

About the Glaciers to Ocean (G2O) project

Glaciers-to-Ocean (G2O) works in climate sensitive sectors to strengthen climate resilience, promote sustainable water management, and foster transboundary cooperation across the Ganges River Basin.

Spanning the continuum from Himalayan glaciers to the mangrove ecosystems of the Bay of Bengal, G2O connects upstream, midstream, and downstream flows. The project generates integrated scientific evidence and convenes policy dialogue to address climate risks across the basin.

Why the Ganges River Basin matters



Supports **600+ million** through water, food, livelihoods, transport, and cultural heritage.



Shared by China, India, Nepal, and Bangladesh, the basin is a global hotspot of inequality. **200+ million** people living below the poverty line.



Outmigration reshaping rural communities, leaving land underused and deepening vulnerability among marginalised groups.



Water pollution, sedimentation and flooding threaten ecosystems, including long term mangrove health.



Climate change is intensifying **basin-wide hazards**, including heavier monsoon rainfall, downstream flooding, and upstream GLOFs, landslides, and debris flows.

Implementation and partners

G2O is jointly implemented by the International Centre for Integrated Mountain Development (ICIMOD) and the Ocean Policy Research Institute, Sasakawa Peace Foundation (OPRI-SPF), bringing together regional expertise in mountain systems and ocean governance.



[www.icimod.org/
glaciers-to-ocean-g2o-project](http://www.icimod.org/glaciers-to-ocean-g2o-project)



[www.spf.org
/opri/en/thirdpole/](http://www.spf.org/opri/en/thirdpole/)

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ICIMOD

OPRI OCEAN POLICY
RESEARCH INSTITUTE
SASAKAWA PEACE FOUNDATION

GLACIERS TO OCEAN (G2O)

Integrating Science, Policy, and Cooperation to Strengthen Climate Resilience in the Ganges River Basin



Our approach:

Source-to-Sea

G20 adopts a Source-to-Sea approach, recognising that changes in the Himalayan headwaters influence downstream rivers, deltas, and coastal ecosystems.

By linking the cryosphere, river systems, and coastal zones, the project supports a holistic understanding of water, climate, and risk, and helps advance coordinated solutions that bridge sectors, scales, and national boundaries.

Supports
600+
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Work Packages (WP)



WP 1

Upstream: cryosphere risk assessment in the Ganges River Basin

Glacier retreat, glacial lakes hazards, snowmelt, and landslides zoning and hazards in Koshi Sub-basin, Nepal.



WP 2

Midstream: climate vulnerability and adaptation assessment

Vulnerability of densely populated regions (Bihar, India) to floods, droughts, and agricultural stress



WP 3

Downstream: mangrove and marine biodiversity

Health of mangrove ecosystems and marine biodiversity in the Bay of Bengal.



WP 4

Basin scale climate and water assessments

Climate projections, water availability, erosion, and sedimentation.

