

# Leading WCRP into the Future

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METEOROLOGICAL  
ORGANIZATION



United Nations  
Educational, Scientific and  
Cultural Organization



Intergovernmental  
Oceanographic  
Commission



International  
Science Council



# The Future of the World Climate Research Program



## The Vision

A world that uses sound, relevant, and timely climate science to ensure a more resilient present and sustainable future for humankind.

## The Mission

Coordinate and facilitate international climate research to develop, share, and apply the climate knowledge that contributes to societal well-being.

[www.wcrp-climate.org/wcrp-sp](http://www.wcrp-climate.org/wcrp-sp)

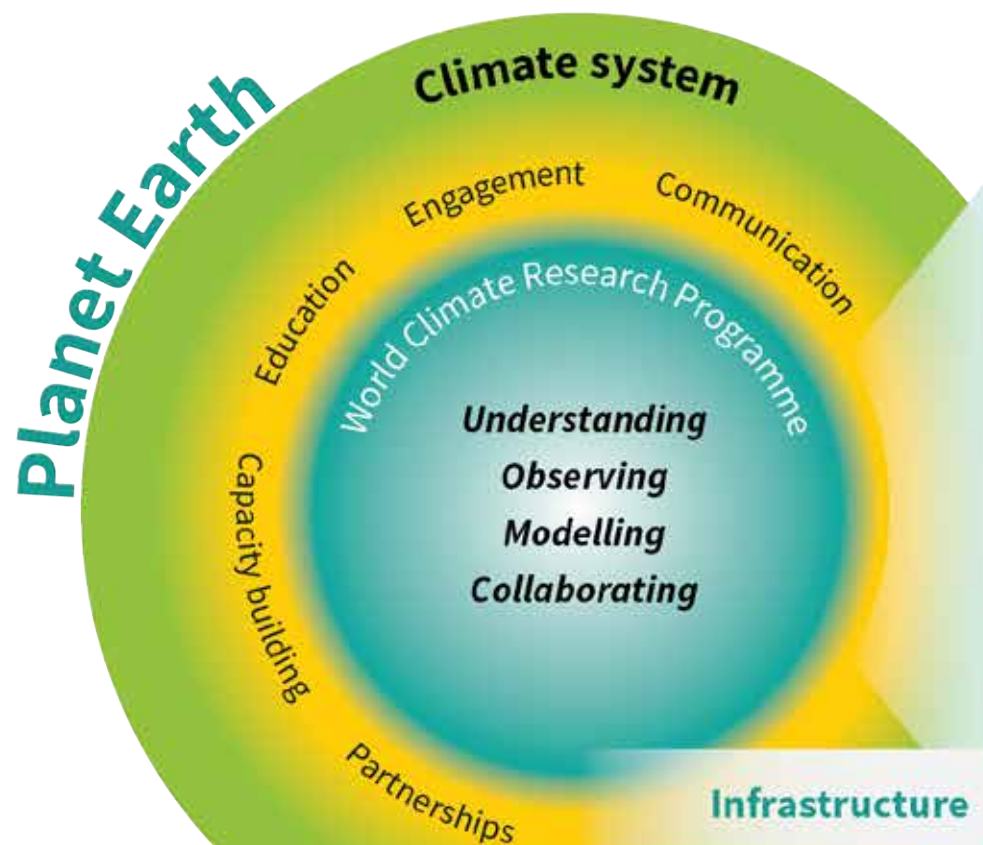


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# WCRP Strategic Plan: Overview



## Scientific Objectives

<b>1</b>	<i>Fundamental understanding of the climate system</i>
<b>2</b>	<i>Prediction of the near-term evolution of the climate system</i>
<b>3</b>	<i>Long-term response of the climate system</i>
<b>4</b>	<i>Bridging climate science and society</i>



- A hierarchy of simulation tools
- Sustained observations and reference data sets
- Need for open access
- High-end computing and data management

[www.wcrp-climate.org/wcrp-sp](http://www.wcrp-climate.org/wcrp-sp)



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# Path toward Implementation

The transition from our current functioning WCRP into a new WCRP requires:

- A transparent «bottom-up» approach involving the entire community
- Identifying high-level Science goals; and the key actions required to reach them and to ensure strong “buy-in” from the community
- Identifying those Elements of a new WCRP that are required to put the WCRP Strategic Plan into action, including:
  - structures, milestones, deliverables, resources, measures of success, risk assessment



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# WCRP Implementation: Progress

## Implementation and Transition Meeting, 4-5 May 2019

- Representatives of the WCRP community discussed how to implement the WCRP Strategic Plan
- Identified a Conceptual Framework for a new WCRP that is fit-for-purpose, has an effective governance, sufficient resources, budgets and finance management

## WCRP Joint Scientific Committee (JSC-40), 6-10 May 2019

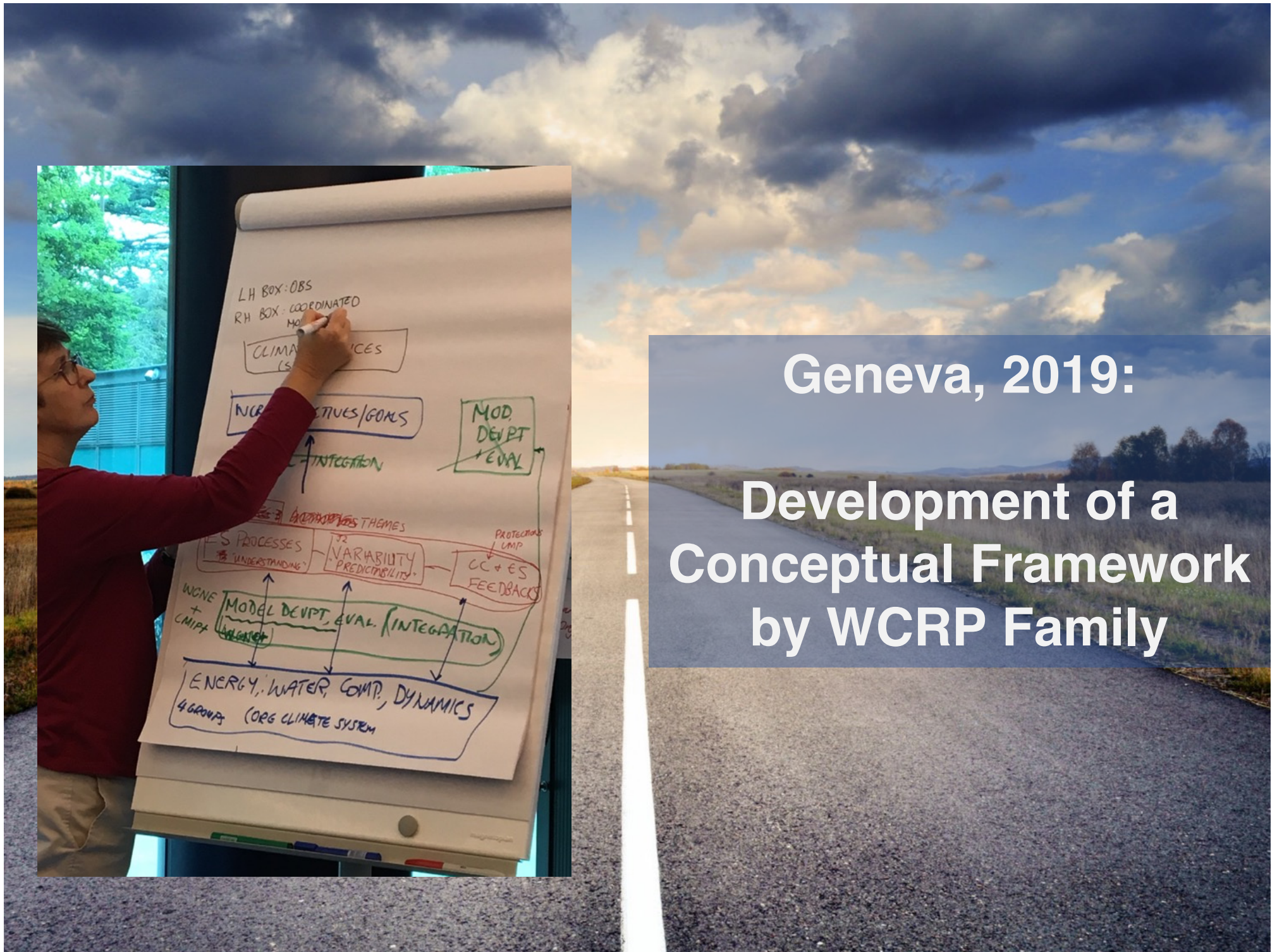
- Further discussion and refinement; with main outcomes of:
  - Engagement, dialogue and discussion with partners, agencies and sponsors
  - Agreement on implementation and transition road map



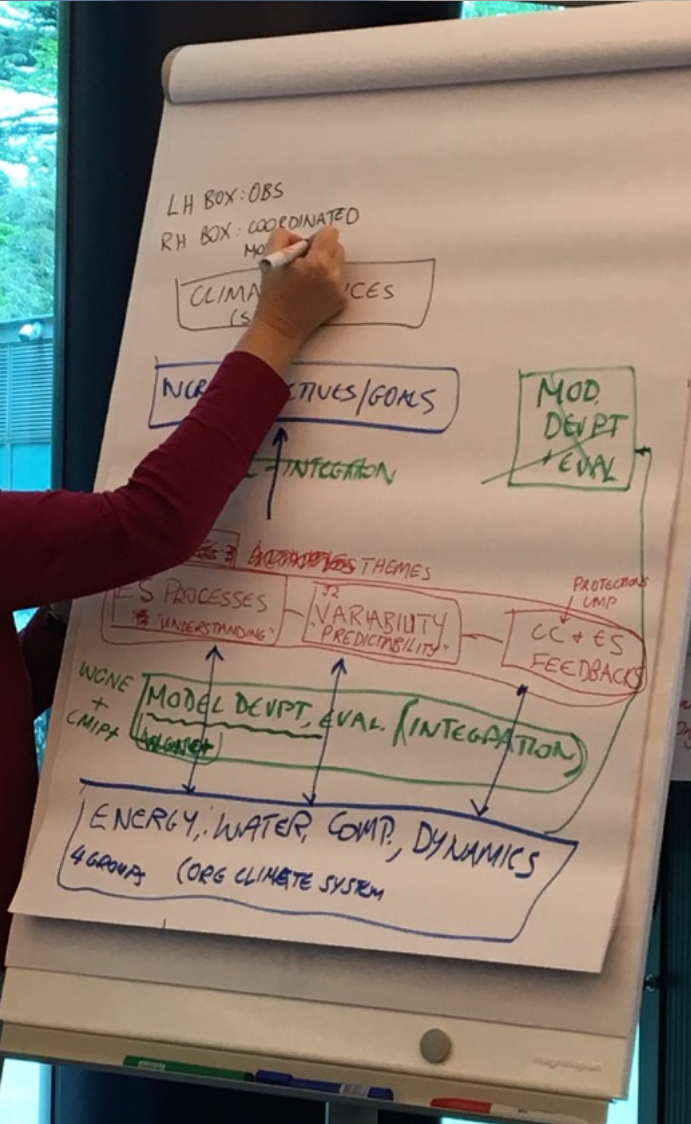
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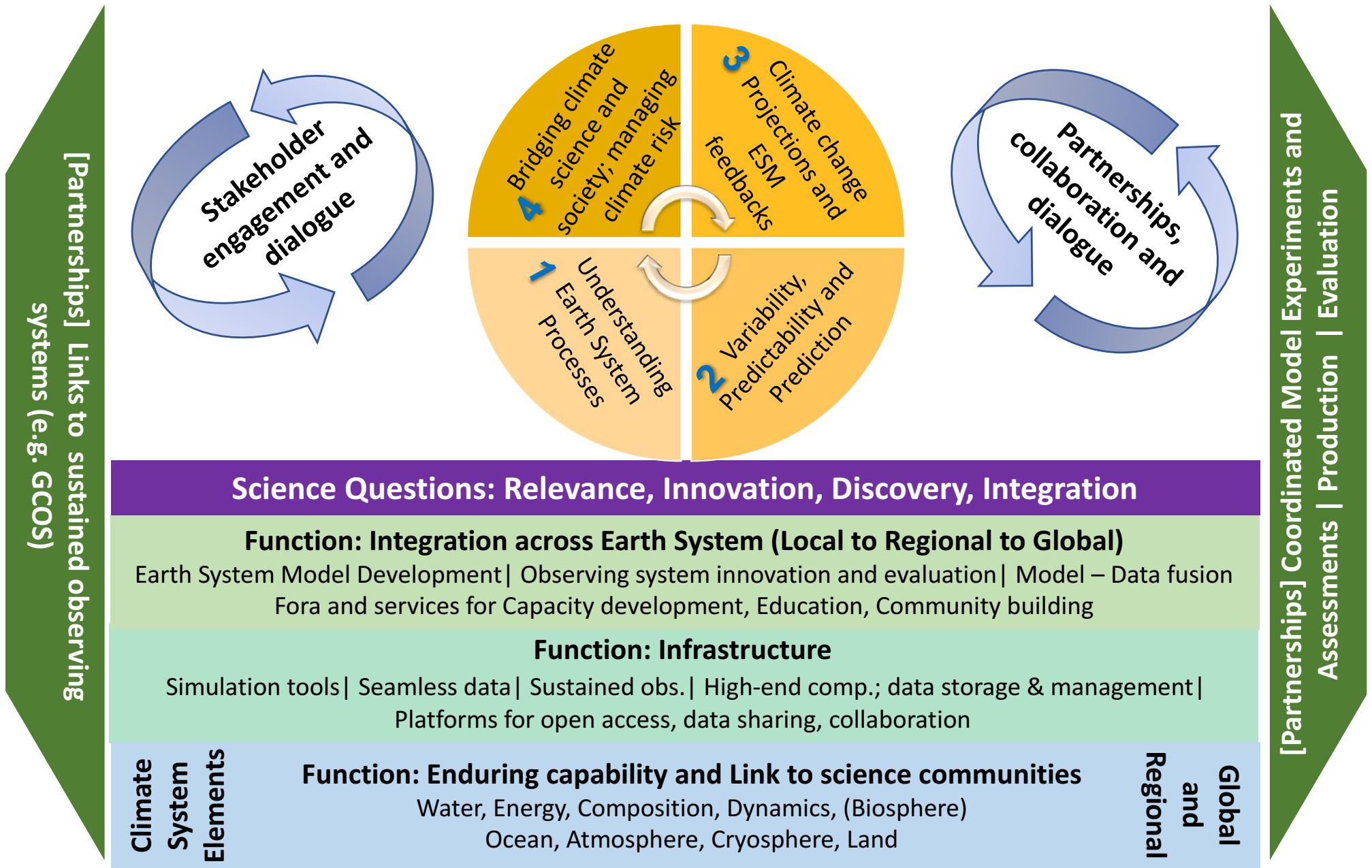




Geneva, 2019:  
Development of a  
Conceptual Framework  
by WCRP Family



WCRP Mission: to coordinate and facilitate international climate research to develop, share, and apply the climate knowledge that contributes to societal well-being





# Implementation Plan: Roadmap

**Initial planning and conceptualizing**  
Implementation and Transition Meeting and 10th Session of the Joint Scientific Committee (JSC-40)  
May 2019

- Consolidation:
- Questions and framework
  - Partner & stakeholder consultation
  - Funder and sponsor consolidation

Drafting Implementation: Phase 1.

AGU: Community consultation of WCRP Framework  
December 2019

**Agreement on Implementation Plan Phase 1:**

- Science questions and conceptual framework
- Key elements for delivery and engagement
- Science, funding and infrastructure needs.

JSC-41  
April 2020

**“Elements” Workshop:**  
Finalize Phase 1  
Brainstorming for Phase 2  
March 2020

**Science Questions Workshop:**  
February 2020

Consultation regarding new structure and governance

**Decision on Phase 2 and beginning of transition**  
(JSC-42)  
April 2021

Synthesis of core activities

Transition

**Agreement on Implementation Plan Phase 2**  
(JSC-43)  
April 2022



# Community Consultation

- Task Teams on Regional Activities, Modelling and Data
- Consultation with funding agencies.
- Interaction with WWRP/GAW and other partners
- Integration into new WMO, ISC, IOC
- Interaction with Future Earth and Belmont Forum:  
Landscape discussion



# Next Steps

- February 2020: WCRP High-level Science Questions and Flagship Workshop
- March/April 2020: WCRP Elements and Structure Workshop



# Implementation Plan

# Elements

- Defined lifetime [start and end] milestones and deliverables
- Joint, and co-designed, with Partners in/outside WCRP
- Deliver to WCRP Strategic Goals, Science Questions
  - Relevant, integrative, credible
  - Global collaboration

Research Projects

Conferences, Workshops, WCRP Fora

**Enduring capability, People and Science**

Evaluations  
Intercomp's  
Benchmarking  
Standards

Fora to engage and empower ECRs and Regional Partners

Reference data sets  
(observed, modelled)

1. Regular Syntheses, Assessments and Gap Analyses

2. Rapid Assessments and Reports



# High-level Science Questions are central

Considering all scales

How to improve climate modelling and process understanding?

Aggregation and scaling

Aerosols

What is the impact of different forcings?

How can we better understand climate sensitivity?

What fundamental science is needed?

How can we communicate uncertainty better?

Parameterization

How can we make predictions more useful and relevant to society's needs?

How can we improve climate predictions?

Disruptive technology

What opportunities do new technologies provide?

What will happen in the high latitudes?

What will be the impact of Geoengineering?

Is response action needed?

What does society need to know?

Data-model fusion

What can we expect in regional climate hotspots?

Attribution

Prediction

What will happen to low-lying islands?

How will climate extremes occur in the future?

Evolution

How will reservoirs change in the future?

Heat

What is the interaction between climate and development trends?

Urbanization

Carbon

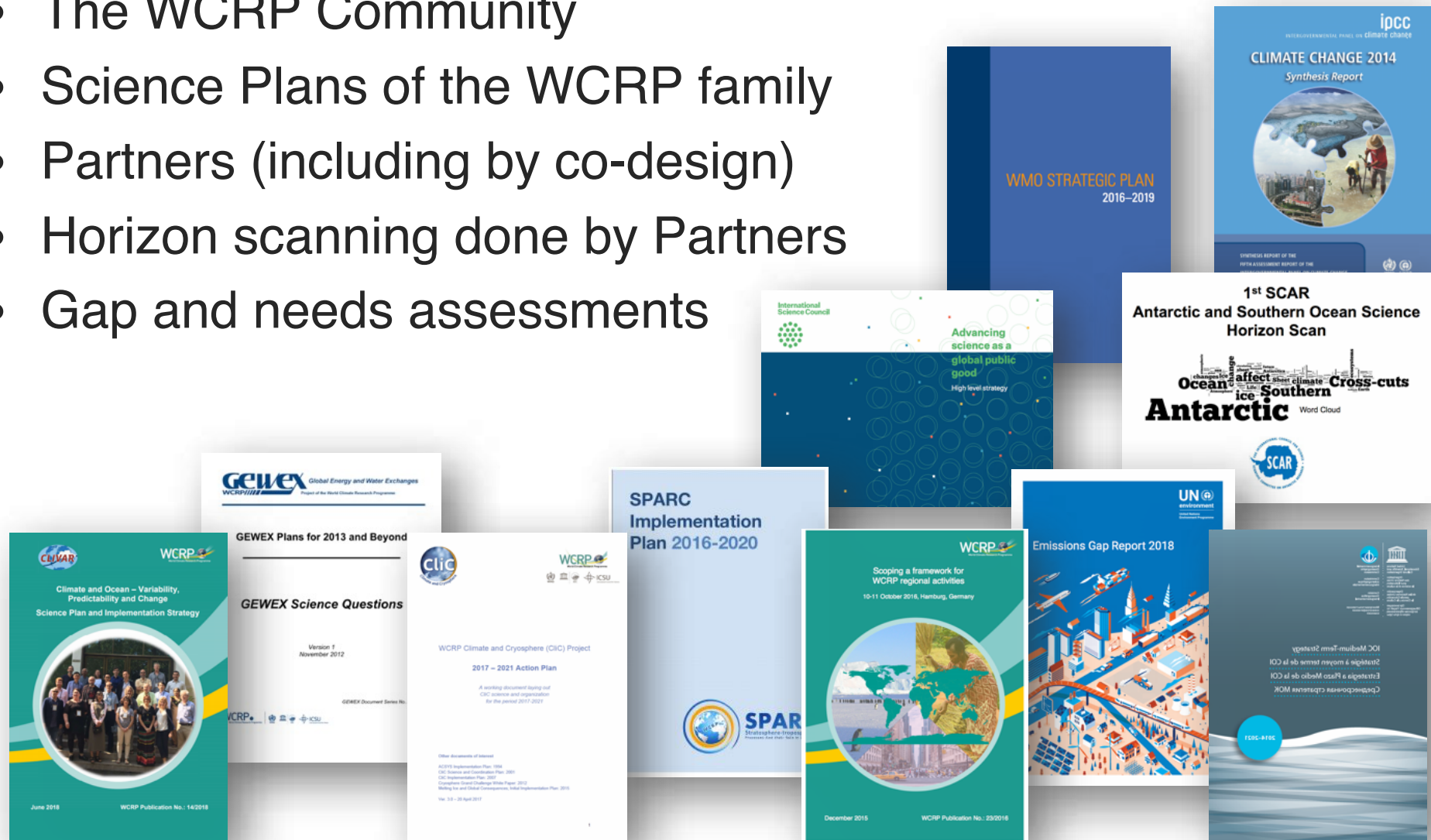
Water

Land-use Change

# Refining Science Question areas

We will refine science question areas via consultation with:

- The WCRP Community
- Science Plans of the WCRP family
- Partners (including by co-design)
- Horizon scanning done by Partners
- Gap and needs assessments



# Implementation Plan: Roadmap

## Mid to end 2020:

### JSC-41: Approval of WCRP Implementation Plan:

- High-level science questions and flagship product
- Elements of the new WCRP
- Collaboration landscape and interfaces to partners
- Governance
- Financial plan

## After JSC-41:

- Request from Sponsors for approval of plan
- Writing of WCRP Implementation Plan
- Community and agency outreach, including fundraising



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Detlef - Did you want to add a final visionary slide/statement?



WMO



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World Climate Research Programme

**Thank You**



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# Implementation Plan Elements

## Research Projects

- Lifecycle (start and end) with a clear timeline and deliverables
- Joint and co-designed with Partners outside WCRP
- Deliver to Strategic Plan Objectives
- WCRP attributes: Integration; Scale; Relevance; Climate Change; Discovery and Innovation

Jointly through dialogue and co-design

Conferences, Workshops, WCRP Forum

**Enduring capability - people:  
Climate System Elements  
Infrastructure and Integration**

Projects and fora to engage and empower ECRs; and regional partners: part of the WCRP family

Regular Syntheses, Assessments, Gap Analyses Rapid Assessments and Reports

Reference data sets (observed, modelled)

Evaluations, Inter-comparisons, Benchmarking, Standards

Coordination

Educational services and activities

Stakeholder engagement and outreach

Capacity building and communication