Protecting the observations that climate action depends on

The draft 2027 GCOS Status Report and High-Priority Action Plan

COP31 Earth Information Day, 9 November 2026

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GCOS
GLOBAL CLIMATE OBSERVING SYSTEM

WORLD METEOROLOGICAL ORGANIZATION

unesco
Intergovernmental Oceanographic Commission

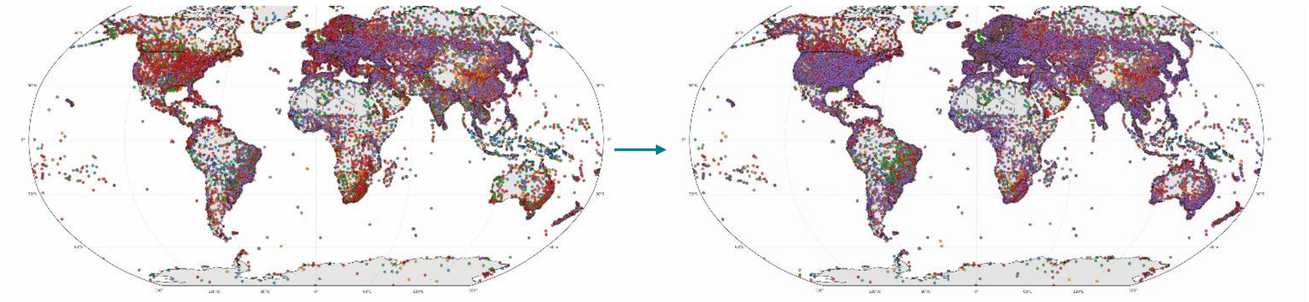
International Science Council

UN environment programme

GOOS
Global Ocean Observing System

Real progress, but continuity is not assured

2020 2026



More historical records available for climate reconstruction

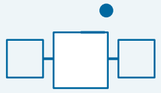
Several key observing capabilities have declined

Funding • Maintenance • Continuity

GCOS is identifying the risks, and the priorities for action

A few critical dependencies can weaken the global climate picture

ATMOSPHERE

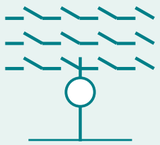


Earth's radiation budget

Risk: one instrument series and one agency

Track planetary heat

OCEAN



Subsurface temperature & salinity

Risk: concentrated national contributions

Track ocean heat and sea-level change

LAND



Above-ground biomass

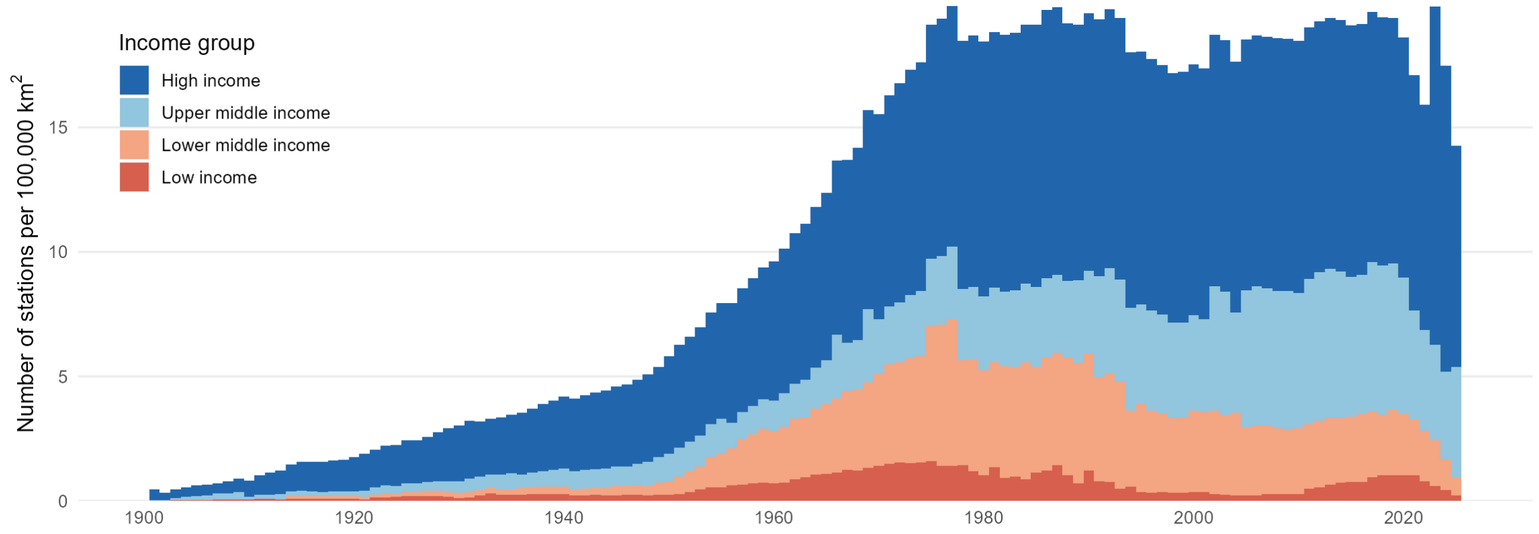
Risk: satellite estimates rely on insecurely funded field data

Support forest carbon reporting

Observation gaps widen the adaptation gap

River-discharge records available through GRDC

Station density - World Bank income groups



Less evidence for drought, flood and water planning

Lower-income countries are less well represented

Measure what is missing

Share what already exists

Response: GCOS High-Priority Action Plan 2027

Ten urgent actions that are a practical response to identified risks

Public review closing 27 Nov

Protect essential observations

Ocean networks (1–3)
Critical satellite records (5)

Close critical gaps

Atmospheric network GBON through SOFF (4)
Carbon sinks (6)
Freshwater (7)

Share and safeguard observations

Data for extremes (8)
Climate archives (9)
Radio frequencies (10)

Sustained international coordination

Implementers • Indicative costs • Measures of progress

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One observing system, multiple delivery areas

Global Ocean Observing System



Climate

The ocean drives Earth's energy, water and carbon cycles.
Sustained observations underpin climate services, mitigation and adaptation.



Forecasts & warnings

Operational ocean and weather forecasts and early warning systems manage risk for coasts, shipping and industry, and forecast extremes.



Ocean health

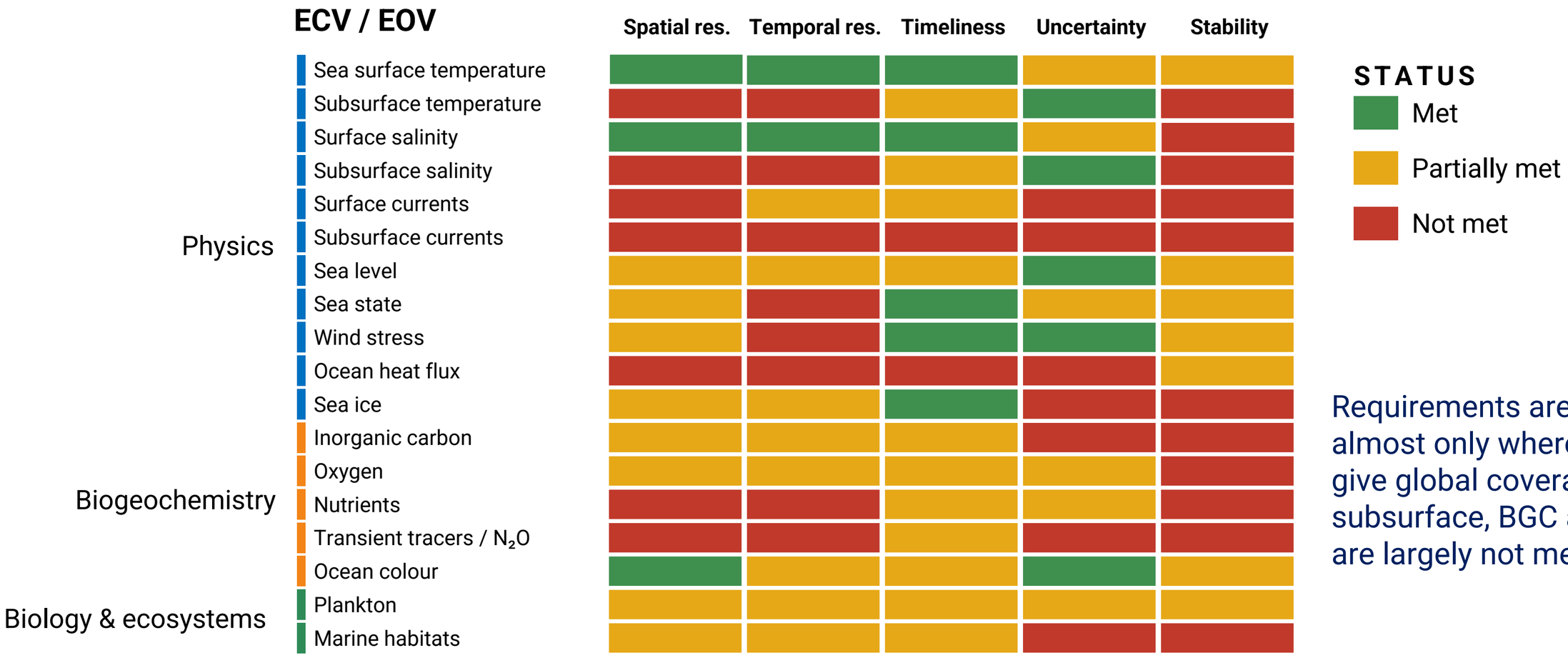
Warming, acidification, deoxygenation and biodiversity loss demand expanded observations to sustain and/or restore ecosystems and their services.

HIGH LEVEL PANEL for
A SUSTAINABLE
OCEAN ECONOMY

New publication:
High Level Panel for a Sustainable Ocean Economy Policy Brief, Post et.al. (2026)
The importance of ocean observing for society, nature, climate and the economy

Subcritical and fragile - Adequacy against observational requirements

Global Ocean Observing System



Requirements are met almost only where satellites give global coverage; subsurface, BGC and biology are largely not met.

Ocean observation is critical infrastructure – it is time to fund it as one

Global Ocean Observing System

No single system is the answer

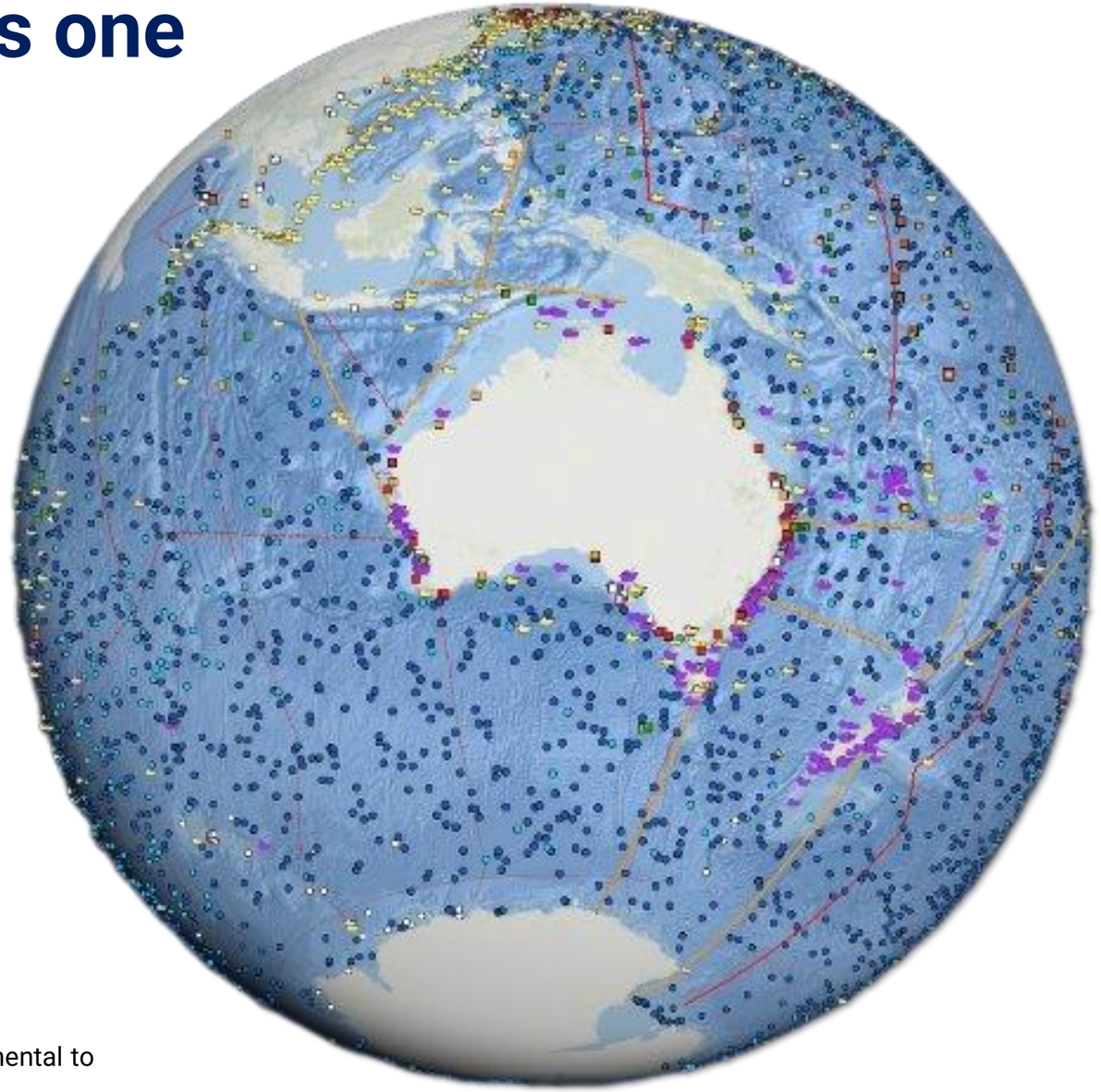
17 networks, over 9000 platforms
- Argo, satellites, ships, moorings, gliders, Animal Borne Ocean Sensors etc: requirements are met only by the integrated whole. Design them together.*

Resilience is the priority

Remove single points of failure and stabilise funding.
67 Countries contribute.
Over 80% of system funded by G7.
A capable but fragile system fails when one component or one person is cut.

Satellites + in situ, by design

Satellites give global reach in polar and coastal zones; BUT in situ vital – in situ includes mature networks, it anchors calibration and the subsurface. Neither alone suffices.



GOOS Status Report
5 Nov 2026

www.ocean-ops.org/goosreport

* E.g. See Sutton et al. (2026). Cross-Network Synergies Fundamental to Sustained Global Ocean Carbon Observing
https://doi.org/10.1029/2026EF008722

Join the International Alliance for GOOS

Chaired by the EU and Canada

Launched at UNGA, 23 Sep 2026

Global Ocean Observing System

30+ governments already joined

Canada, EU, Angola, Belgium, Brazil, Chile, Colombia, Cabo Verde, Costa Rica, Croatia, Cyprus, France, Germany, Greece, Iceland, Ireland, Italy, Madagascar, Malta, Mauritius, Mexico, Norway, Namibia, Palau, Portugal, Slovenia, South Korea, Spain, the Netherlands, the Faroe Islands, the United Kingdom, Uruguay



Over CAD $339 million | €211 million

financial and in-kind contributions

Side event 14.30-16.00, 17 November, EU Pavilion

Invest in ocean observing
Ensure resilience and sustainability

Coordinate observing efforts national / regional / global
Deliver for GOOS

Share & manage data
Open and FAIR

USD 500 million-plus a year to protect a much larger investment

Priority observing actions to secure in the GCOS High-Priority Action Plan

USD 500 million-plus / year

Global weather and climate observing enterprise

~USD 10 billion / year, including satellites

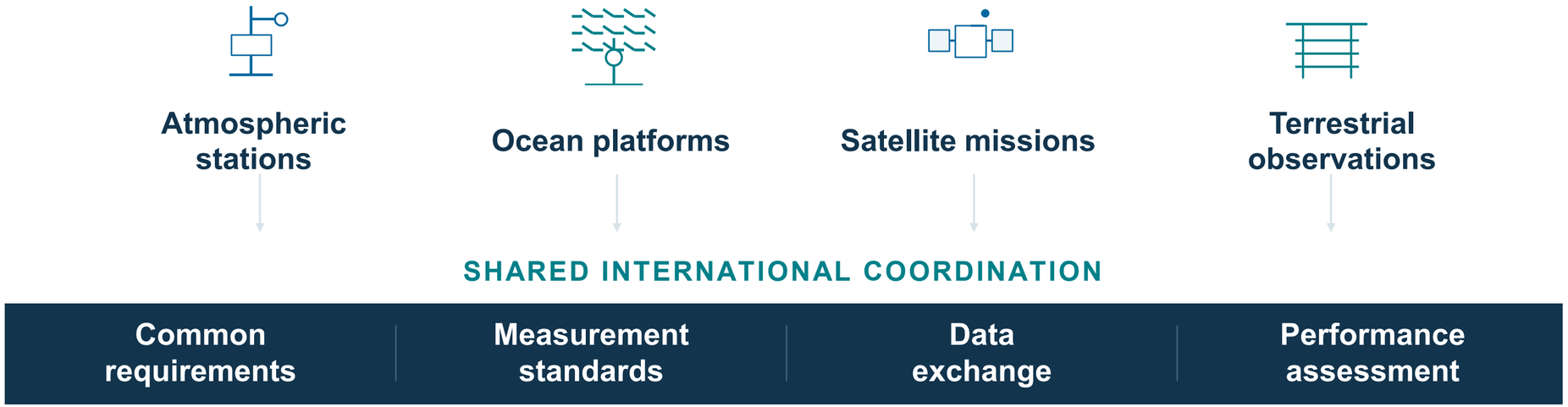
An effort on the scale of

5%

Sustain observations • Close critical gaps • Preserve usable records

Sustained international coordination

National investments deliver more value when they work together



Comparable information. More useful investments. Better-grounded decisions.

Shared coordination at risk

GCOS programme and its Secretariat remain at risk

The funding concern raised at COP30 remains unresolved

Invitation to Parties and partners

Three commitments to sustain the evidence for climate action

01 Secure international coordination

Predictable, multi-year contributions

02 Protect essential observing capabilities

Operations, maintenance and skilled people

03 Close gaps and safeguard data

National capacity, shared data and protected records

Protect the gains already made • Give every country a stronger basis for action

Global State of Systematic Weather and Climate Observation SOFF GCOS ECMWF | **TODAY** • 18:30– 19:15 • Special Event Room 2

GCOS: The State of Global Climate Observation | Tomorrow 10 November • 14:30–15:30 • UNFCCC Pavilion

SOFF: A Hotter World is Flying Blind | 10 November • 17:30–18:15 • UNFCCC Pavilion

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