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# SDG Indicator 6.6.1

## Change in extent of water-related ecosystems over time

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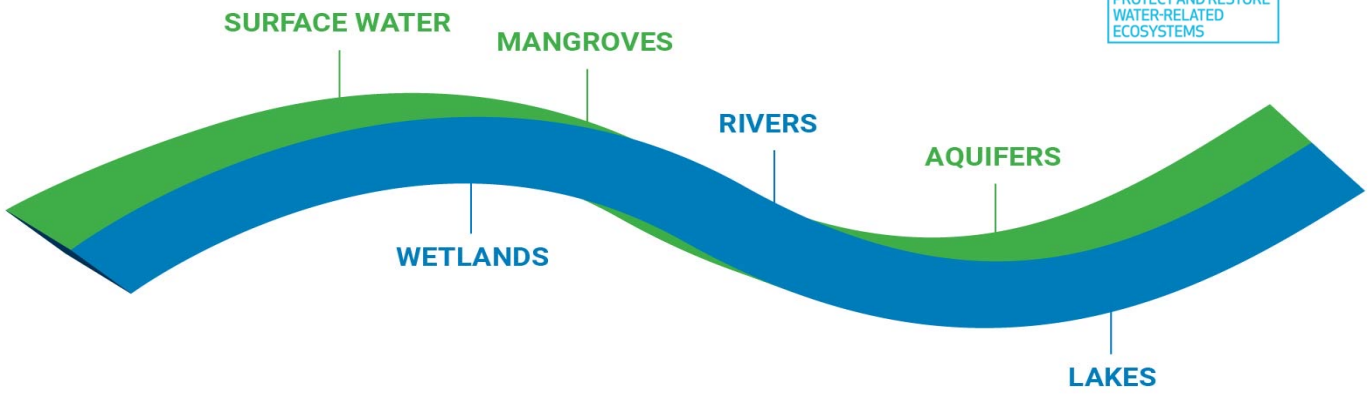
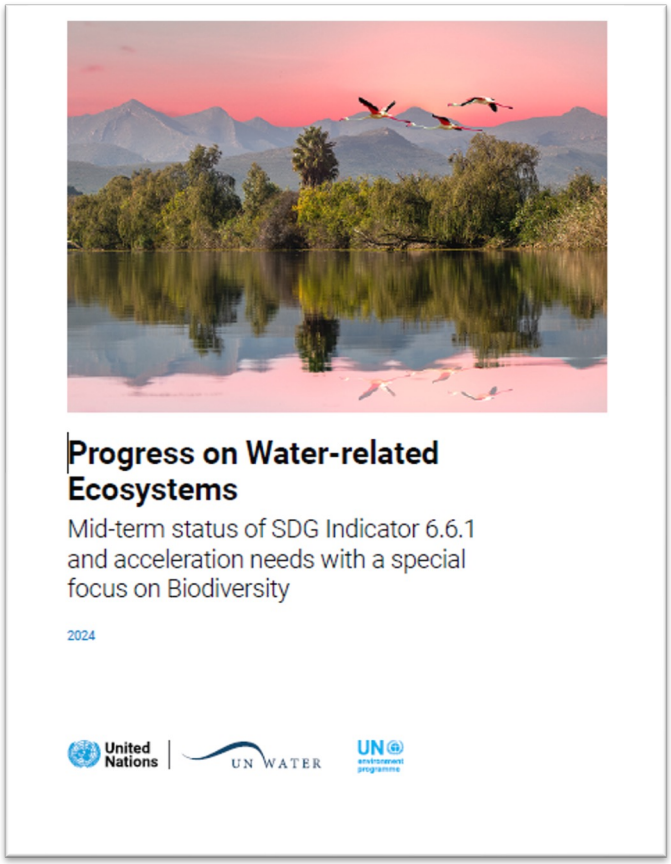
United Nations Environment Programme

# Changes to Water-related Ecosystems: **SDG indicator 6.6.1**

**TARGET 6.6** encompasses a broad and ambitious goal of protecting and restoring various water-related ecosystems, including:




Indicator 6.6.1 ***change in the extent of water-related ecosystems over time,*** measures functional properties to determine the state of ecosystems

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# Evolution of the SDG661 method

- **2014-16**: development of methodology using expert group and country consultations
- **2016-17:** global piloting of methodology (Tier III); 19% of countries sent data; poor quality and coverage
- **2017-18:** methodology **revised to include Earth observations**; using initially only surface water extent data for all 193 UN member states
- **2018:** indicator reclassified by IAEG to Tier II status (April) and reclassified to Tier I status (Nov).

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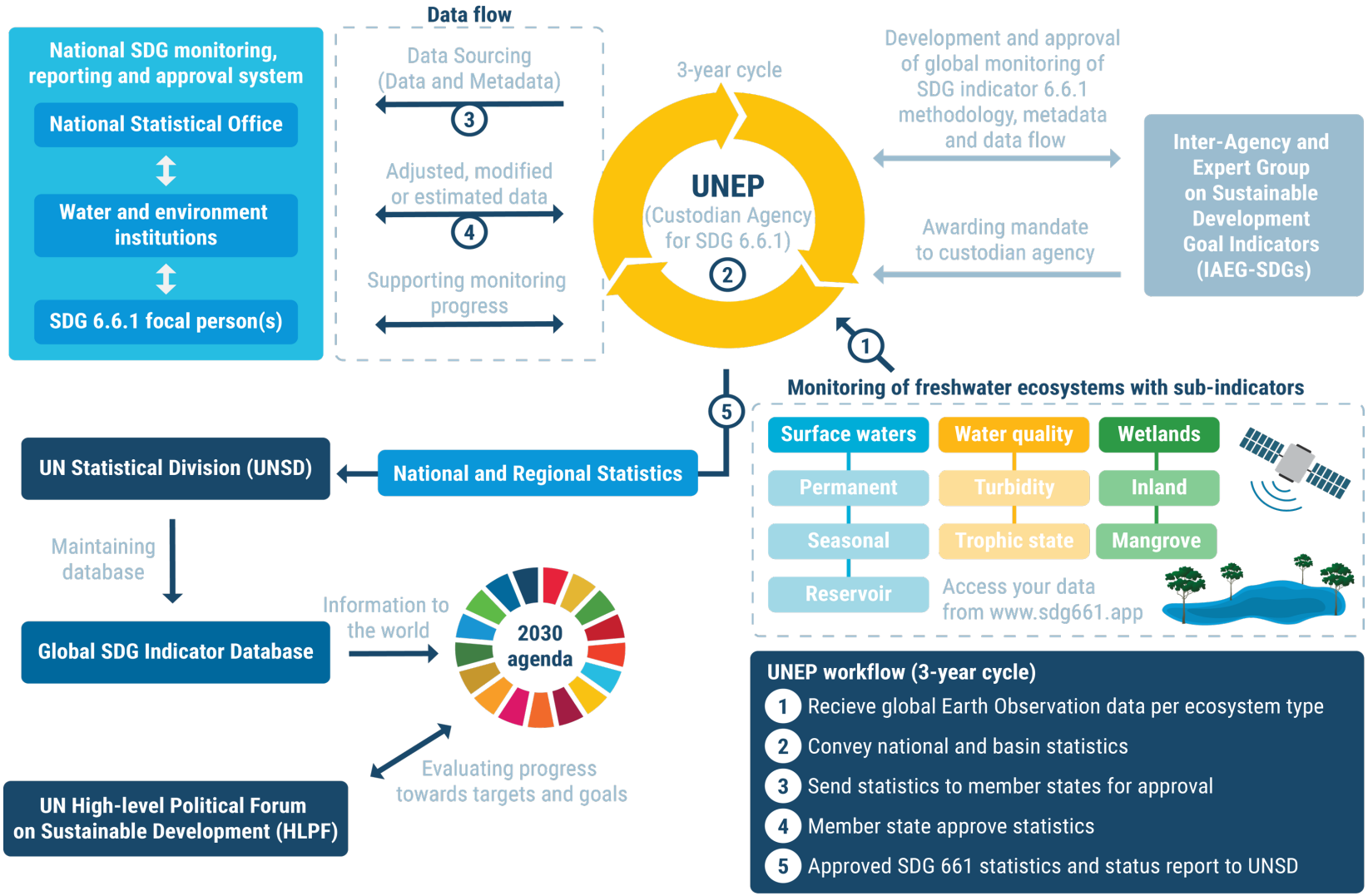
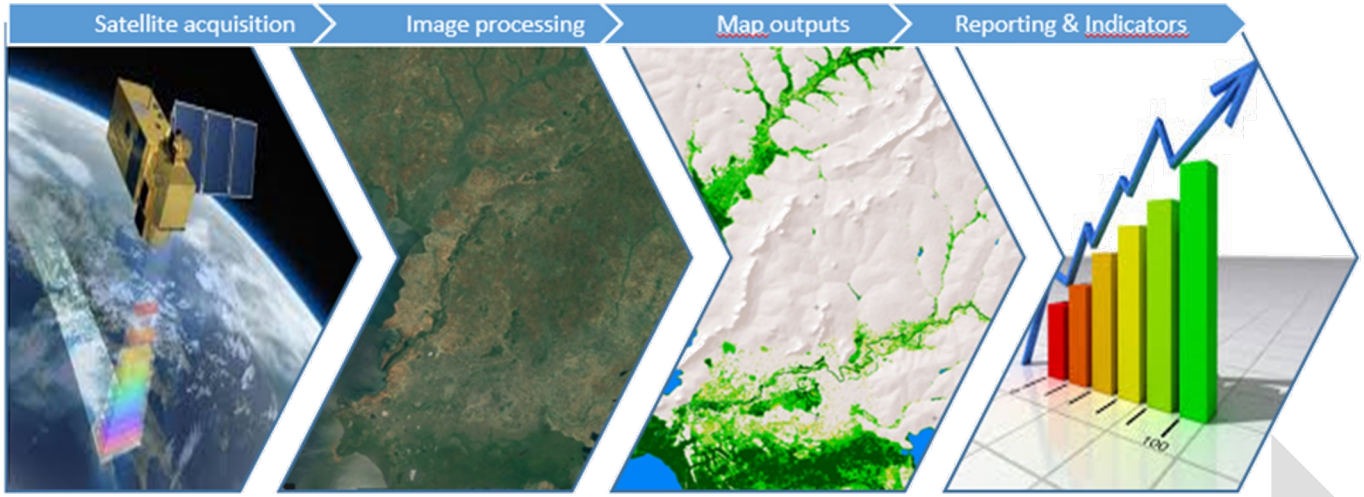
# SDG 6.6.1 indicator: workflow for monitoring and reporting



# Workflow: indicator 6.6.1




Retrieve, manage and process EO data

Produce information products and indicator statistics

Support action and decisions with online reporting and analysis functionality

Google Earth Engine

Provides access to planetrary scale satellite data archives

JRC
GLOBAL MANGROVE ALLIANCE
DHI

Data providers

Freshwater Ecosystems Explorer

Leverage the best available science to track, monitor, and improve the health of freshwater ecosystems.

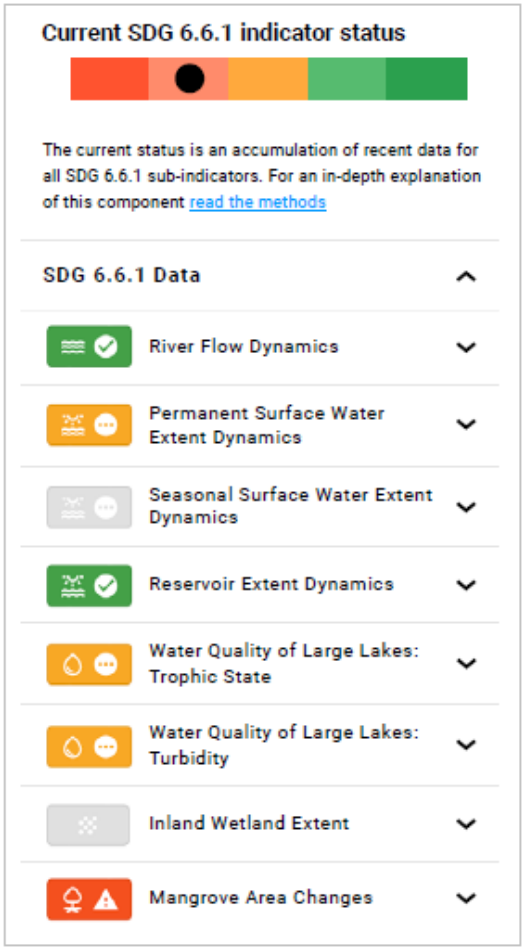
SDG661.app

# What's currently monitored?

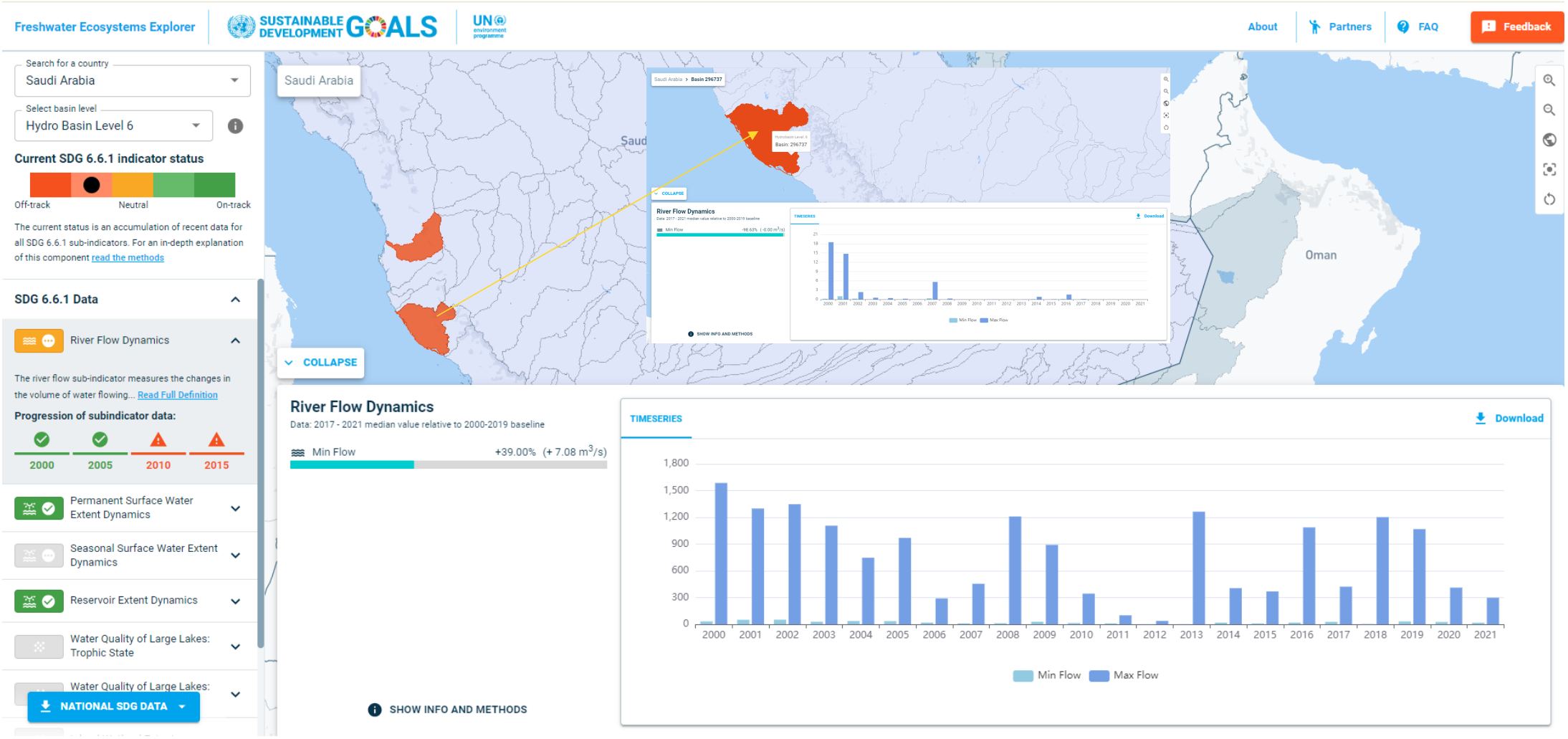
- 7 sub-indicators (++)
- Earth observation and modelled data
- Long term statical trends (since 2000) at national, basin and ecosystem level
- Annual data updates with national validation every three years

**Data validated by countries and reported to UNSD:**

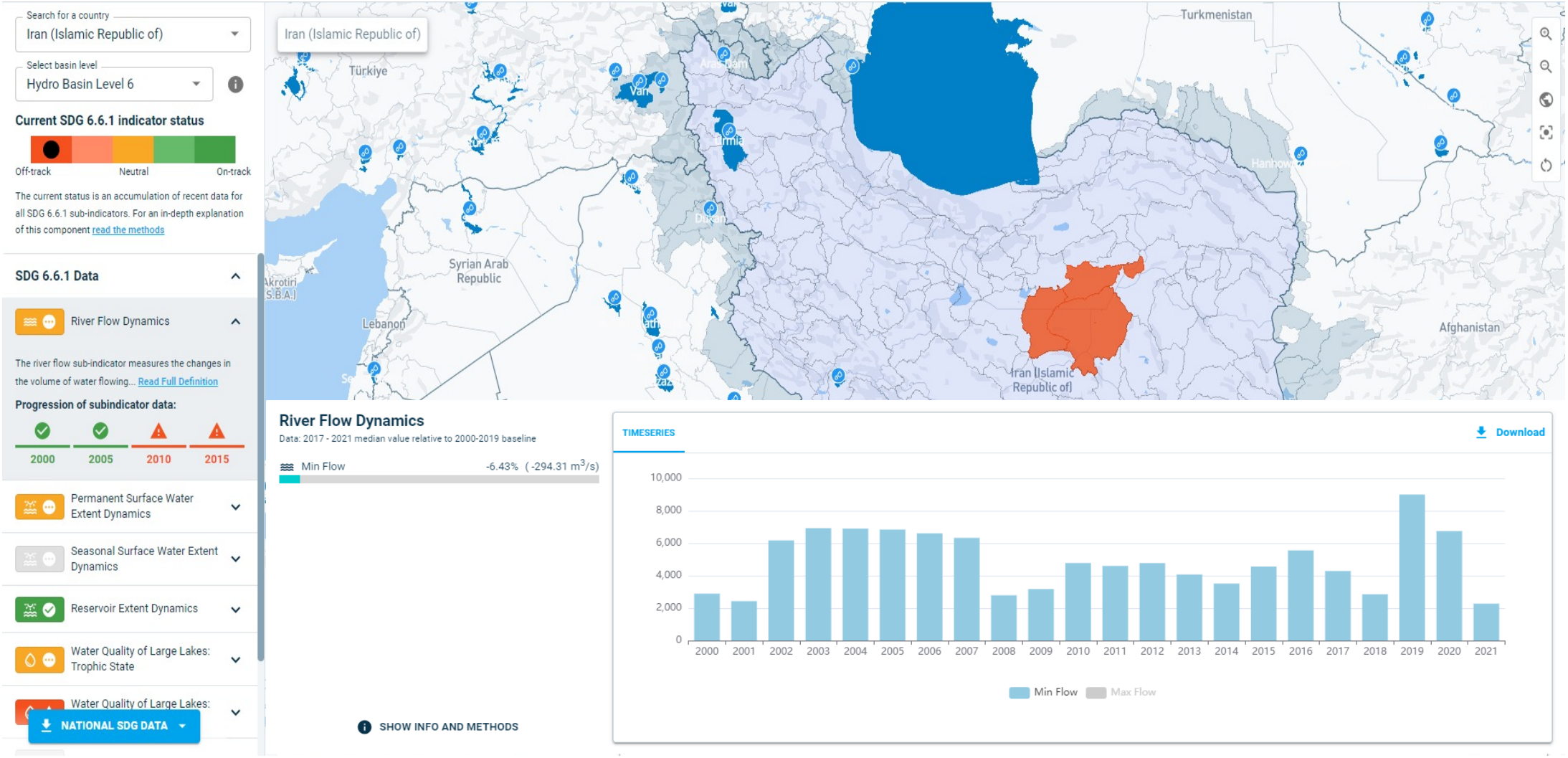
2018: 140 countries
2020: 185 countries
2023: 185 countries



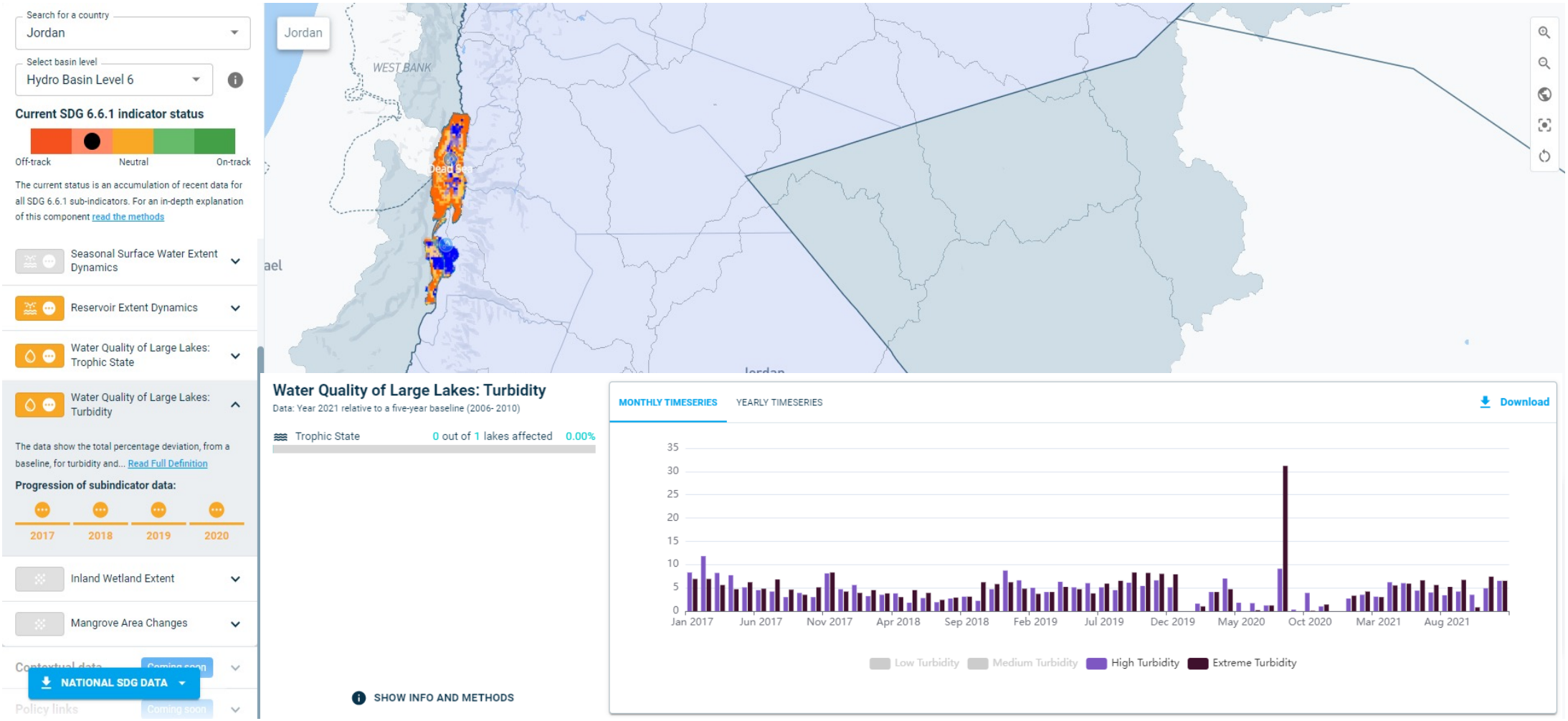
# SDG indicator 6.6.1: **river flow dynamics, Saudi Arabia**



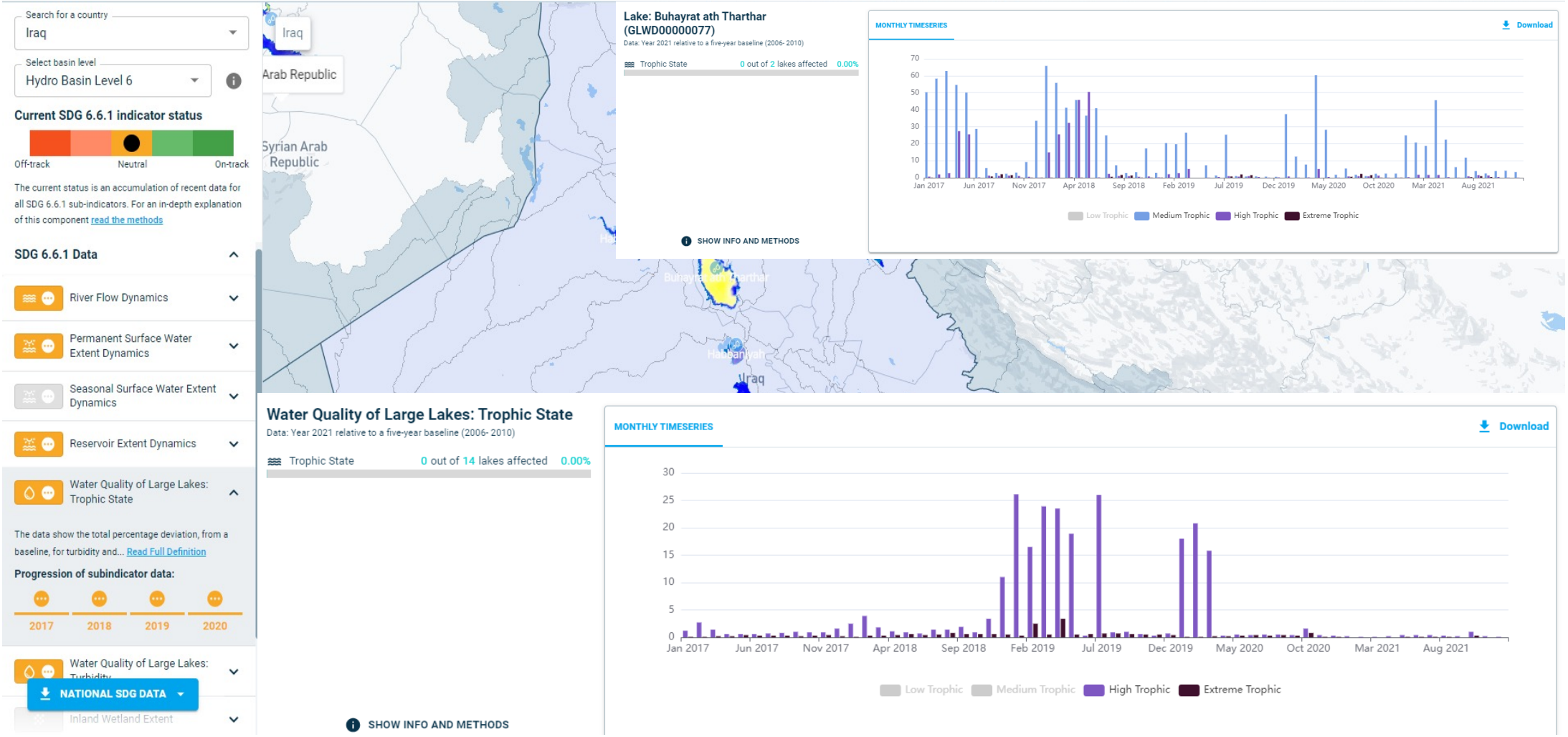
# Example of SDG 6.6.1 country data and trends: river flow, Iran



# Example of SDG 6.6.1 country data and trends: lake turbidity, Jordan



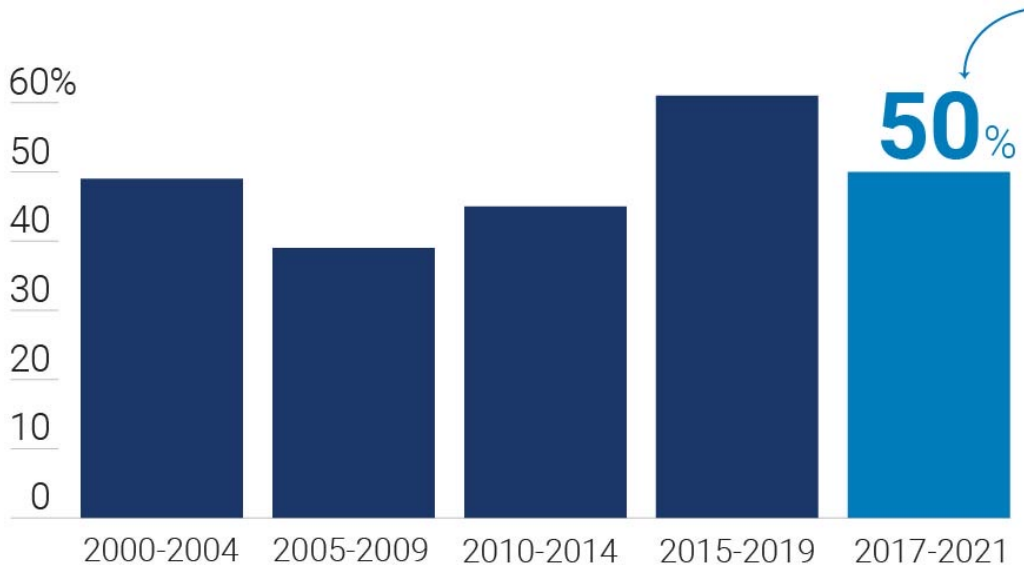
# Example of SDG 6.6.1 country data and trends: lake trophic state, Iraq



# SDG indicator 6.6.1 - Key Findings and Messages

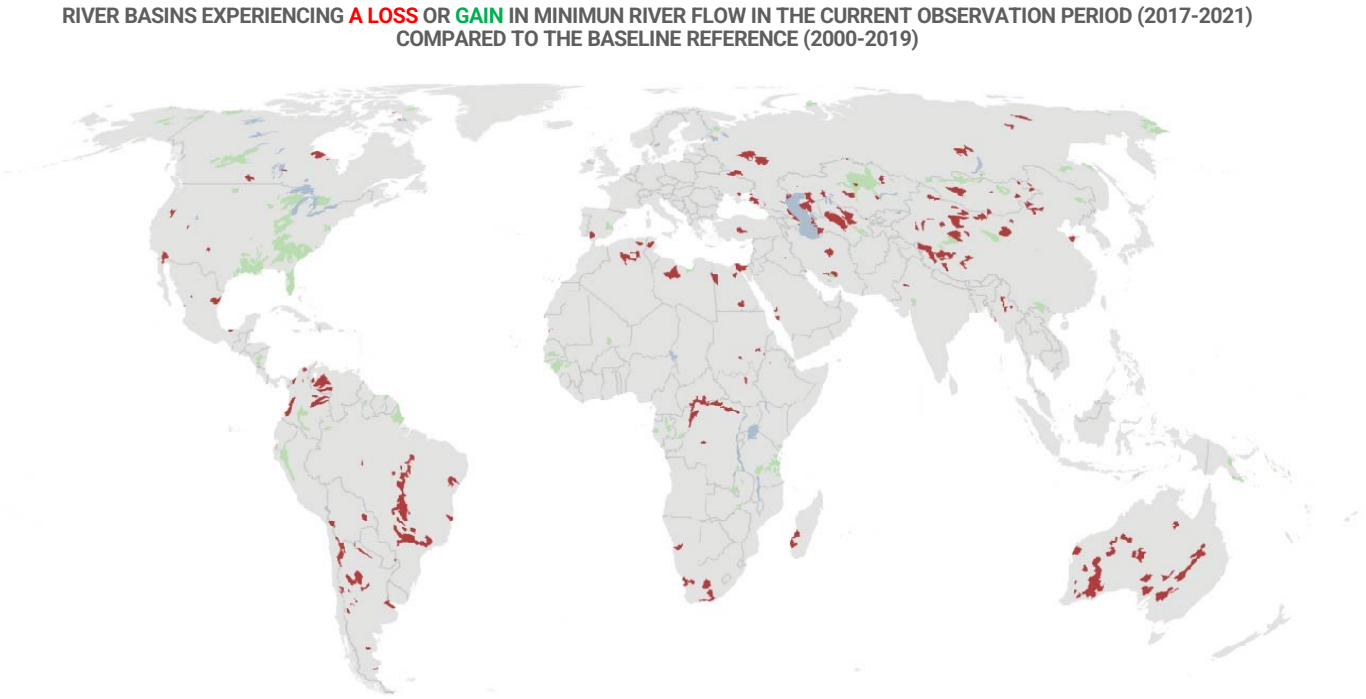
Key Findings from aggregated freshwater ecosystem data

FIGURE 1: **PERCENTAGE OF COUNTRIES EVERY FIVE YEARS WITH DEGRADED WATER-RELATED ECOSYSTEMS**




A global aggregated analysis of water-related ecosystem data shows that **50% of countries, currently, have one or more water-related ecosystem type in a state of degradation**[1]. This equates to more than **90 countries of the 185 countries reporting on SDG indicator 6.6.1**.

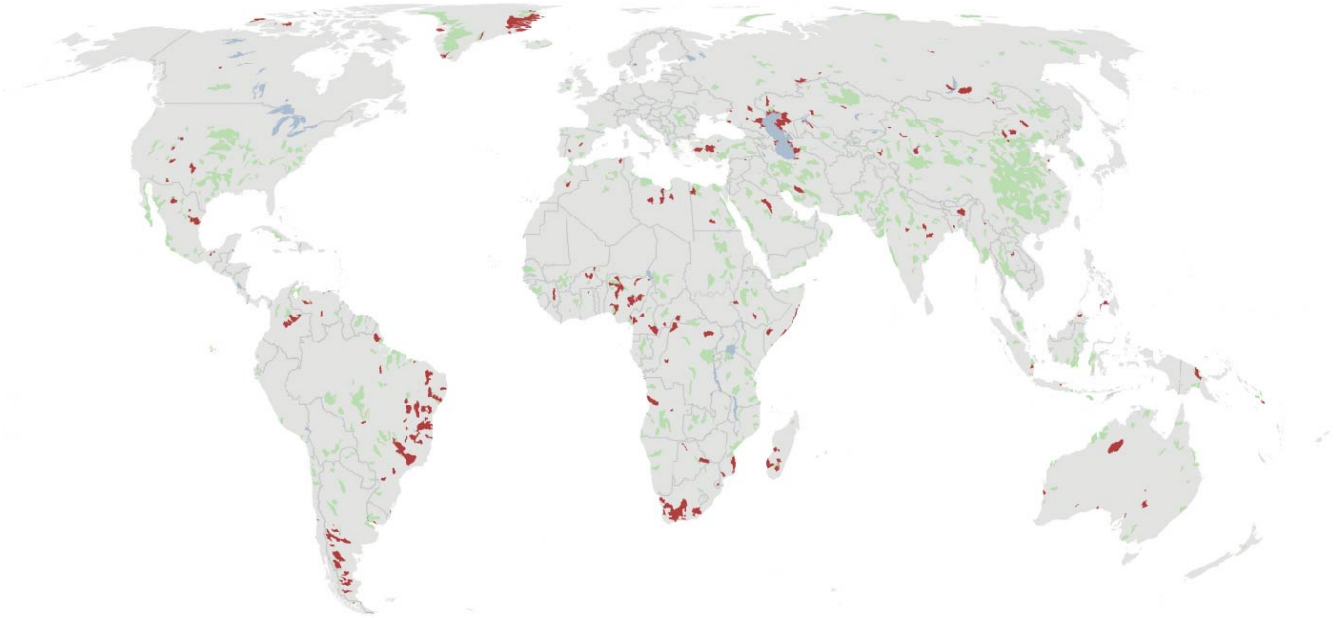
# Key Findings from sub-indicator data assessment




**River flow** has decreased in 402 river basins worldwide.
This is a fivefold increase from 15 years ago.

# Key Findings from sub-indicator data assessment

RIVER BASINS EXPERIENCING A LOSS OR GAIN IN PERMANENTLY OBSERVED WATER IN THE CURRENT OBSERVATION PERIOD (2017-2021) COMPARED TO THE BASELINE REFERENCE (2000-2019)



**Surface water bodies**, such as lakes,
are shrinking or being lost entirely in 364 basins worldwide

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For detailed information and resources on freshwater ecosystem changes please visit the Freshwater Ecosystem Explorer. Go to **www.sdg661.app**

# Thank you