Status and trends of SDG 6 indicators for:

- **Integrated water resources management**
- **Water quality and**
- **Freshwater ecosystems**

in North and Central Asia

6th October 2022

Stuart Crane

Global Coordinator SDG 6 Monitoring

Freshwater Unit, UN Environment Programme

UN environment programme 50 1972-2022

The Triple Planetary Crises

Climate Change

Climate Change impacts, including glacial melt, changes in precipitation, water scarcity, flood and drought are threatening freshwater ecosystems and human health worldwide.

At the same time, when protected, restored, and well managed:

Freshwater ecosystems hold 20–30% of global soil carbon despite occupying 5–8% of its land surface. Protecting and restoring these and other water bodies is key to both mitigation efforts and to helping ecosystems and humans adapt to the impacts of climate change.

Pollution

80% of global wastewater is estimated to enter water bodies untreated polluting freshwater bodies such as rivers and lakes, with impacts on human and ecosystem health.

At the same time, when protected, restored and well managed:

Healthy and productive freshwater ecosystems, including wetlands, constructed wetlands and lakes fight pollution. They can improve water quality by removing pollutants from surface waters through sediment trapping, nutrient removal and chemical detoxification.

Nature

6% of total biodiversity rely on freshwater habitats for their survival. However around one third of all freshwater biodiversity faces extinction due to invasive species, pollution, habitat loss and over-harvesting.

At the same time, when protected, restored and well managed:

Freshwater ecosystems have seen great stories of returns of biodiversity, including keystone and migratory species, to restored water bodies such as rivers and lakes. This helps maintains the vital balance of these precious ecosystems and are essential for the health of other ecosystems.

Monitoring Water

The United Nations Environment Programme (UNEP) is supporting countries in monitoring water within the framework of the 2030 Agenda for Sustainable Development.

UNEP compile national data on three SDG-6 water indicators:

Indicator 6.3.2	Ambient water quality
Indicator 6.5.1	Integrated water resources management
Indicator 6.6.1	Water-related ecosystems

Integrated Water Resources Management

Indicator 6.5.1 tracks the degree of integrated water resources management (IWRM) implementation by assessing four key components of IWRM:

Enabling environment

Institutions and participation

Management instruments

Financing

The indicator takes into account the various users and uses of water, with the aim of promoting positive social, economic and environmental impacts at all levels, including the transboundary level, where appropriate

IWRM in North & Central Asia

	SCORE 2017	SCORE 2020	CURRENT RATING
Russian Federation	**79**	**88**	high
Turkmenistan		**64**	medium-high
Azerbaijan	**66**	**57**	medium-high
Armenia	**36**	**52**	medium-high
Tajikistan		**46**	medium-low
Uzbekistan	**45**	**48**	medium-low
Georgia	**35**	**44**	medium-low
Kazakhstan	**30**	**40**	medium-low
Kyrgyzstan		**31**	medium-low

Ambient Water Quality

Indicator 6.3.2 tracks the percentage of water bodies in a country with good ambient water quality.

“Good” indicates an ambient water quality that does not damage ecosystem function and human health according to core ambient water quality parameters.

For surface water, these parameters are dissolved oxygen, electrical conductivity, nitrogen, phosphorus and pH and for groundwater they are electrical conductivity, nitrate and pH.

Ambient water quality in North & Central Asia

	Score (%) 2020
Russian Federation	96
Turkmenistan	no data
Azerbaijan	no data
Armeia	no data
Tajikistan	no data
Uzbekistan	no data
Georgia	92
Kazakhstan	64
Kyrgystan	no data

Water-related Ecosystems

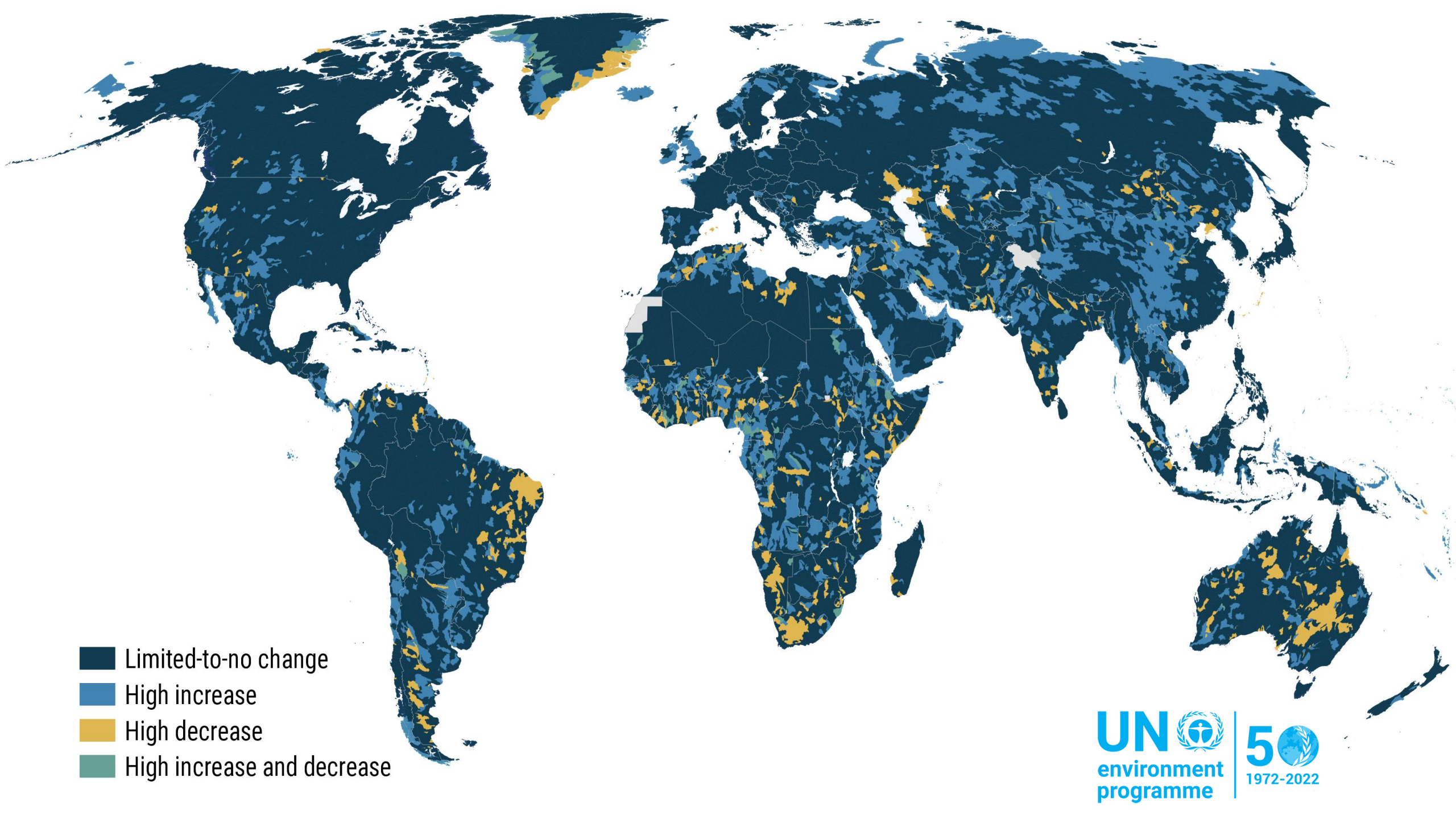
Indicator 6.6.1 tracks changes in the extent of water-related ecosystems over time.

Water-related ecosystems include lakes & reservoirs, rivers, wetlands and aquifers.

Satellite based data can be used to measure changes in the spatial extent of some water-related ecosystem such as lakes and reservoirs, mangroves, and wetlands. Two water quality parameters (Chlorophyll-a and Turbidity) can also be measured from space.

Changes to freshwater ecosystems in North and Central Asia

	Permanent surface water area change since 2000	Seasonal surface water area change since 2000	total no. of river basins	no. with HIGH change 2015	no. with HIGH change 2020
Russian Federation	1.5% loss	75% gain	2181	48	484
Turkmenistan	1.5% loss	99% gain	85	16	21
Azerbaijan	0.5% loss	5% gain	22	3	4
Armeia	2% gain	86% gain	9	3	3
Tajikistan	2% loss	87% gain	47	1	3
Uzbekistan	55% loss	85% gain	93	13	24
Georgia	2% gain	47% gain	23	0	3
Kazakhstan	9% loss	85% gain	349	58	114
Kyrgystan	0.6% loss	109% gain	42	2	10


Limited-to-no change
High increase
High decrease
High increase and decrease
UN environment programme
50
1972-2022

Find out more about UNEP's work and learn about UNEP's freshwater work at www.unep.org/water

UN environment programme | 50 1972-2022