



Earth observations in support of the UNFCCC and its Paris Agreement

GCOS Joint Panels Meeting Marrakesh

Morocco 18-22 March 2019

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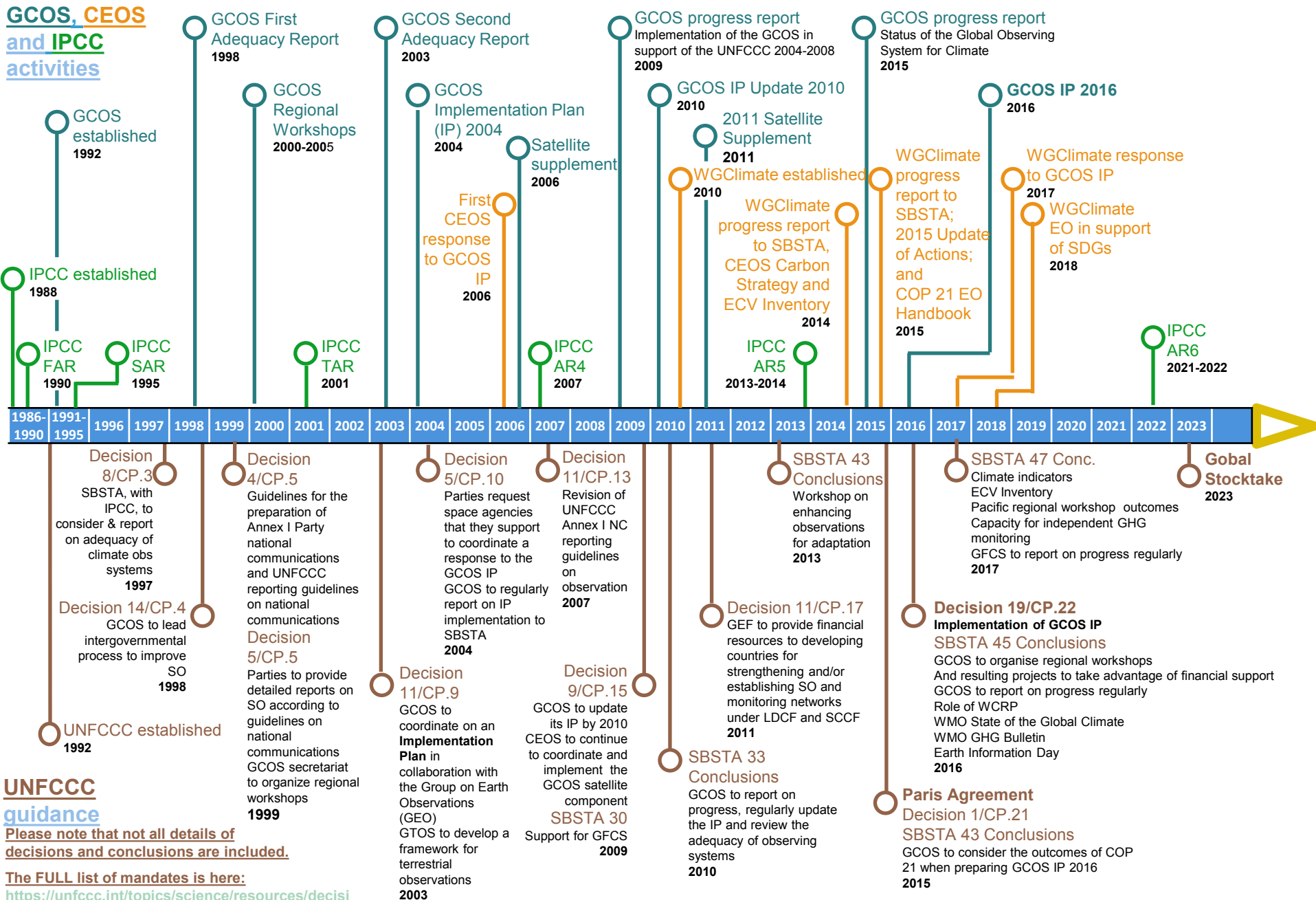
Programme Management Officer for Research & Systematic Observation

UNFCCC Secretariat



Systematic Observation under the Convention: The ongoing cycles of assessments, reports and guidance

GCOS, CEOS and IPCC activities

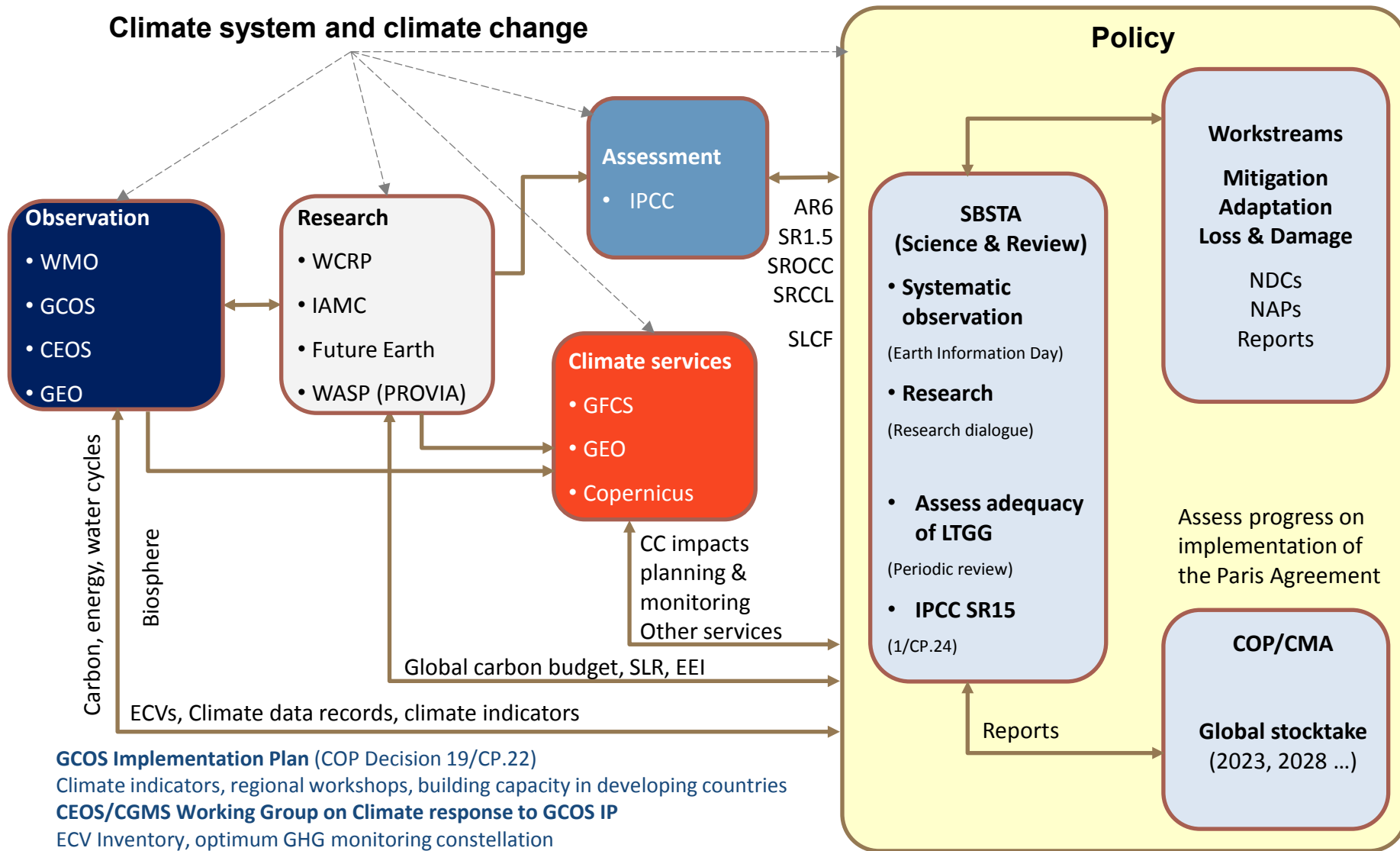


UNFCCC guidance

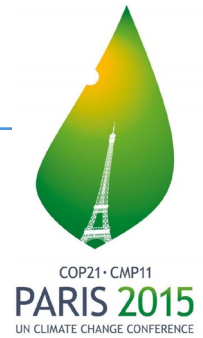
Please note that not all details of decisions and conclusions are included.

The FULL list of mandates is here:

<https://unfccc.int/topics/science/resources/decisions-and-conclusions-on-systematic-observation>



GCOS Implementation Plan (COP Decision 19/CP.22)
 Climate indicators, regional workshops, building capacity in developing countries
CEOS/CGMS Working Group on Climate response to GCOS IP
 ECV Inventory, optimum GHG monitoring constellation
WMO
 State of the global climate, GHG Bulletin,
 IG3IS, GFCS
 Collaboration between WMO/UNFCCC inc. regional centres
 Climate rationale



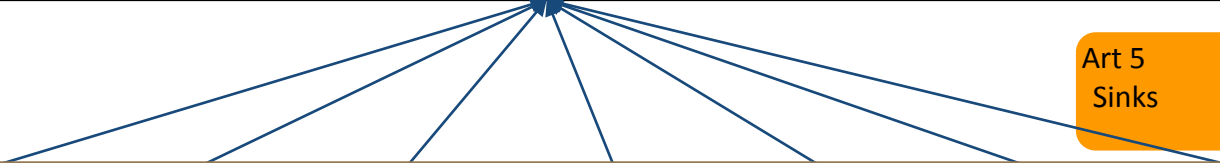
Art 2. Purpose
Mitigation – Adaptation – Finance flows



Art 3. Progression over time
All Parties to take and communicate efforts towards purpose

Art 5
Sinks

Art 6
Mechanisms



Article 7.7 on adaptation

“Parties should strengthen scientific knowledge on climate change, including research, systematic observation of the climate system and early warning systems, in a manner that informs climate services and supports decision making”

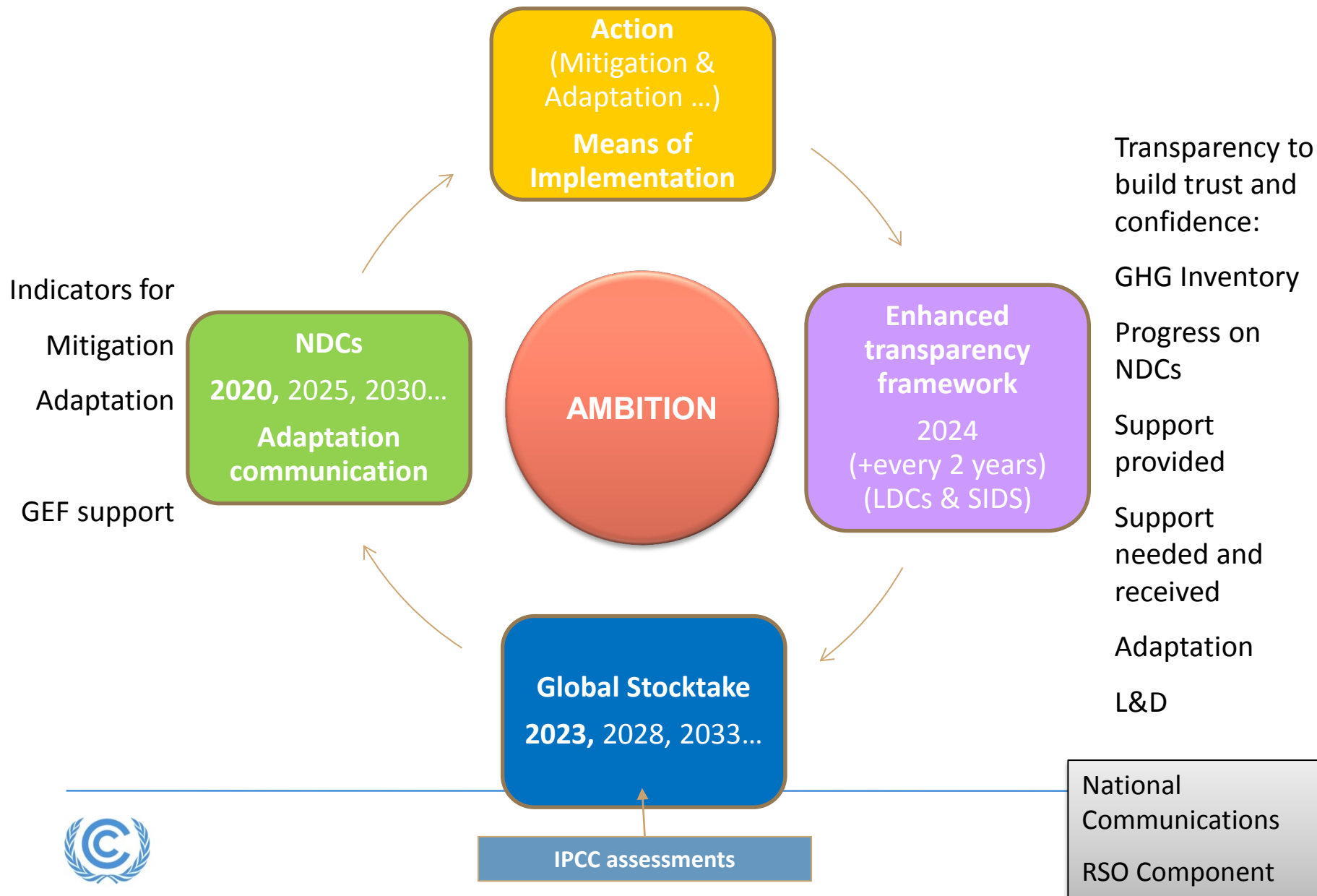
Inform action and support

Art 14
Stocktake every 5 years of collective progress towards purpose and long-term goals

The bottom-up, pledge and review, architecture is more important than where EO is mentioned in the Agreement



The ambition cycle: Together but flexible



1. Information collection and preparation
(Dec 2021/June 2022 until May 2023):

- SBSTA/SBI joint contact group
- Sources of input (19/CMA.1, para 37 - synthesis reports by secretariat, Party reports, relevant reports from UN and other organizations supportive of the UNFCCC process etc ...)

2. Technical assessment
(2-3 sessions before CMA 6 = June/Nov 2022) and Technical dialogue

3. Consideration of outputs (CMA 6, 2023)
-> identify opportunities for enhancing efforts, challenges, good practices, and political messages

CMA considers to refine logistical and procedural elements after each GST,
19/CMA.1, para 15





EO support for Paris Agreement Implementation

In on-going efforts targeting systematic observations of climate and its manifestations

- GCOS Implementation Plan 2016, CEOS response to IP2016
- Continue to identify needs, gaps and support sustained observations (regional workshops, ECV inventory) and support access to data
- Increase understanding of relevant global weather phenomena, such as El Niño and La Niña, Indian monsoon

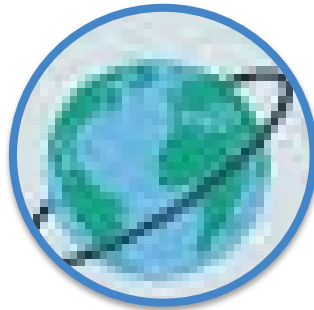
Importance of EO / ECVs / data / services

Mitigation, adaptation and loss and damage

- Scale-up regional and national activities (regional centers, GHG emissions, climate services for adaptation/ NAPs, downscaling, reanalysis)
- Support data exchange between national – regional – global (top-down v bottom-up)
- Support adaptation planning, implementation and monitoring and evaluation

Continue to scale up regional and national support for mitigation / adaptation / L&D

Science, research,
systematic observation



Research dialogue,
IPCC collaboration,
review...

Knowledge and
assessment



Nairobi work
programme

Planning and
Implementation



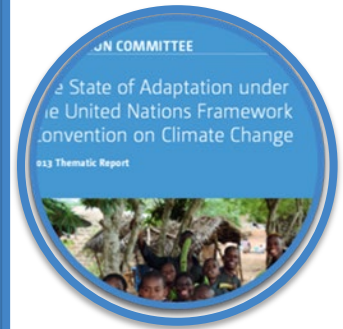
National
adaptation plans
(NAPs)

Addressing
residual risks



Warsaw
Mechanism on Loss
and Damage

Institutional
support



Adaptation
Committee
L&D Excom
LEG

Stakeholder engagement and regional cooperation

Finance, Technology and Capacity Building





EO support for assessing progress: Mitigation

- All Parties submit their first biennial transparency report by end of 2024 (LDCs and SIDs submit at their discretion) – together and flexible
- Reporting on action - reducing the uncertainties of national GHG inventories (IG3IS, land use, REDD+, ?blue carbon?)
- Working with statistical offices on inventories and indicators
- Increasing mitigation ambition:
 - Estimating emissions in cities and identifying opportunities for further reductions
 - Estimating emissions of specific sectors and identifying opportunities for further reductions

Assist countries reduce uncertainties to provide accurate GHG inventories (PA 13.7) and long-term low GHG emission development strategies (PA 4.19)

Decision 18/CMA.1

Paragraph 66. Mitigation indicators could include

- Net GHG emissions and removals, percentage reduction of GHG intensity, relevant qualitative indicators for a specific policy or measure, mitigation co-benefits of adaptation actions and/or economic diversification plans or other (e.g. hectares of reforestation, percentage of renewable energy use or production, carbon neutrality, share of non-fossil fuel in primary energy consumption and non-GHG related indicators).



EO support for assessing progress: Adaptation

What is necessary to track progress on adaptation such as reduction of vulnerability?

- Setting a baseline for adaptation to monitor change
- Frame in a manner that policy makers understand
- Responsive to the physical science, e.g. temperature, support planning
- Simple and consistent, such that trend lines can be established to assess progress
- Aggregable to assess national progress

SECTORS		HAZARDS (risk and probability)	
Agriculture	<ul style="list-style-type: none">• % agricultural land vulnerable to drought, floods• ...	Droughts	<ul style="list-style-type: none">• Agricultural;• Hydrological;• Meteorological• ...

Decision 18/CMA.1,

para. 113 (c) Assessment of and indicators for:

- (i) How adaptation increased resilience and reduced impacts;
- (ii) When adaptation is not sufficient to avert impacts;
- (iii) How effective implemented adaptation measures are.

Assist countries track adaptation (PA 7.10-14)

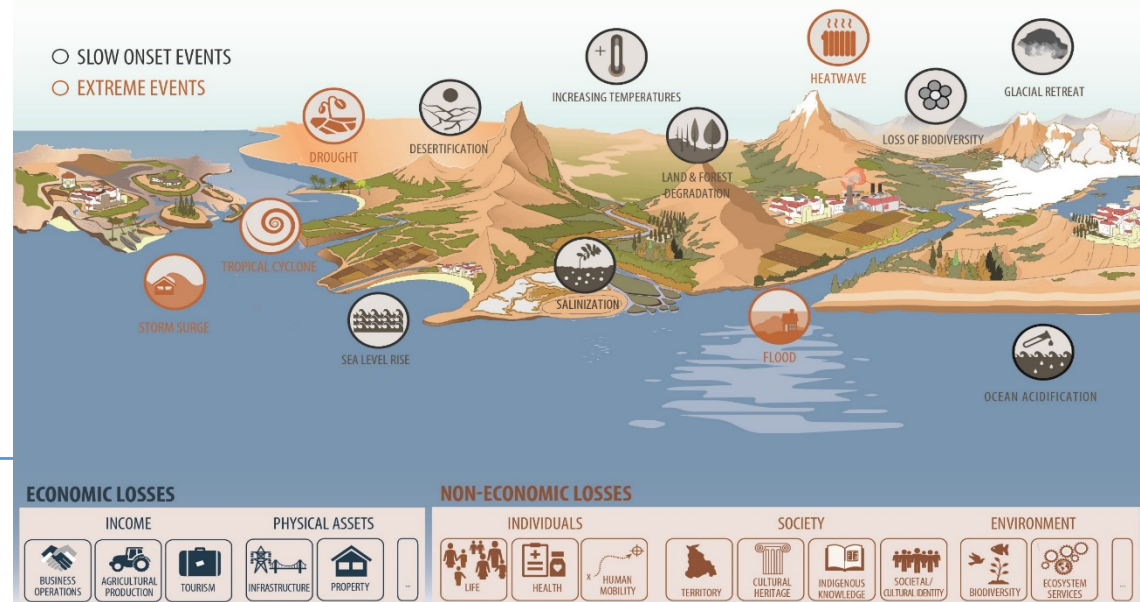
EO support for assessing progress: Loss & Damage

- Support progress to avert, minimize and address loss and damage associated with the adverse effects of climate change (e.g., WMO categorization of extreme events)
- How to aggregate for GST?

Assist countries through support on loss and damage information (PA8.4)

LOSS AND DAMAGE ASSOCIATED WITH THE IMPACTS OF CLIMATE CHANGE

United Nations
Framework Convention on
Climate Change





EO support for assessing progress: GST

- State of the global climate (WMO) (GHG bulletin, GCP, UNEP GAP report, ...)
- Climate indicators (GCOS)
- Ocean-related information?

EO can support the GST including through
Assessment of progress towards the long-term goals -
Provision of information on GHG concentrations, global warming,
vital signs / climate indicators, ecosystems
Consistency in base lines / methodologies



Things to look forward to

19-21 March	15th meeting of the Adaptation Committee (Data for adaptation technical paper)	Bonn, Germany
8 -12 April	NAP Expo @ Korea Global Adaptation week and Adaptation Forum	Korea
17-27 June	SB50 Eleventh meeting of the research dialogue (Energy transformation / Resilience / Extreme events / Ocean & coastal zone) SBSTA/IPCC event on 2019 Refinement to the 2006 IPCC Guidelines	Bonn
23 September	UN Climate Summit	UN Headquarters, New York
23-27 September	16th meeting of the Adaptation Committee	Bonn, Germany
2-13 December	COP 25 Earth information day (submissions) SBSTA/IPCC special events on SROCC and SRLCC	Santiago, Chile



Thank you!

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