The Global Observing System for Climate

GCOS Update

WDAC 6th Session – 22 March 2017

GCOS Secretariat, WMO

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WMO UNESCO IOC ICSU International Council for Science UNEP

Driving the Global Climate Observation Agenda

GCOS follows a 3 phase approach driven by users

Identify/Review Essential Climate Variables (ECVs) through science panels

Regular review of how these ECV are observed

Develop plans to ensure continuity and improvement of observations

AOPC Atmospheric Observation Panel for Climate
GCOS • WCRP

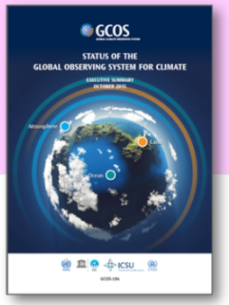
GCOS • GOOS • WCRP
OOPC Ocean Observations Panel for Climate

GCOS • GTOS • WCRP
TOPC Terrestrial Observation Panel for Climate

GCOS Reports

Status 2015

United nations conference on climate change
COP21/CMP11



2016

Aims of the 2016 Implementation Plan

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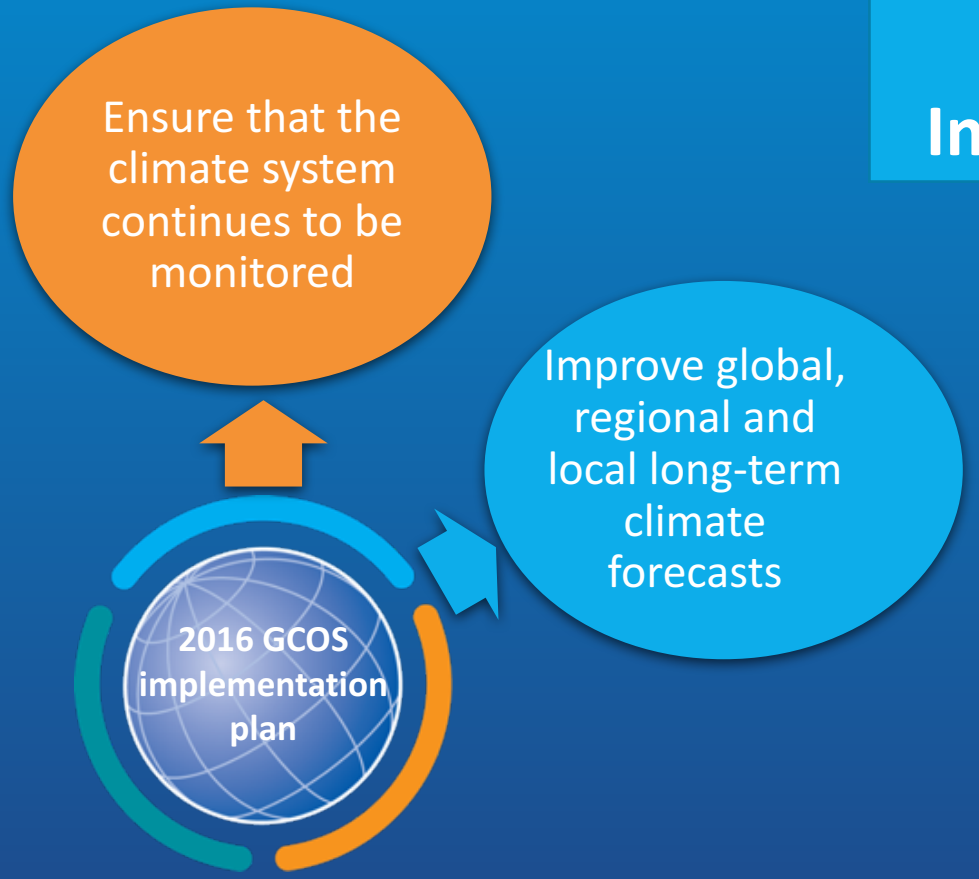
Ensure that the climate system continues to be monitored

Aims of the 2016 Implementation Plan



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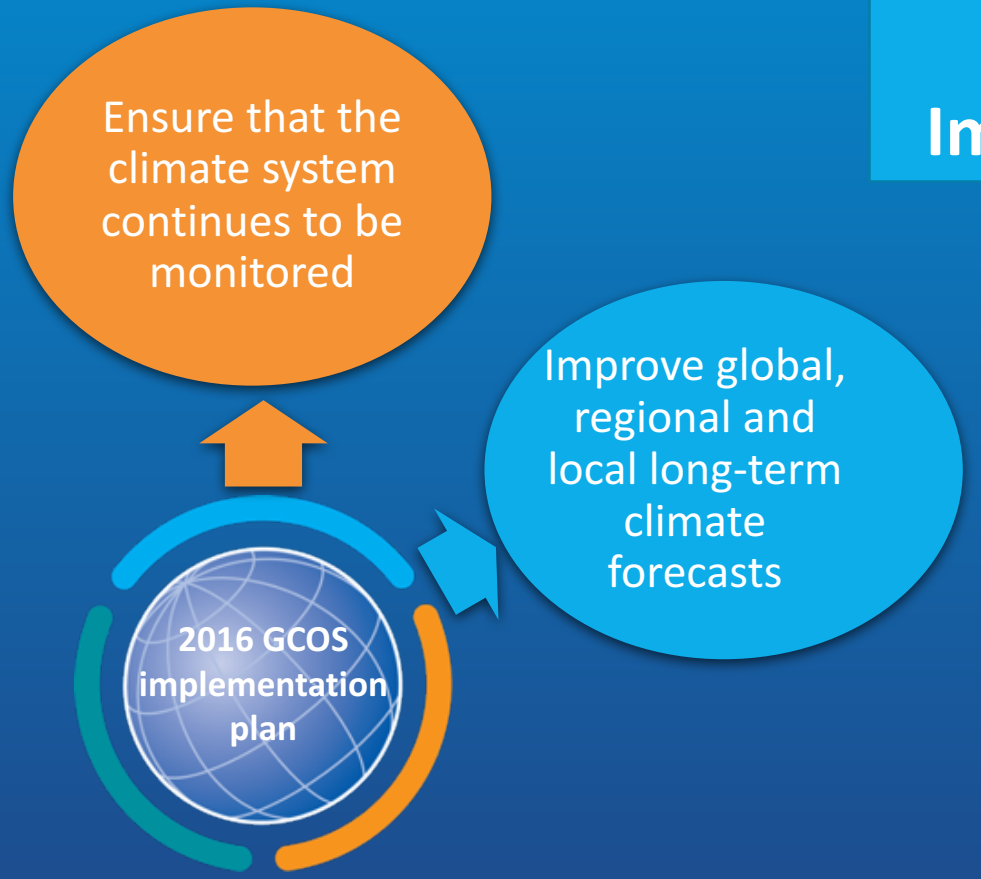
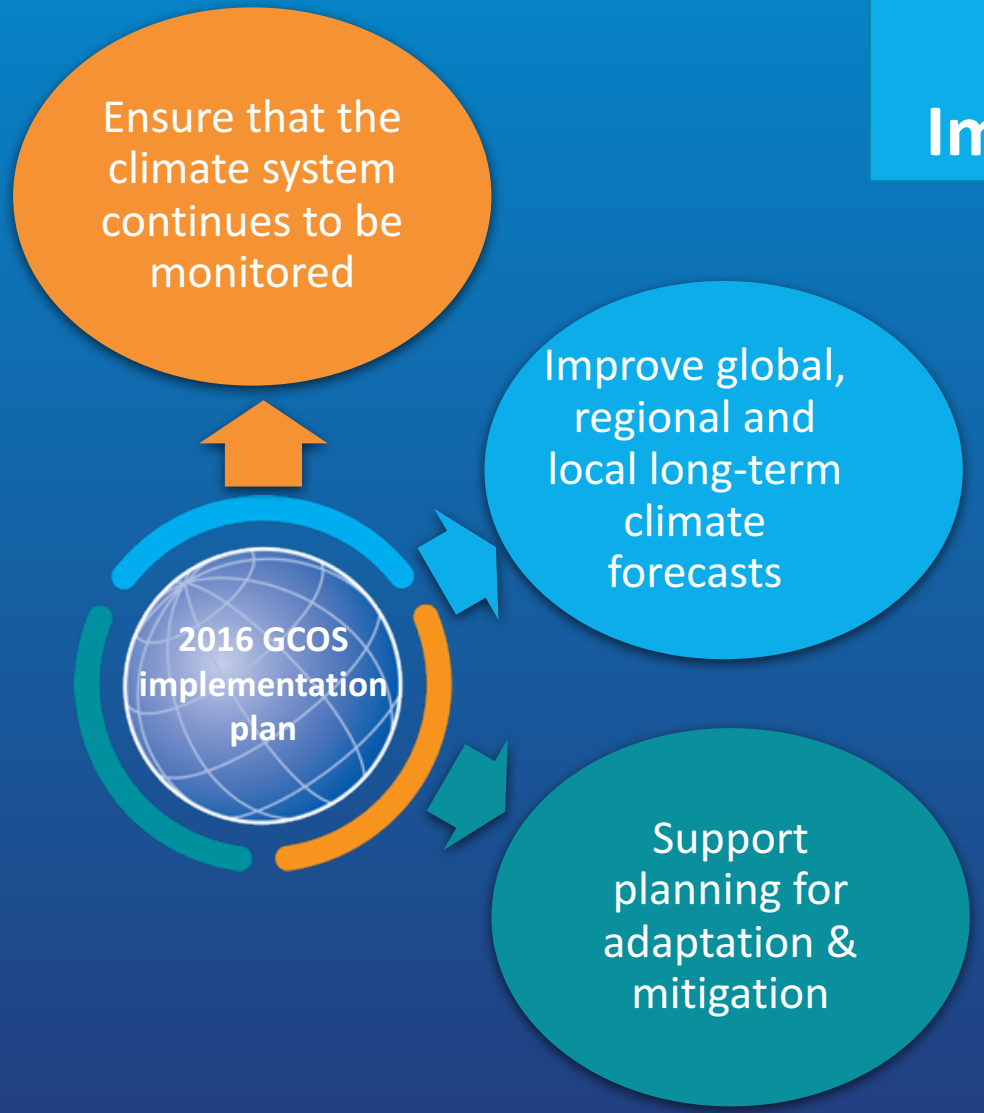


Filling gaps in network coverage
Refining ECV requirements
Addressing Global Climate Cycles

Aims of the 2016 Implementation Plan



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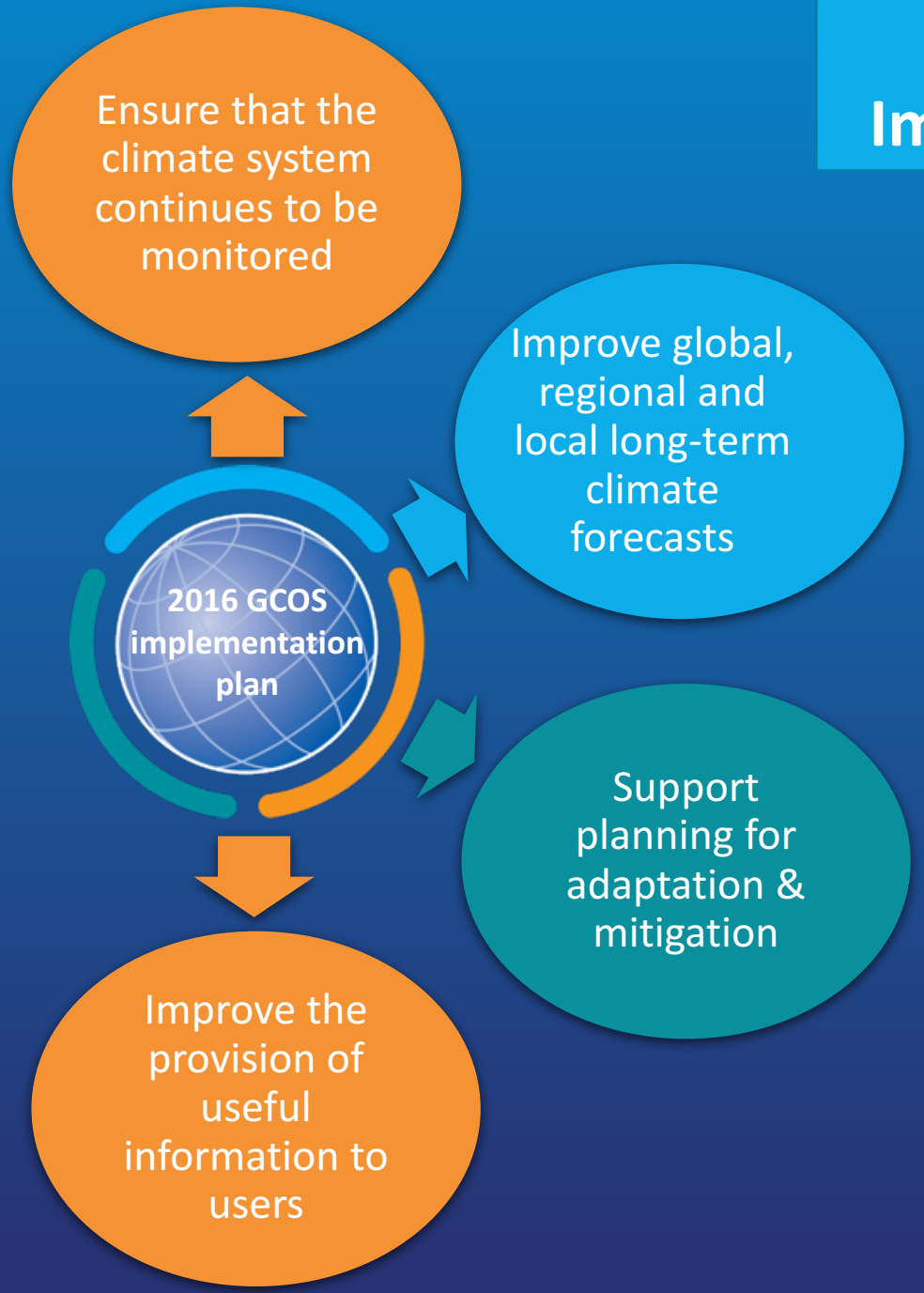

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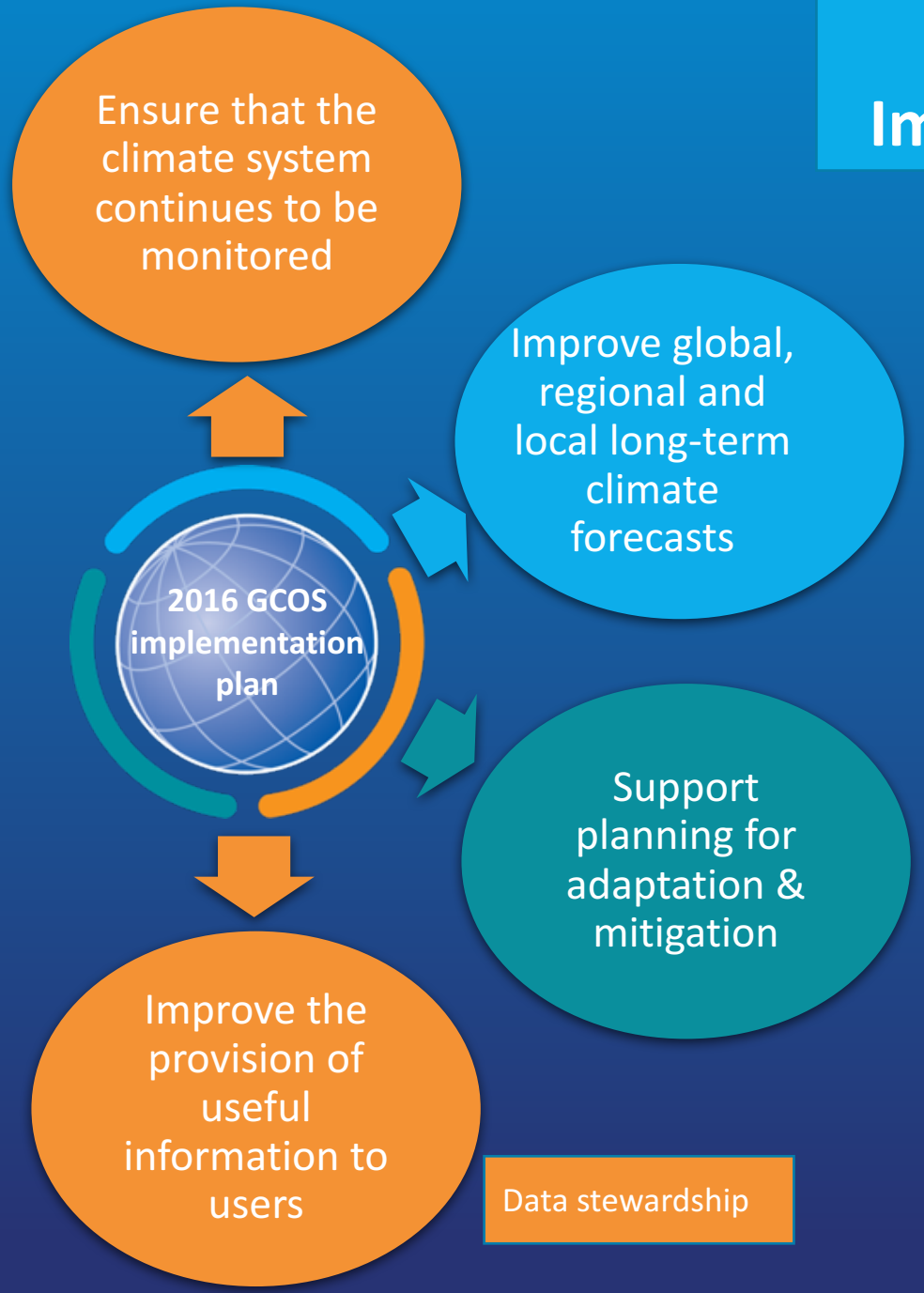

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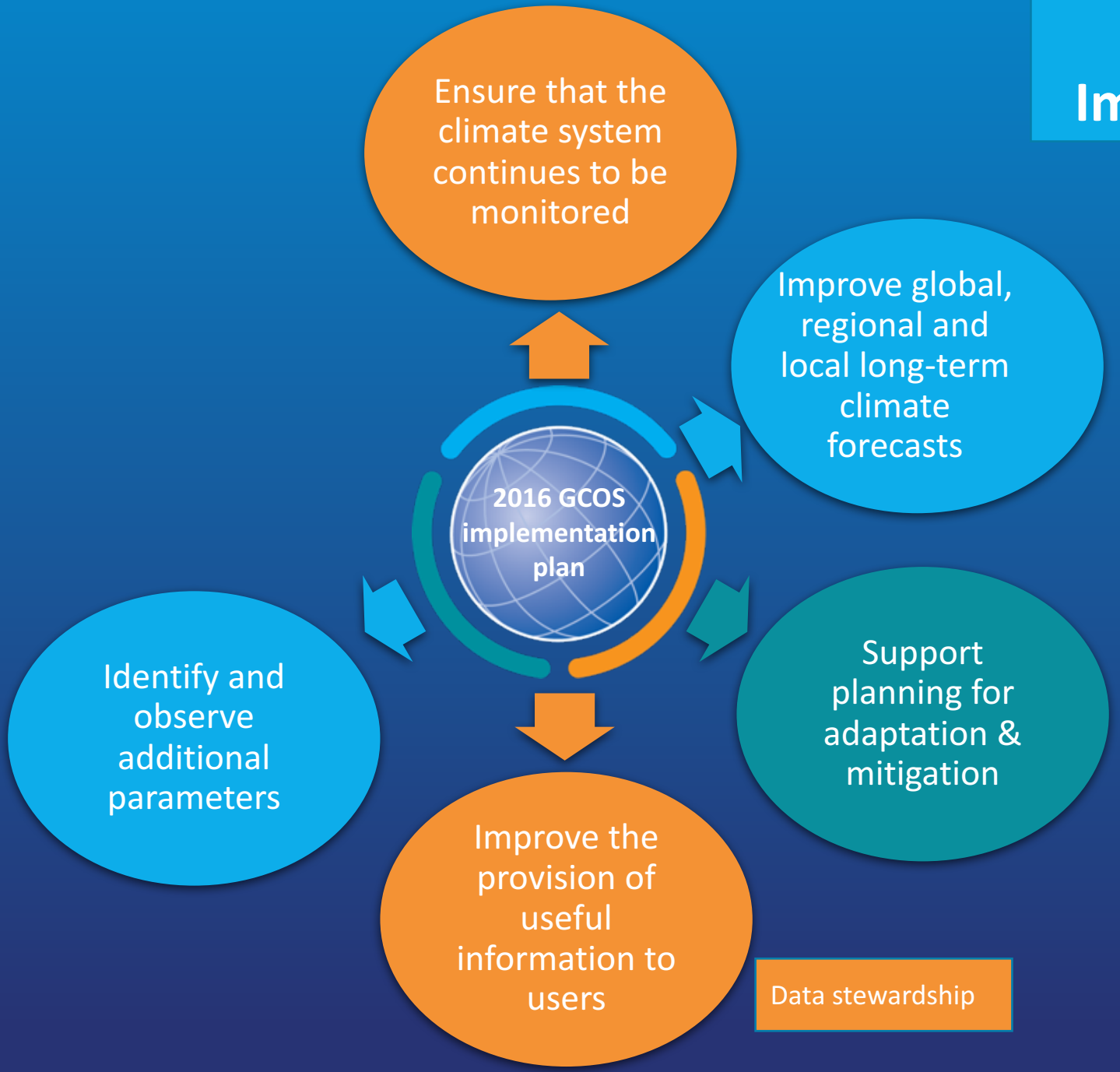
Data stewardship

Aims of the 2016 Implementation Plan



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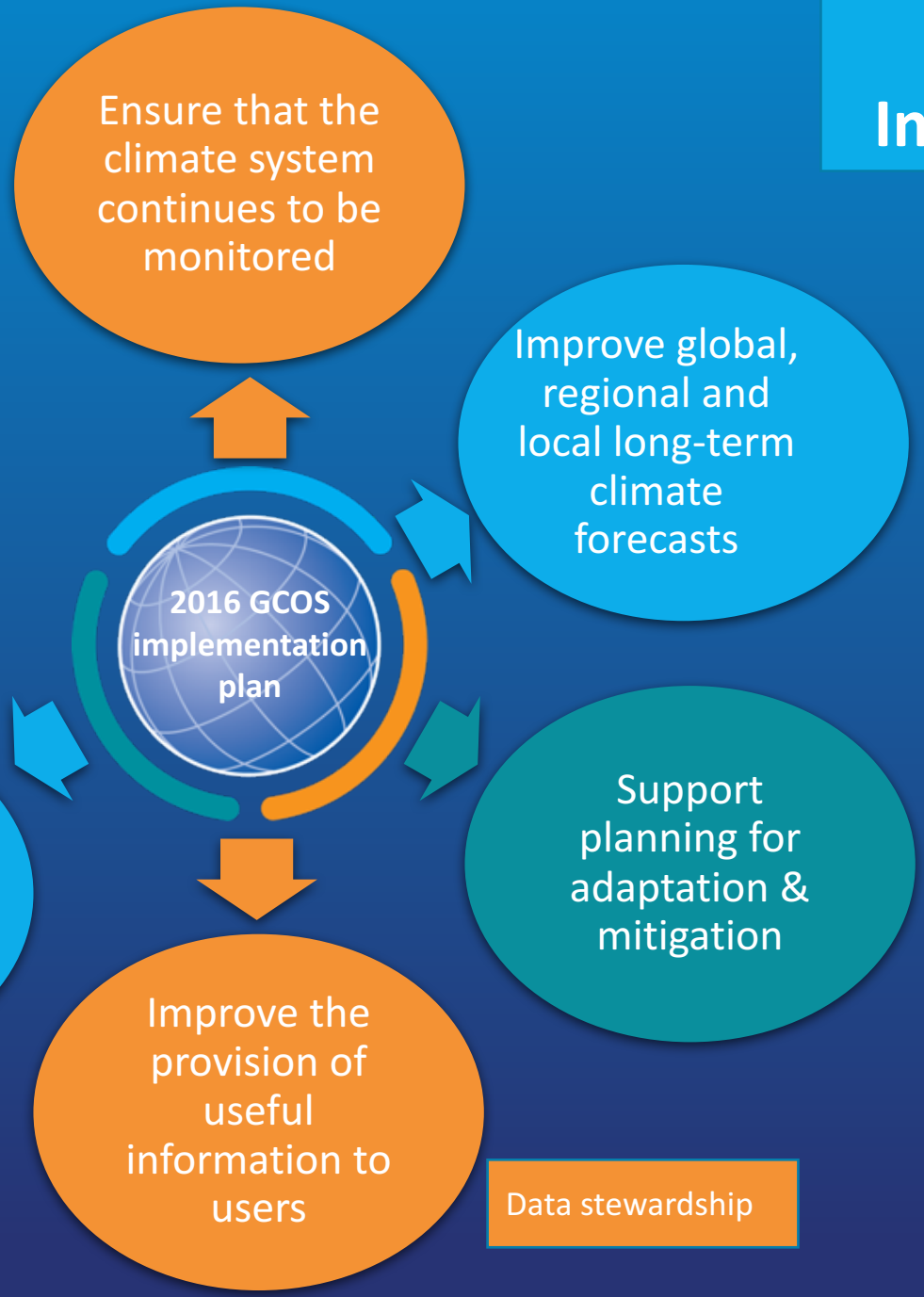

Filling gaps in network coverage
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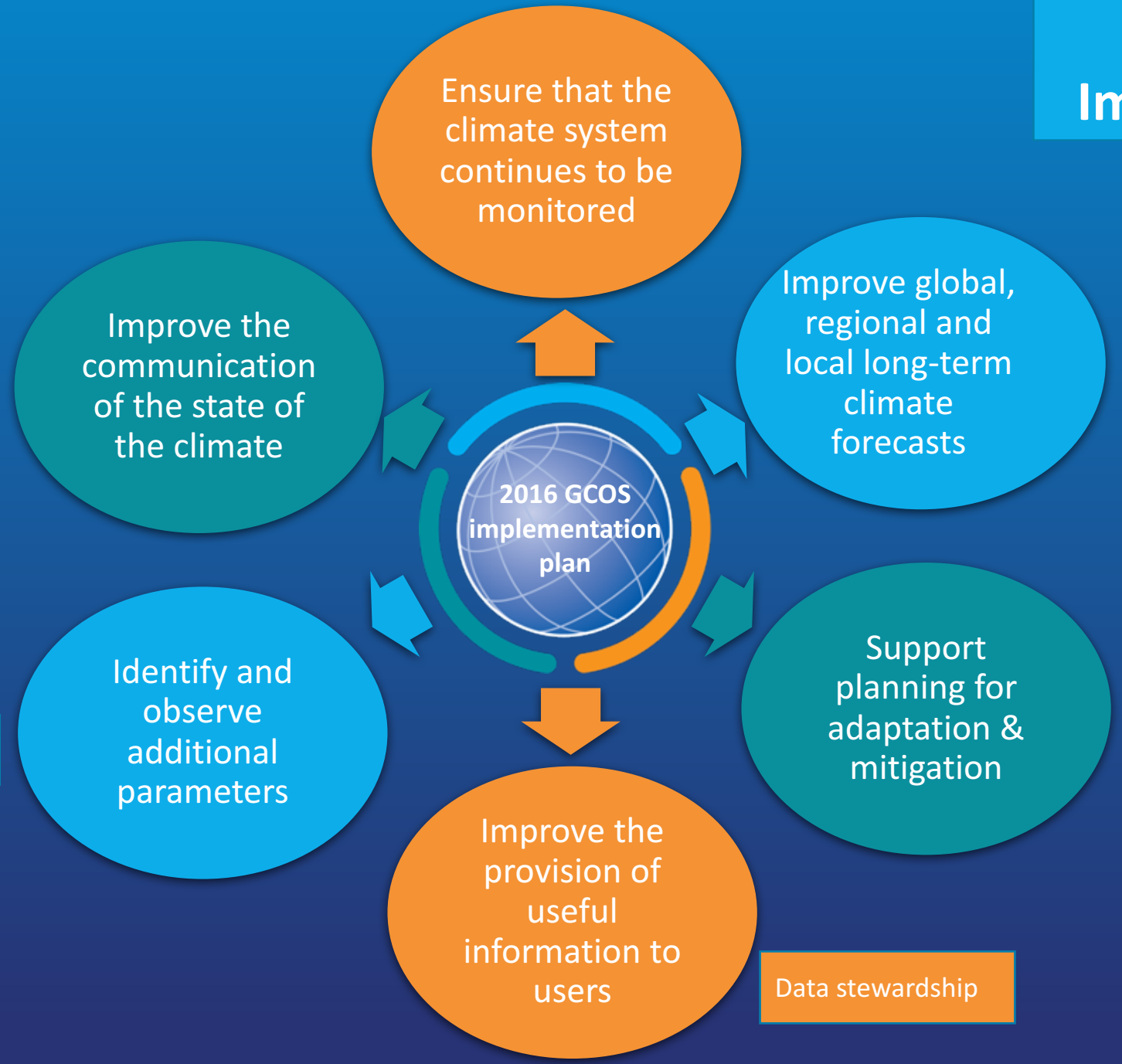
New ECVs

Data stewardship

Aims of the 2016 Implementation Plan



Filling gaps in network coverage
Refining ECV requirements
Addressing Global Climate Cycles

New ECVs

Data stewardship

Aims of the 2016 Implementation Plan

Communication Plans
Climate Indicators

Filling gaps in network coverage
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Addressing Global Climate Cycles

New ECVs

Data stewardship

Actions in the IP

20 General, Cross-cutting Actions

40 Atmospheric Actions

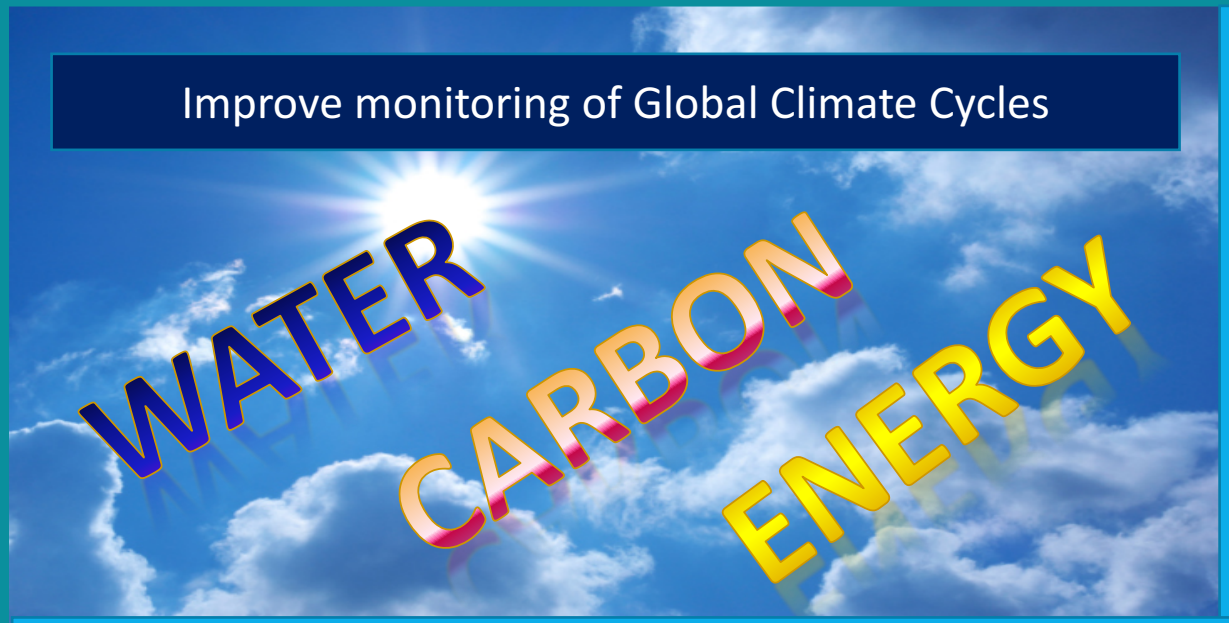
57 Ocean Actions

72 Land Actions

http://unfccc.int/files/science/workstreams/systematic_observation/application/pdf/gcos_ip_10oct2016.pdf

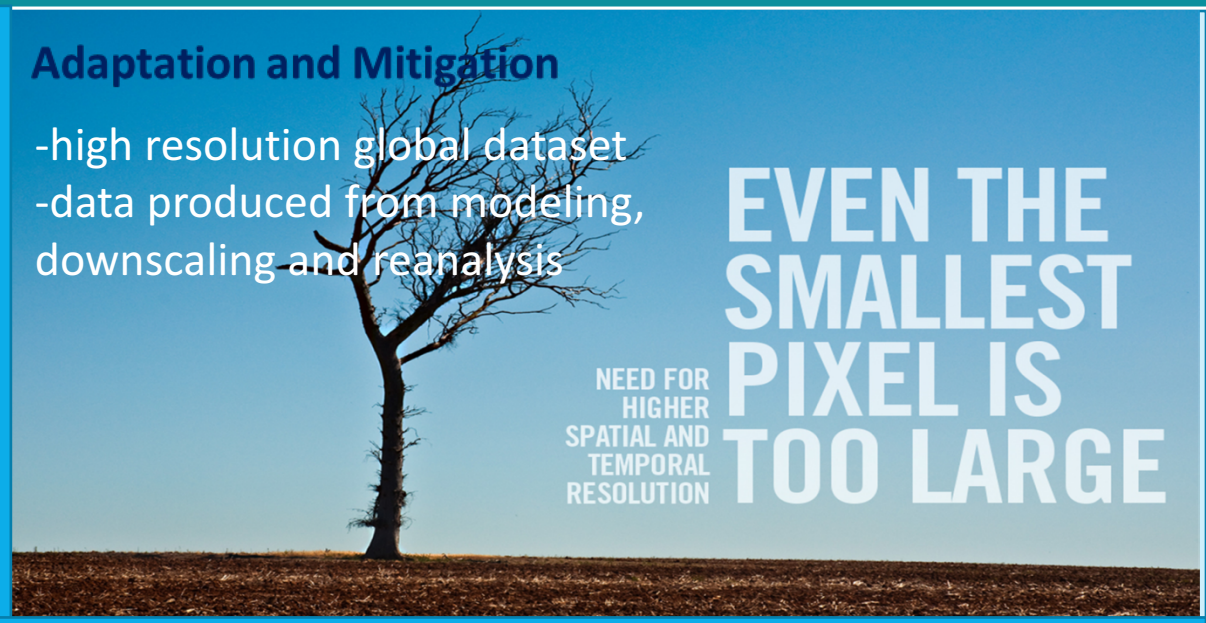
New in the IP

Improve monitoring of Global Climate Cycles



Adaptation and Mitigation

-high resolution global dataset
-data produced from modeling, downscaling and reanalysis



NEW ECV : Lightning - land surface temperature - ocean surface stress - ocean surface heat flux - marine habitat properties - oceanic nitrous oxide - anthropogenic GHG fluxes

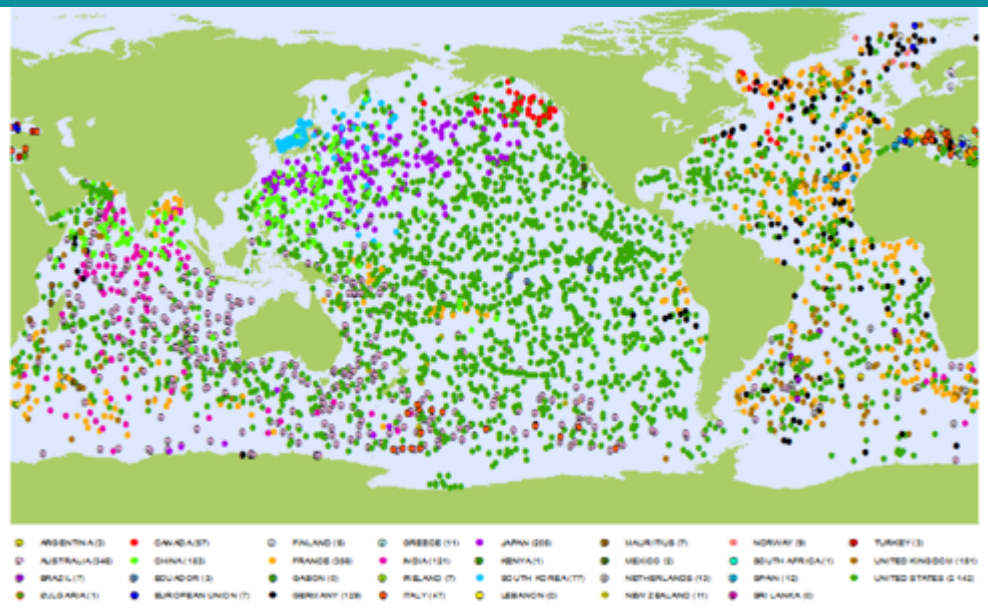
GCOS Cooperation Mechanism

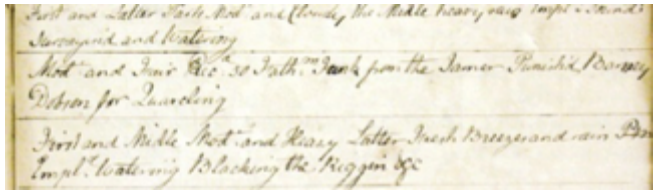
Emphasis on more help for networks in developing countries

Data Stewardship - vital for GCOS to be successful

Improve the provision of useful information to users

- Data Access and Stewardship
  - Open data policies (G15)
  - Metadata (G16)
  - Support to national data centres (G17)
  - Long-term accessibility of data (G18)
  - Data access and discoverability (G19)
  - Use of digital object identifiers for data records (G20)
  - Collaboration with WMO CCl on climate data management (G21)





Key Science Panel Activities

1: Adequacy

Review adequacy and availability of ECV monitoring (G11,12 &13)

- Use existing systems where they are available
- Need an annual process
- Need to involve other actors
- CEOS/CGMS WGClimate is doing this for satellite data records
  - *ECV Inventory*
- May need to consider capacity development needs

2: Requirements

Routinely maintain, review and revise list of ECV product requirements (G10)

- 3-year process (to be ready for update of Implementation Plan)
- Extensive public consultation and review
- Links to adaptation and mitigation needs and regional activities

3: Progress

Monitor progress on implementing actions in Implementation Plan

- An annual process for the panel
- Need to allocate responsibilities for each ECV

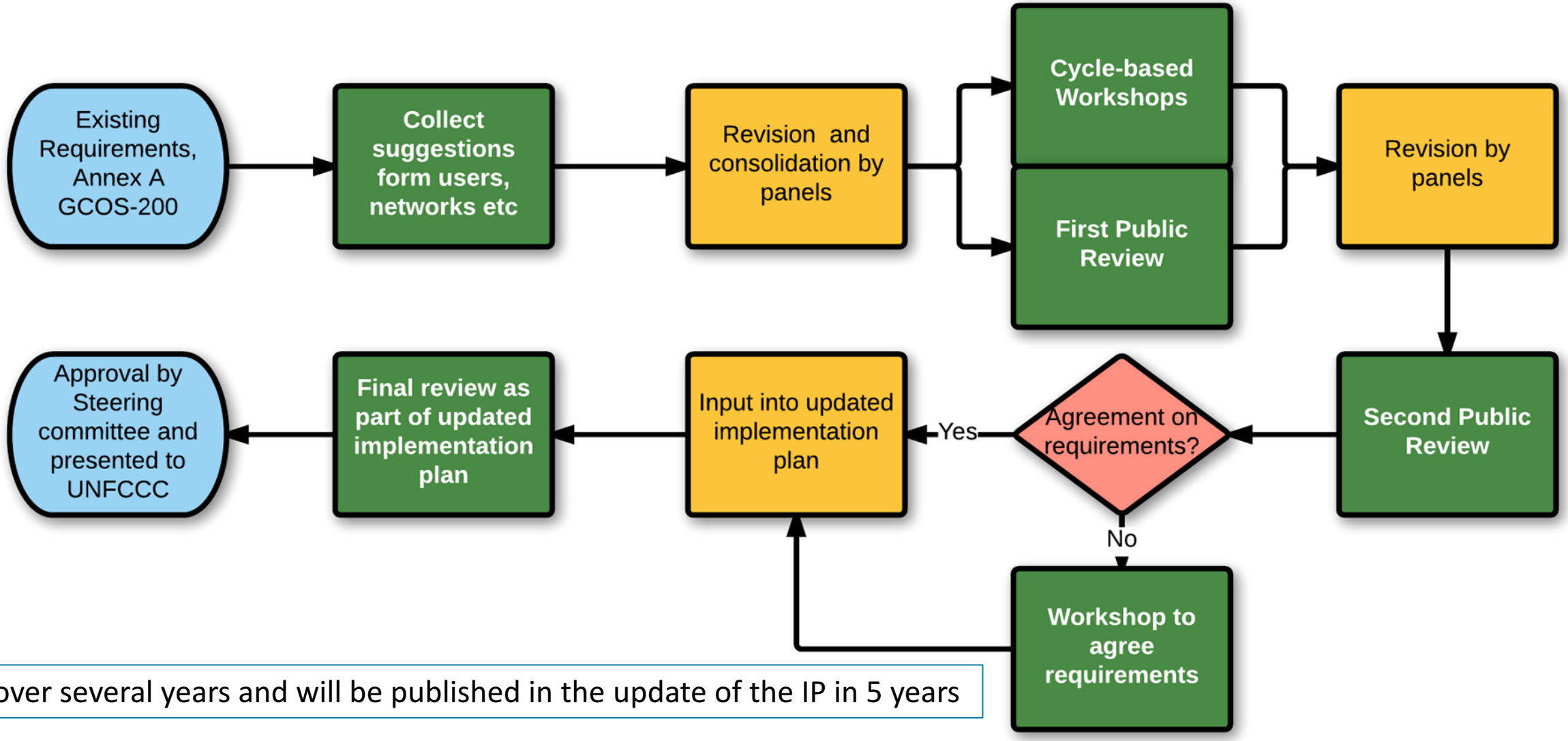
Routinely maintain, review and revise list of ECV product requirements (G10)

- **GCOS Implementation Plan 2016 presented ECV product requirements**
  - Covering all ECV products, not just satellite-based products
  - Used by the satellite community and will be entered in the OSCAR database for the Climate Application Area – Climate Monitoring
  - These were revised by panels
  - Review of the Implementation Plan

- **GCOS needs a formal process for the update in 5-years time**
- Aims
  - Make the process of preparing revised requirements open and transparent
  - Allow the whole community to feel involved in refining the requirements (Modelling groups, Lead authors of relevant IPCC chapters, CEOS/CGMS, Climate Services, GFCS, Copernicus, NHMS, Observing Systems – GOOS…)
  - Better understand how the requirements match user needs
  - Link to the targets for understanding climate cycles

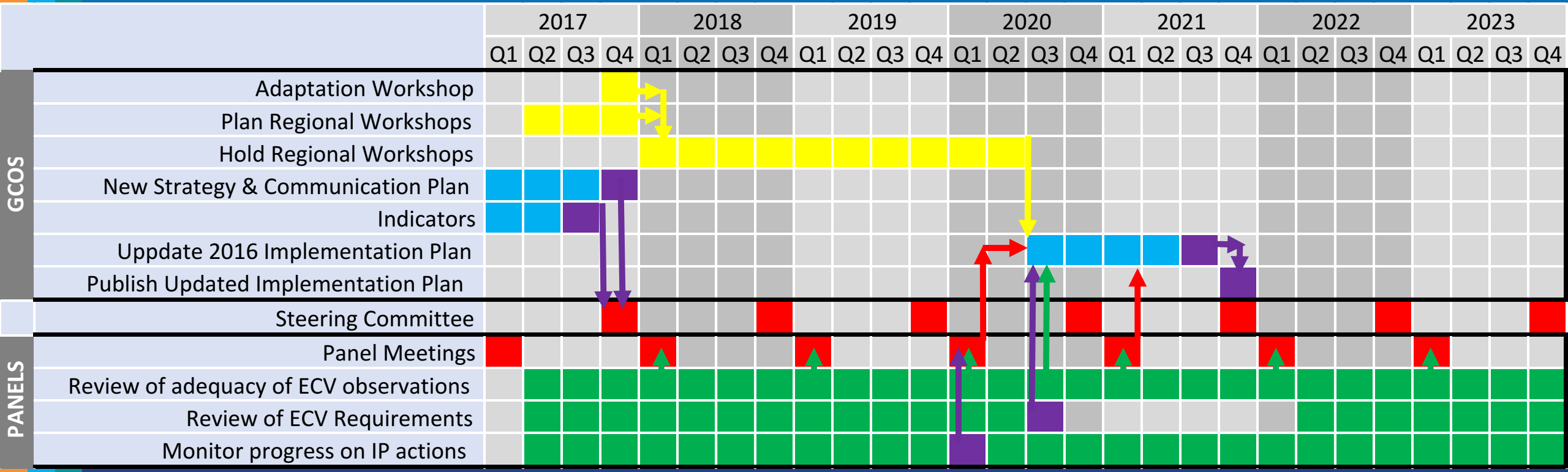
We invite all the scientific community to contribute in this process

Revision of the ECVs



over several years and will be published in the update of the IP in 5 years

Current Planning



The Global Observing System for Climate

Thank you

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