

The role of **Freshwater Ecosystems** in accelerating the implementation of Goal 6

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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.

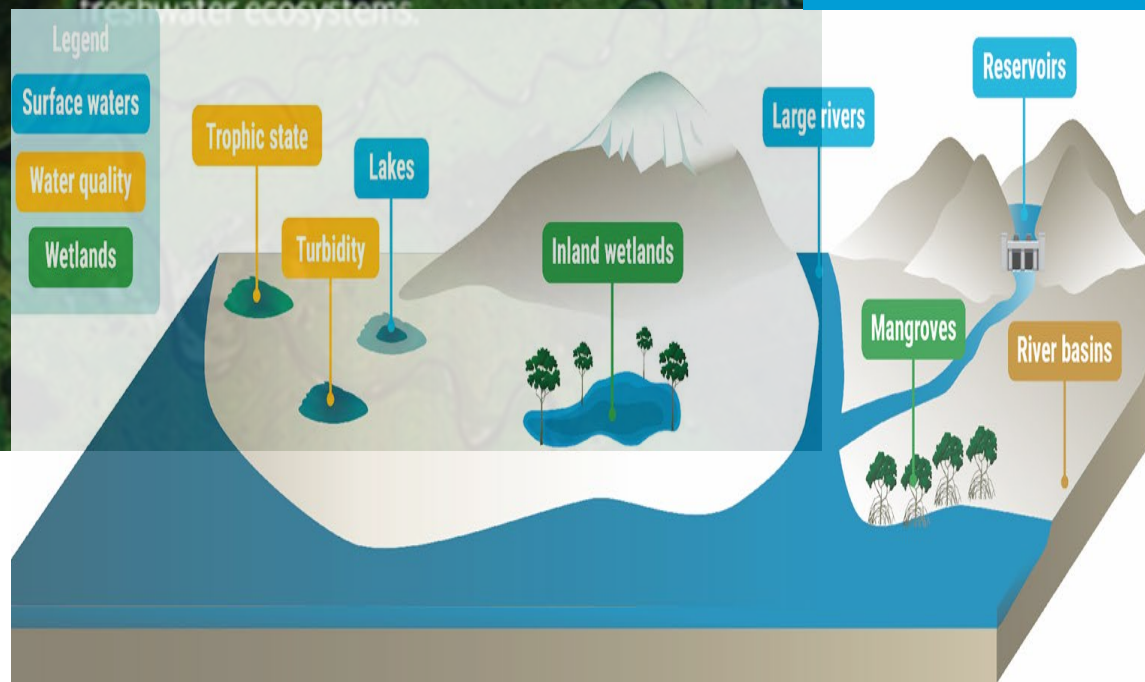
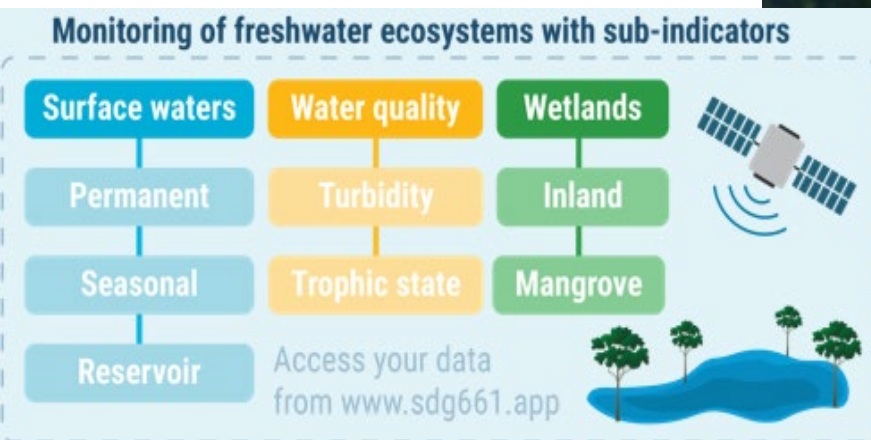
Nature

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.

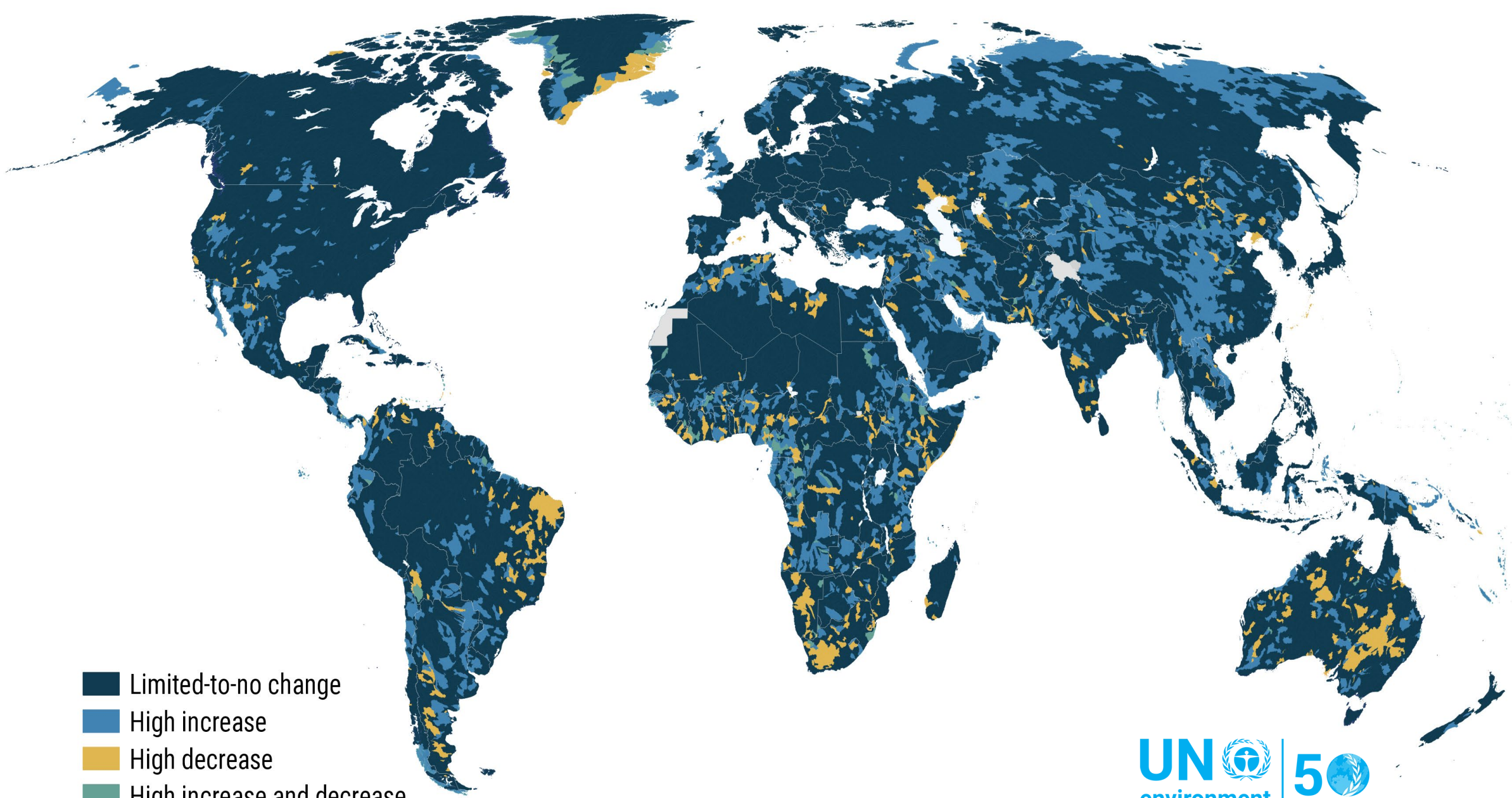
At the same time, when protected, restored and well managed:

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 Freshwater Trends (SDG target 6.6)



- UNEP workflow (3-year cycle)
- 1 Recieve global Earth Observation data per ecosystem type
 - 2 Convey national and basin statistics
 - 3 Send statistics to member states for approval
 - 4 Member state approve statistics
 - 5 Approved SDG 661 statistics and status report to UNSD

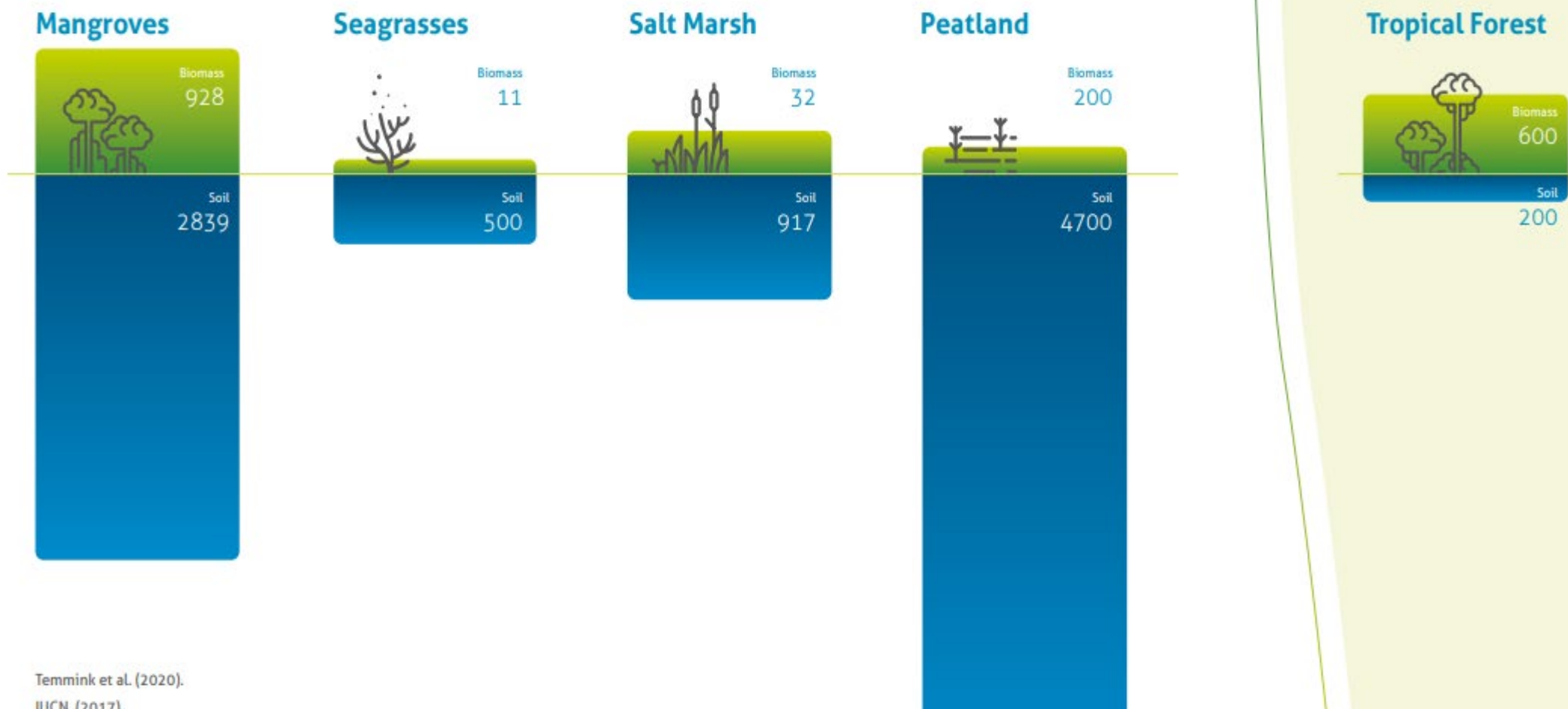


- Limited-to-no change
- High increase
- High decrease
- High increase and decrease



The carbon storage potential of wetlands

Tons CO₂e per hectare



Temmink et al. (2020).

IUCN (2017)

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Summary remarks:

- Freshwater ecosystems bear the impacts of human development and climate change. They are also a big part of the solution
- Nature based solutions - those that result in the large-scale restoration of freshwater ecosystems - have a multiplier effect with gains across Goals 6 targets
- Water and climate are inextricably linked and managing water resources through multi-sectoral planning must consider numerous impacts including ecosystem changes and climate
- Within Goal 6 we are missing quantifiable targets on the amount of restoration and protection that is required across each of the different freshwater ecosystems types



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