



Space Climate Observatory

Séminaire THEIA
17 octobre, Agropolis International, Montpellier



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SWOT and SWOT downstream program manager



Space Climate Observatory

International framework

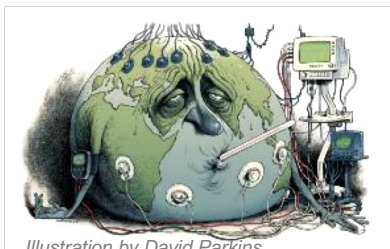


Illustration by David Parkins
Nature 514, 30–31, Oct. 2014



SCO - Séminaire THEIA - Montpellier
Octobre 2018



Octobre 2016



One Planet Summit
Paris, 12 December 2017



One Planet Summit – Paris, December 11th, 2017

International framework

Paris Declaration “Towards a space Climate Observatory”

- “The heads of the world’s space agencies have proposed the creation of a **Space Climate Observatory (SCO)** to act as a hub between space agencies and the international scientific community.”



French Government Identifies 12 key One Planet Commitments



Creation of a Space Climate Observatory

Instigated by the French Space Agency, a Space Climate Observatory has been created in order to provide States and the scientific community with all the space data necessary for monitoring the health of our planet. This initiative is supported by all European space agencies, as well as other States including China, India, Russia, Mexico, Morocco and the United Arab Emirates. Access to interoperable space-based earth observation data will be a significant step forward in the earth monitoring system.



“Space Climate Observatory”

*A world observatory of
the climate change and its impacts
from Earth Observation data*

❖ Satellite data

» Earth observations at global, national and territories level

❖ Climate change and its impacts

» Humankind, both as anthropogenic causes and as the victims of their impacts (temperature increase, sea level rise and hazards)

❖ a joint Observatory

» A World Heritage system

❖ <http://spaceclimateobservatory.org>

Scope



Monitoring climate change

- Atmospheric CO₂ concentration,
- Global temperature, Clouds and Precipitation change,
- Sea level rise, Droughts and floods...



Tracking the impacts of climate change

- Environmental impacts
- Social and human impacts
- Biodiversity reduction
- Economical costs



Mitigating and Adapting to climate change

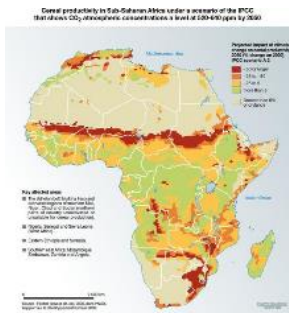
- Resources: land use, agricultural practices, relocation, water use...
- Population: Migration of people, food security...
- Socio-economic development paths



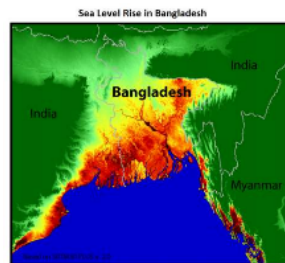
Country, sub-national / Territorial Stakes

Climate Change Impacts

Continental scale



Country scale

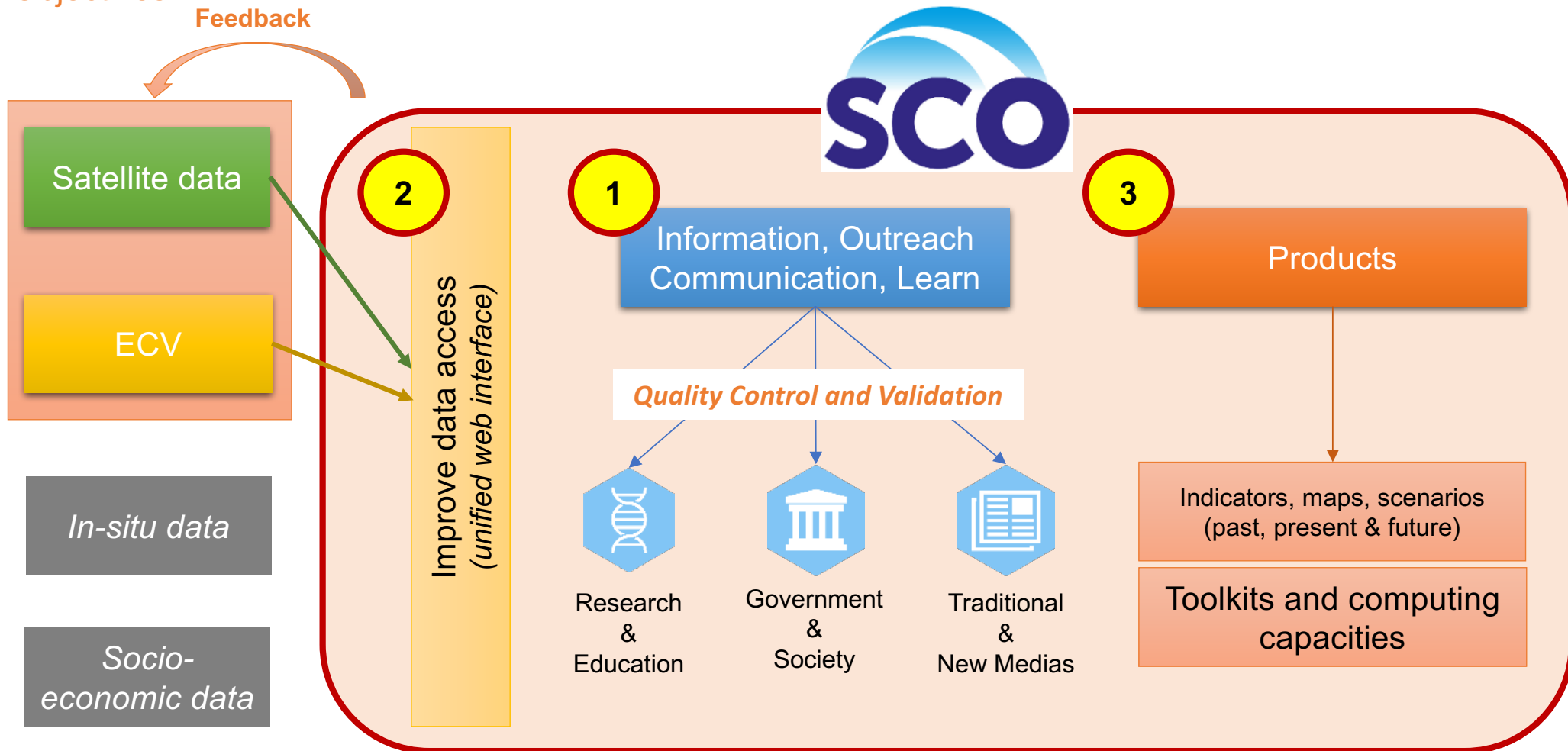


Territorial scale



- ❖ Climate change impacts are worldwide but there are also specific impacts at **national, sub-national and territory levels**
- ❖ Need to implement attenuation and adaptation policies
 - Decision Making
 - Meaningful stakeholder involvement
- ❖ Public access to data, tools and knowledge products
 - Countries and territories level involvement
 - A need for indicators and derived space products: specific needs
- ❖ Need to marshal our forces through collaboration, partnerships, knowledge networks
 - Co-construction (bilateral and / or multilateral cooperation)

Objectives



1 – Information, Outreach Communication, Learn



Objectives

- An easy access to public information related to climate change and its impacts (*content curation*)
- A qualified and controlled information
- Improve the dialogue between scientists, policies and Society

Solution(s)

- Centralized Information
- Specialized "Wikipedia"
 - » Collaborative
 - » Up to date
- Other means ...

2 – Data access



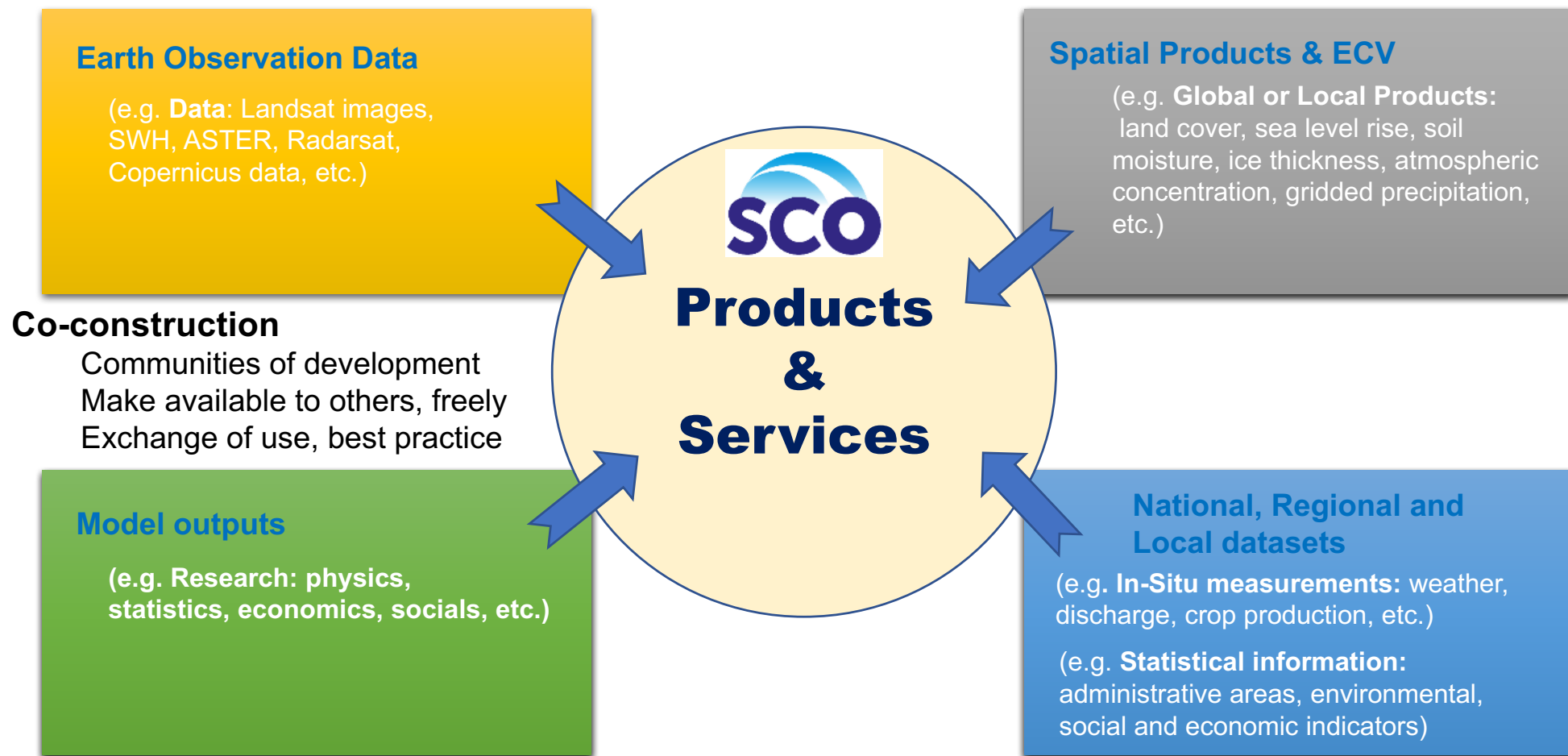
Findings

- A lot of data accumulated, but not always known (*aimed to reach larger communities*)
- Complex data access
 - » Multiple identification needed
 - » Spatial selection not always available and to be repeated
- “Classic” search engines are not suitable (non-thematic / semantic) (*data curation*)

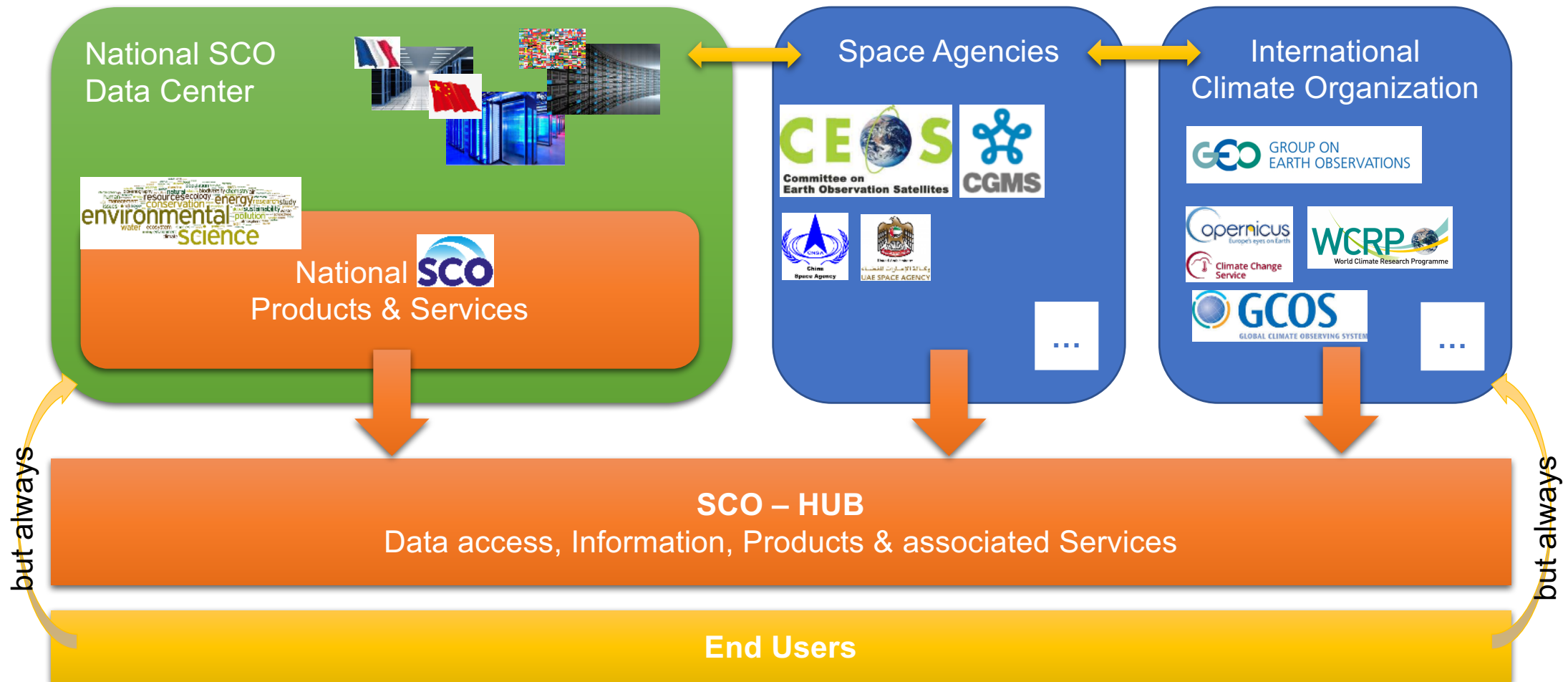
Solution

- Central access
 - » API to download data from each server
- Unified spatial selection
- Specialized meta search engine

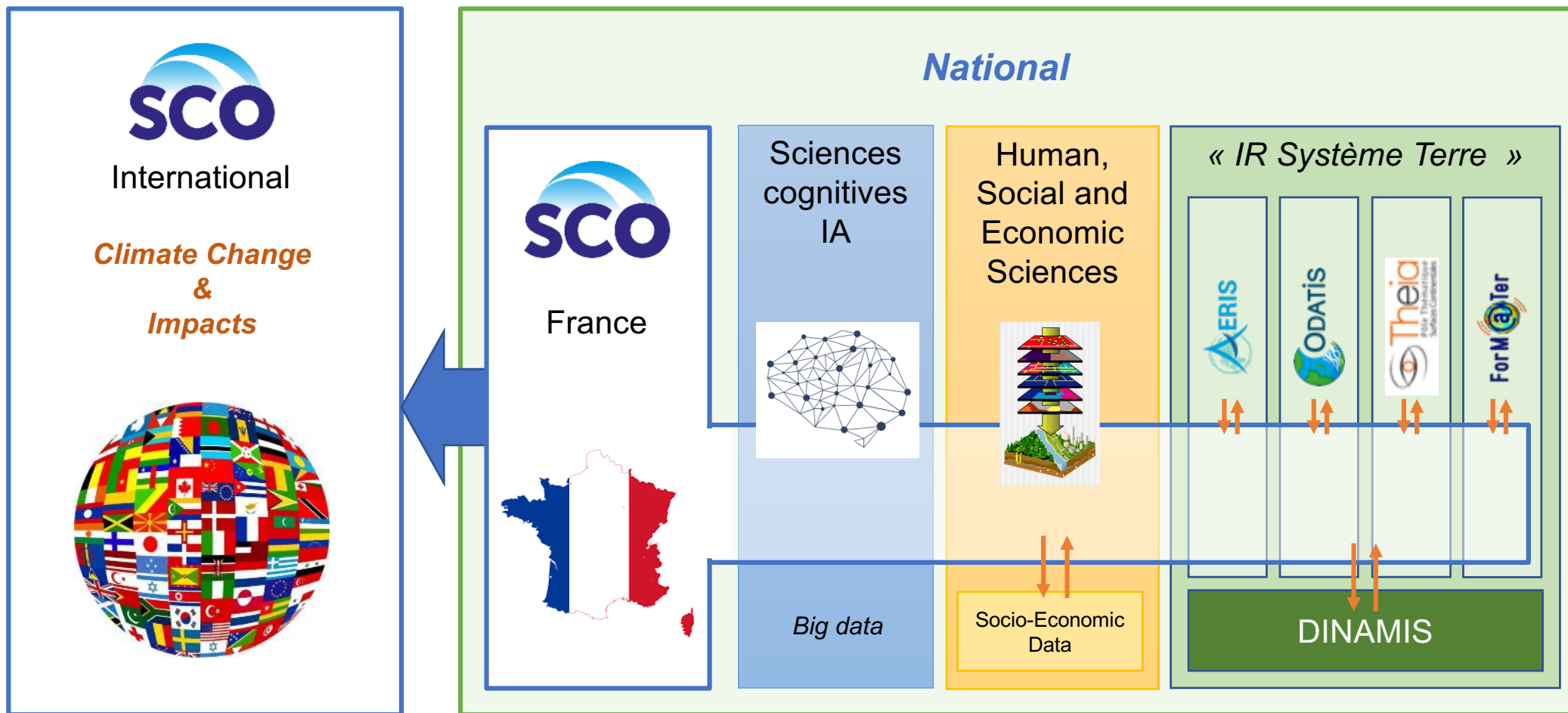
3 – Products & Services



Access



SCO architecture – Global vs. National



Space Climate Observatory



In summary -> An international and ambitious Program

❖ At level of populations

- Metrics and social indicators to measure the appropriation and acceptance by stakeholders

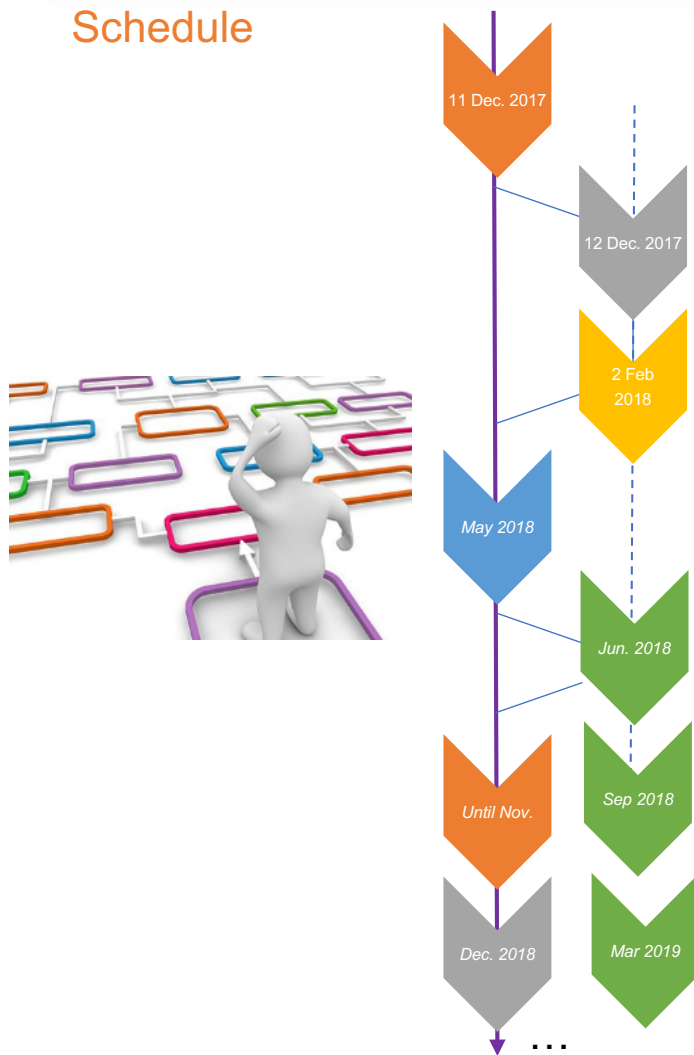
❖ Co-construction

- Communities of practice, enhance contribution and cooperation, sharing expertise
- Adapt the methodology/models/chains to country level needs – capacity building

❖ Open to all

- Inclusive international dimension
- A country, an agency, an institution... could not make it for all the world/Planet
- Transverse to Climate, Land, Ocean, Coastal... communities but also to social and economic science and communities

Schedule



Paris Declaration “Towards a space Climate Observatory”

Space Agencies

One Planet Summit “Creation of a Space Climate Observatory”

French Government – Commitments N°5

Nomination of a Head of SCO Program and Project Manager

CNES

Definition of international dimension of SCO

Space Agencies, Organizations

Phase 1

Toulouse Space Show (TSS) - Demonstration, **use cases**

CNES, CNSA, CRTS... (open to international partners) Signature of an Agreement with CNSA, LOI with KARI, KMA and others (ongoing)

2nd meeting of One Planet Summit, New York, September 26

First International meeting, January 2019

Signature of an international charter / agreement, Nairobi