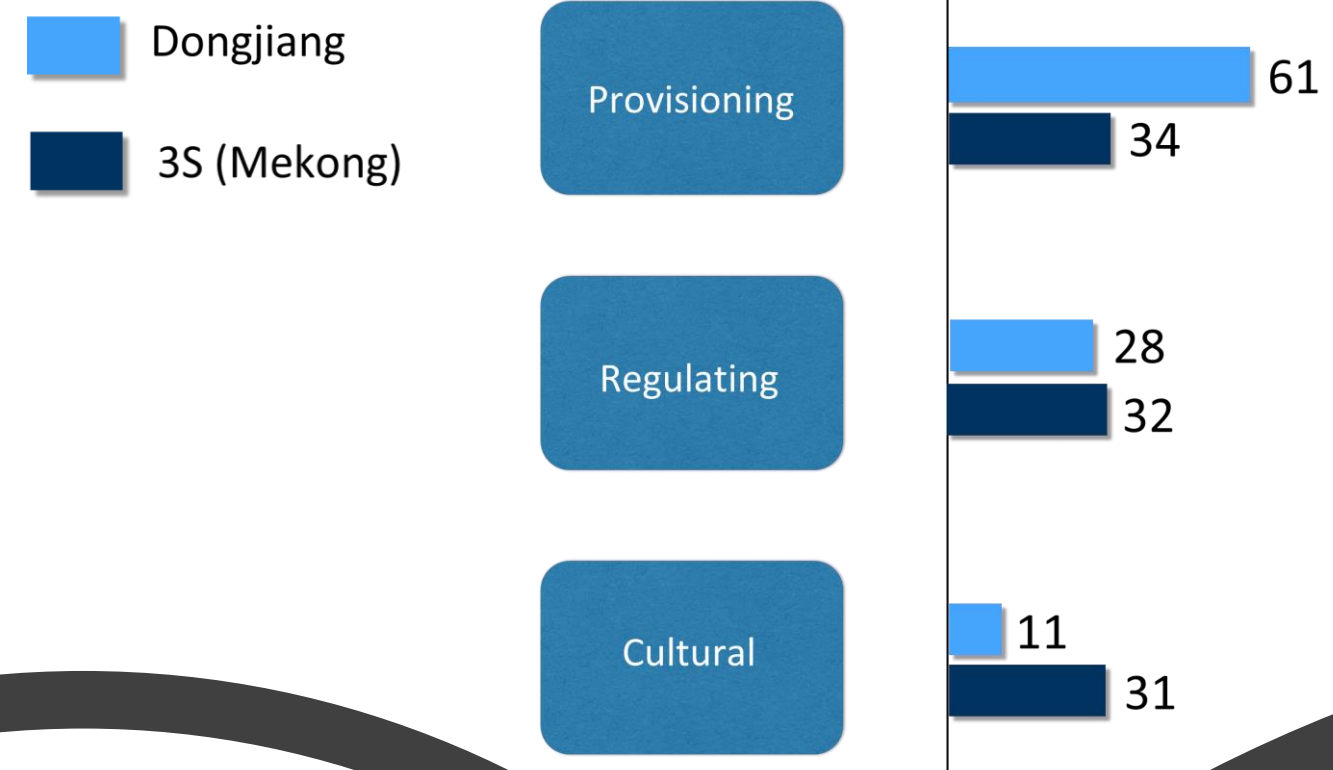
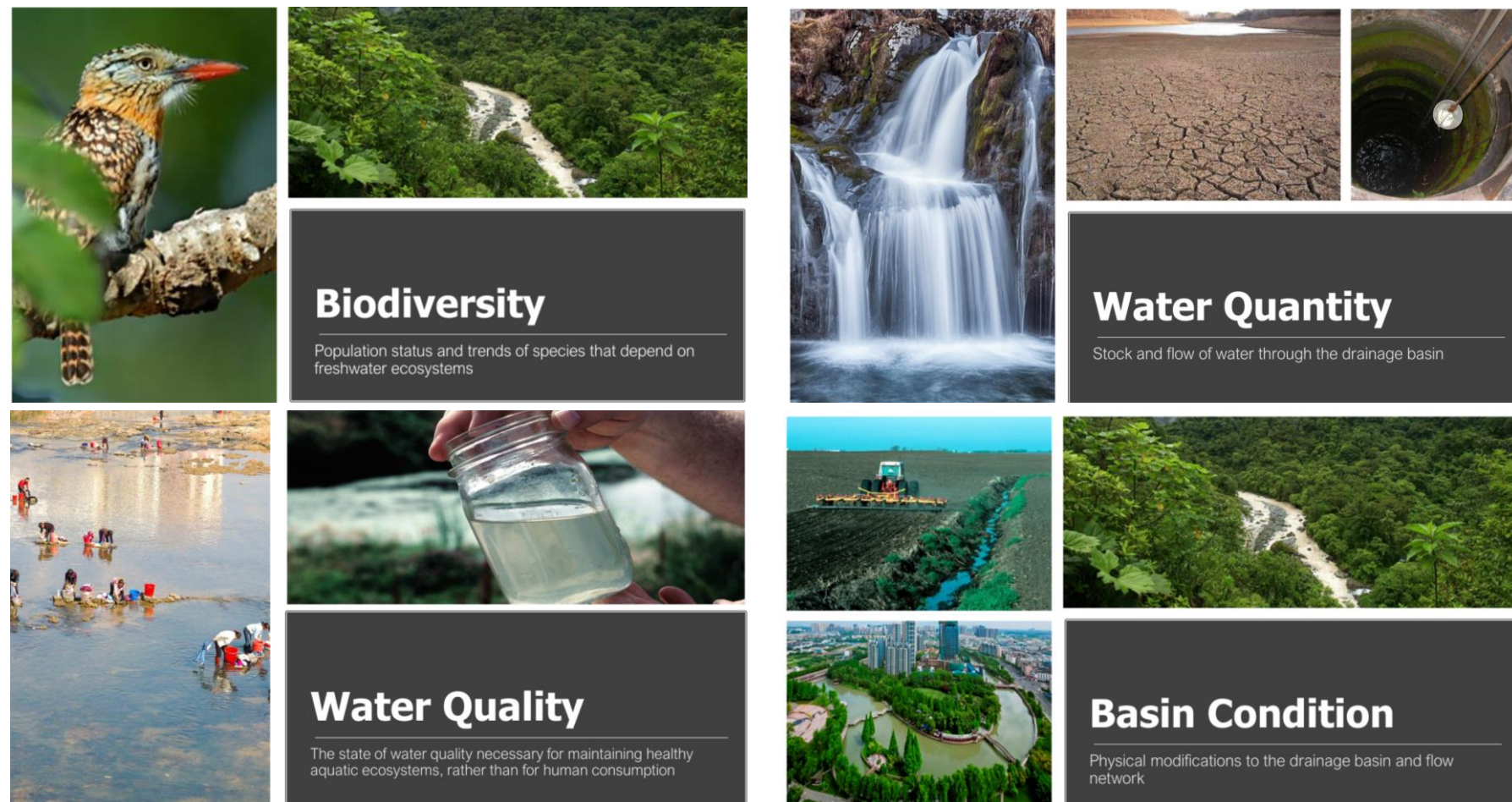


Four key ideas driving FHI toolbox development

- *Ease of adoption*
- *Common platform*
- *Cumulative impact*
- *Reusability of results*



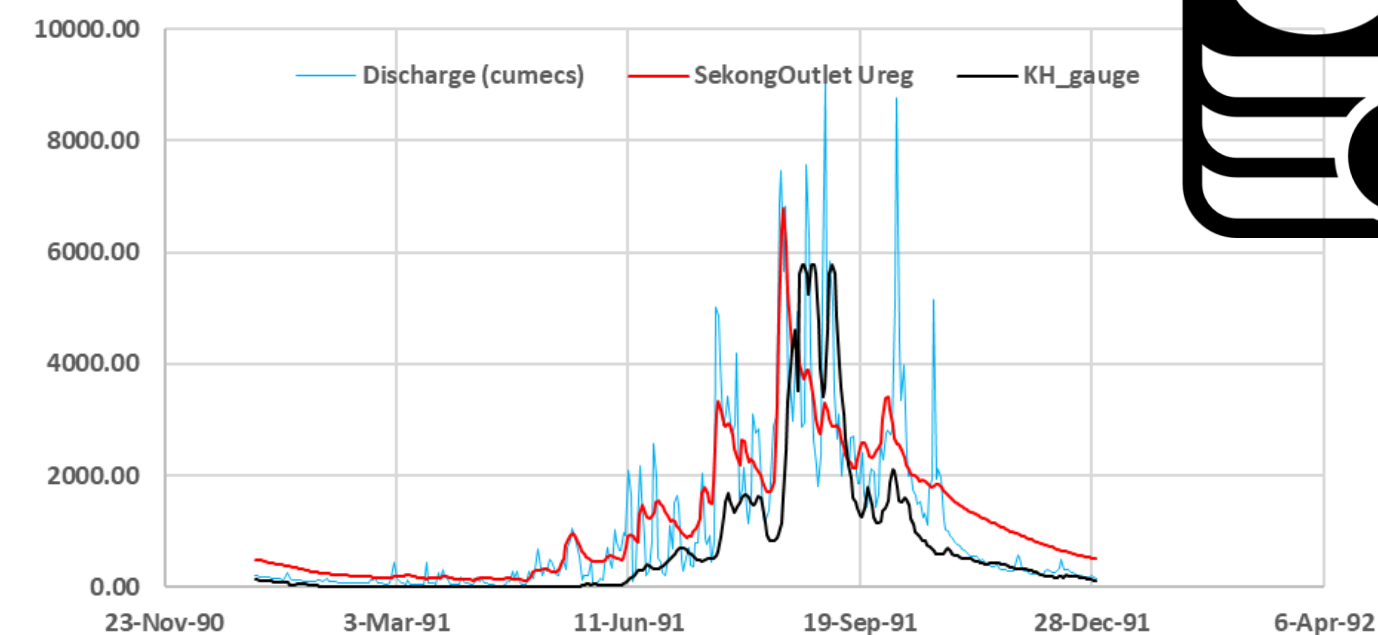
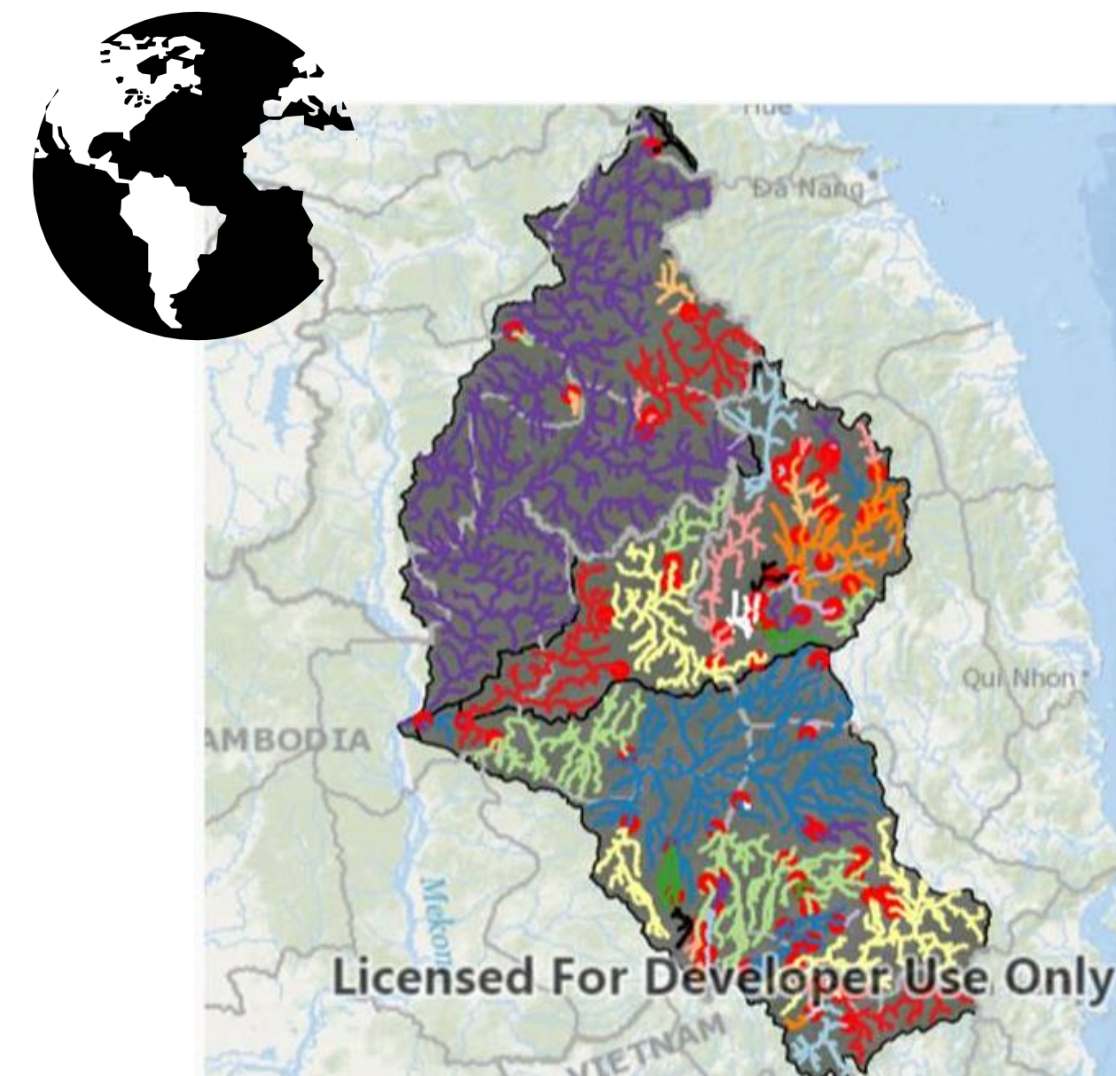
1. Classification of data



2. Integration of information

FRESHWATER HEALTH INDEX TOOL

FHI toolbox features



●●●○○○○○○ (0.3)



●●●●○○○○○○ (0.6)



●○○○○○○○○ (0.1)

4. Report generation

3. Archiving data

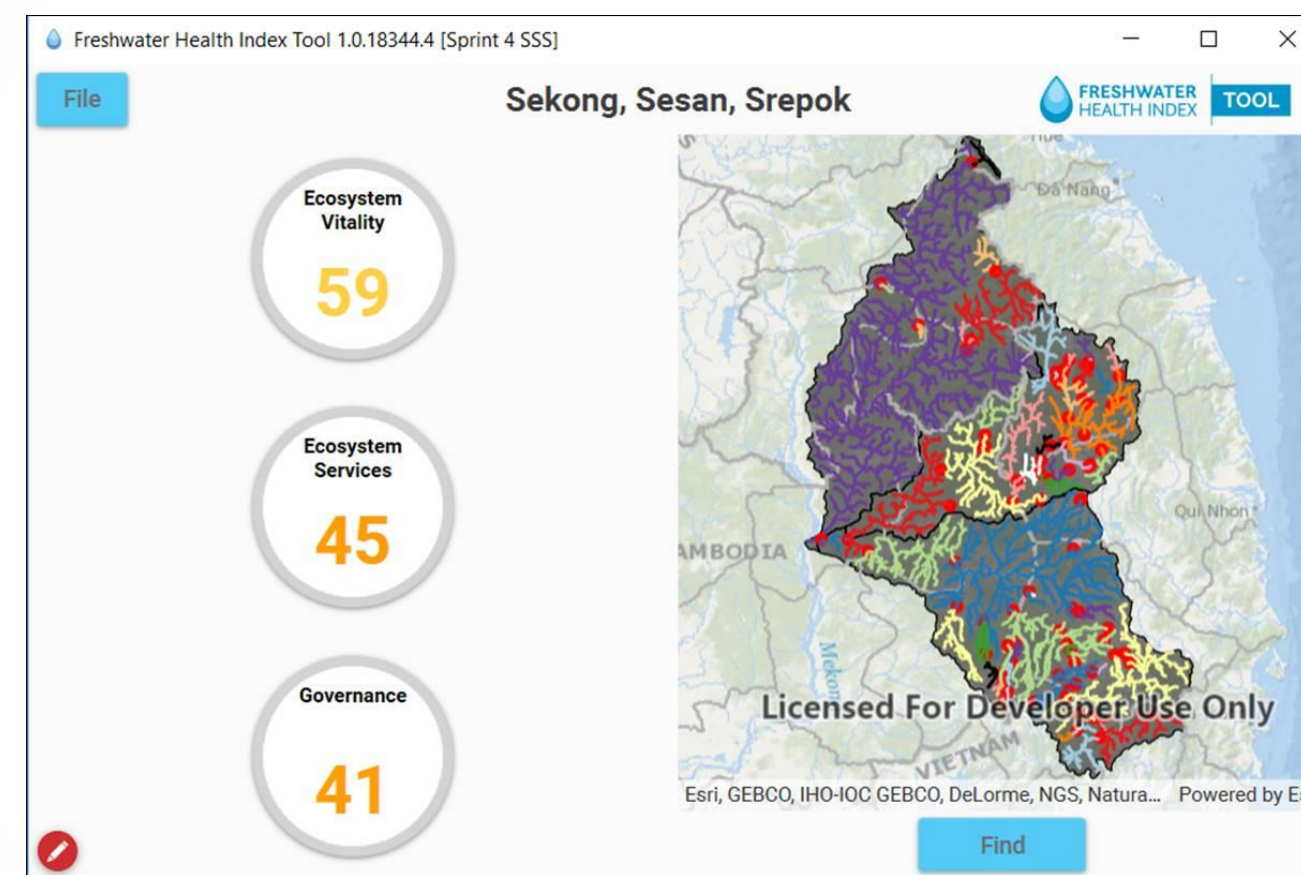
Development Arc



Phase 1:
Spreadsheet based

Phase 2:
Downloadable Desktop App

Next Steps?
Centralized Web App &
Decision support



- Exploratory & Initial development phase
- Consultation on methods

- Maturity of calculation methods
- Application for generating insights

- Analytics focus
- Solutions
- Scenarios
- Financial

Thank You!



**CONSERVATION
INTERNATIONAL**

