



GCOS - Update

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ENERGY

CARBON

WATER

New ECV:

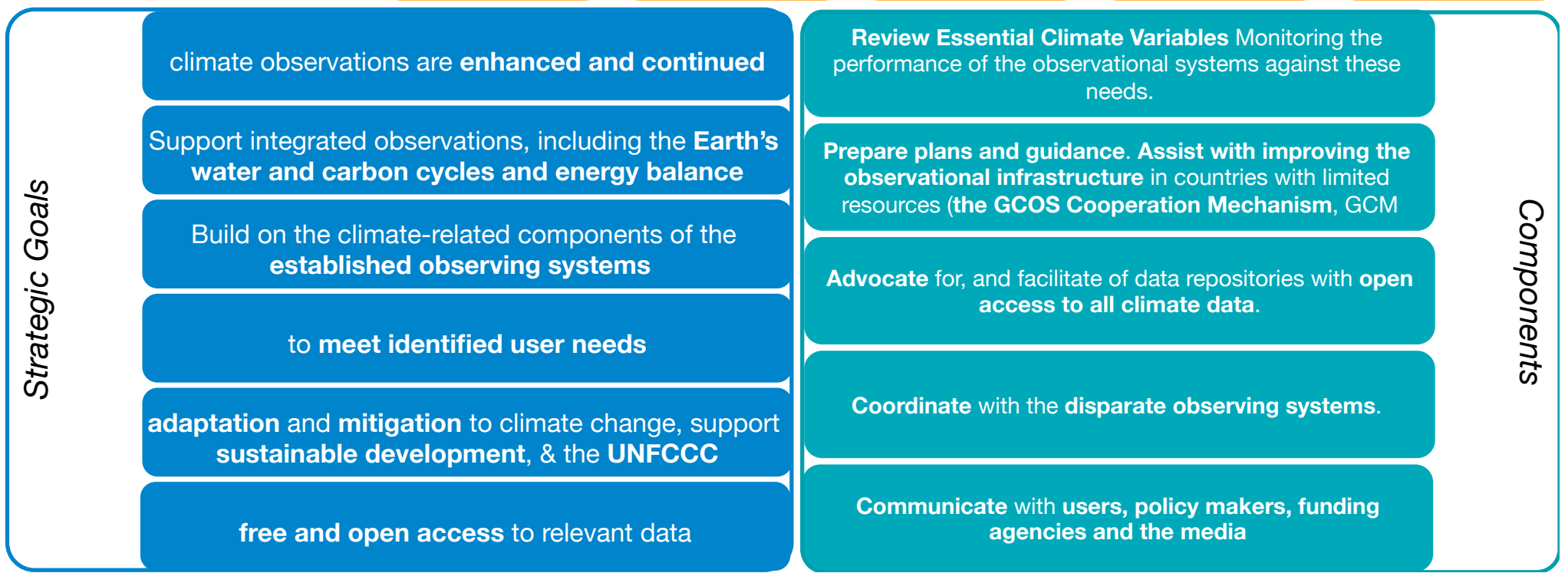
- Lightning,
- Land Surface Temperature,
- Marine habitat properties,
- Oceanic nitrous oxide,
- Anthropogenic greenhouse gas fluxes

**GCOS new
Implementation Plan
aims to improve
monitoring of Global
Climate Cycles**

Vision *a world where users have access to the climate-related information they need*

Aim *to ensure the availability and quality of observations necessary to monitor, understand and predict the global climate system so that communities and nations can live successfully with climate variability and change*

Principles **Free and Open** **Transparent** **Accurate** **Useful** **Timely** **Best available science**



What's new?

Adaptation & Mitigation

Going beyond the traditional science base to support adaptation, mitigation, sustainable development, disasters and emergency response, and in responding overall to the Paris Agreement.

Monitoring Earth's climate cycles

Including the Earth's water and carbon cycles and energy balance in their entirety will improve understanding & prediction of the climate. This will guide mitigation and adaptation measures; assess risks and enable attribution of climatic events to underlying causes; and underpin climate services.

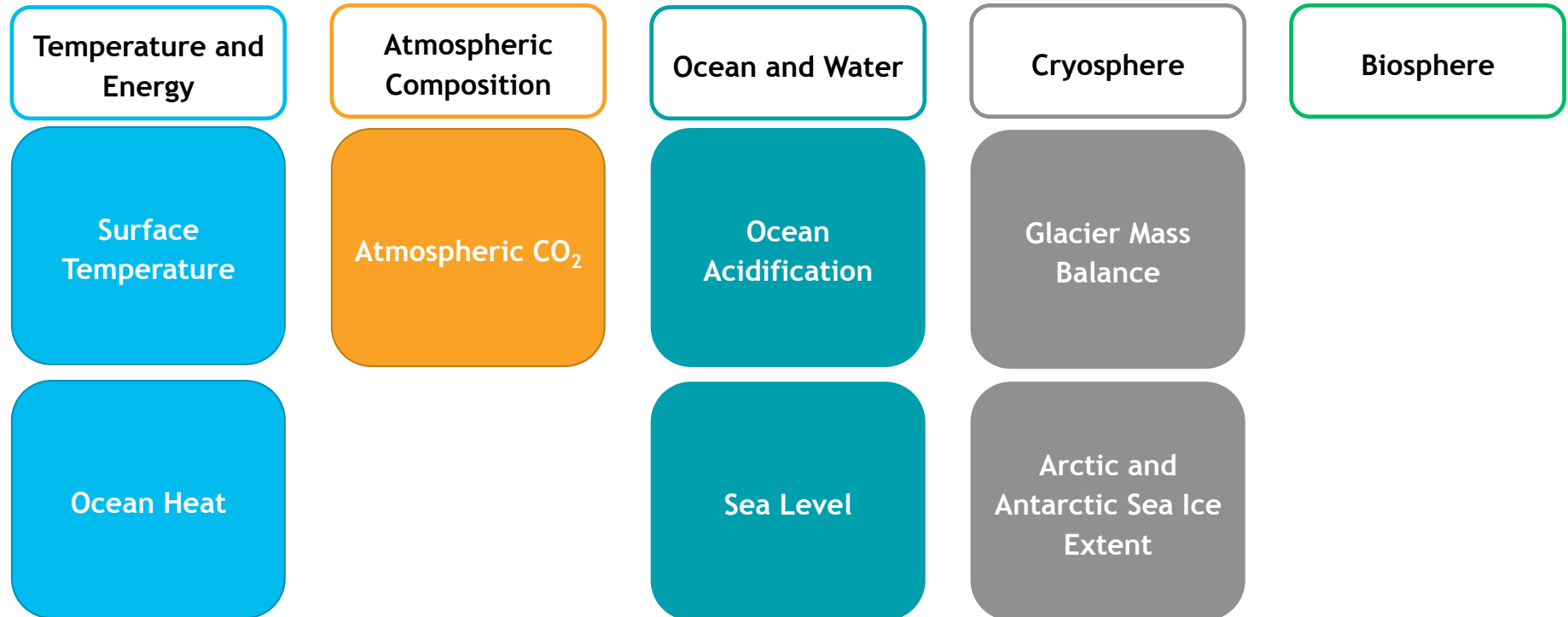
New Technology

Observation technology is evolving and improving: e.g. ocean buoys and drifters, crowd sourced data

Urban Areas

Over 50% of the world's population now living in urban areas. observations are needed where people live, especially in the new urban megacities

Global Climate Indicators



- The Indicators are meant to be used to tell stories about climate change in a way that can be understood by non-experts
- The Indicators are not limited to specific datasets or certain storylines

Subsidiary Indicators

Temperature and Energy

Atmospheric Composition

Ocean and Water

Cryosphere

Top-of-Atmosphere Energy Balance

Methane

Heavy Precipitation

Snow Extent

Heat Waves

N₂O

Droughts

Fluorinated GHG



 @gcos_un
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Aim *to ensure the availability and quality of observations necessary to monitor, understand and predict the global climate system so that communities and nations can live successfully with climate variability and change*

- Principles**
- Free and Open**, data is openly available to all users
 - Transparent**, methods and assumptions are clear, with standardised metadata, where possible
 - Accurate**, climate data needs high accuracy to distinguish small trends from larger annual variability
 - Useful**, there should be a clear demand from users
 - Timely**, there should be a minimum delay before publication to monitor recent trends
 - Based on best **available science**

