



Belmont Forum/JPI Climate
Scoping workshop,
Goa, 23-25/10/2013



JPI Climate

« Joint Programming Initiative on climate:
providing scientific knowledge
for the benefit of society”

European Initiative




Climate change grand societal challenges: mitigation & adaptation

JPI climate:
Integrate climate change science in Europe
&
Connect science and decision-making processes

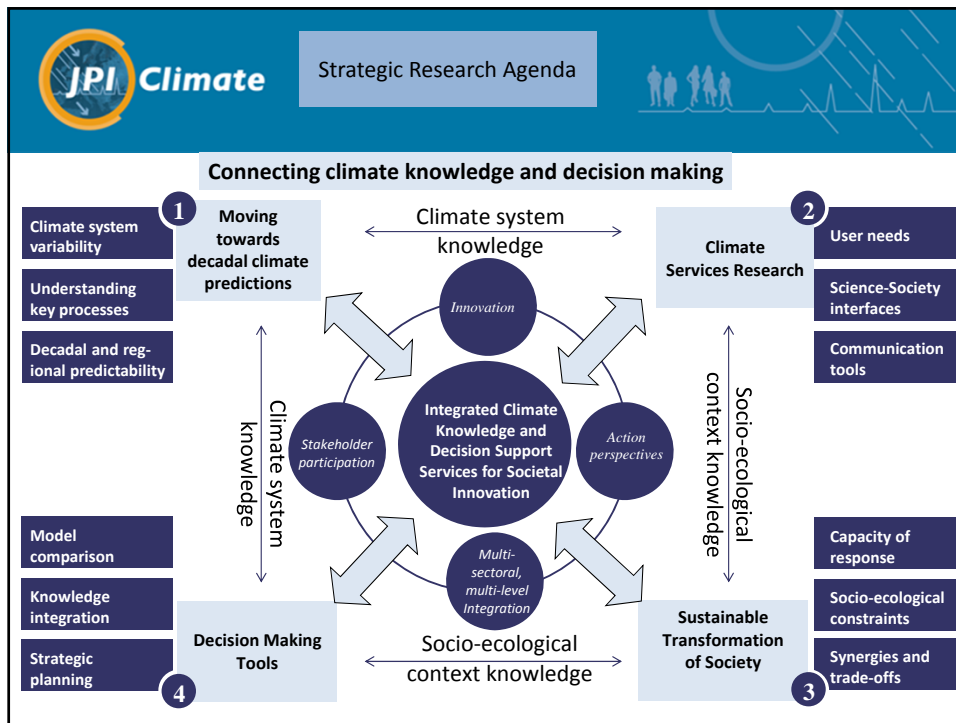
Partners, 13 member countries:
Austria, Belgium, Denmark, Finland, France,
Germany, Ireland, Italy, Norway, Sweden,
Netherlands, Great Britain, Spain

Observer: Slovenia, Turkey

Non-voting member: European Commission



**Strategic
Research
Agenda
May 2011**



Implementing JPI Climate

- Joint strategies**
- Joint research funding**
- Alignment of national research**
- Collaboration with other research initiatives**

Fast Track Activities:
Preparing joint calls, elaborating strategies


2013 Joint calls:

- Russian Arctic and Boreal systems
- Societal transformations

2014 possible joint calls:

- BF/JPI: Goa scoping WK
- BF/JPI: Oslo scoping WK on "Arctic observing systems and sustainability"
- Not exclusive

Preparing **First Implementation Plan** 2013



Seasonal to decadal predictability of regional climate for decision making:
bridging the gap between users' needs and the state of climate knowledge

Topic 1: Predictability of regional physical climate from season to decades

Climate predictability
Seasonal to decadal

Module 1 of JPI
Moving towards decadal predictions

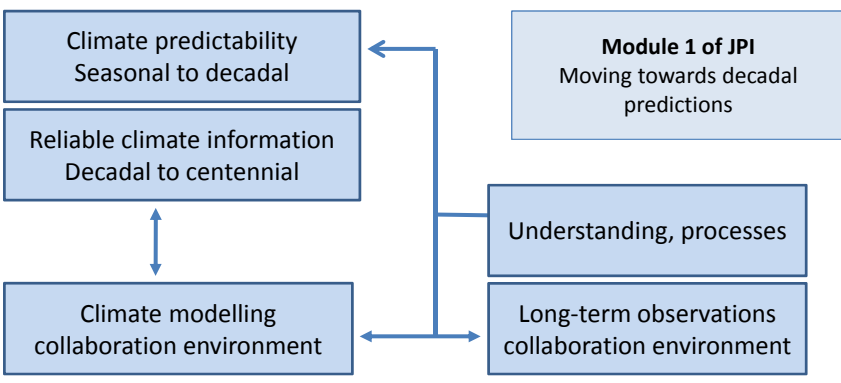
Reliable climate information
Decadal to centennial


Understanding, processes

Climate modelling
collaboration environment

Long-term observations
collaboration environment

Common long-term objectives:
Coordination of climate model development and modelling activities
Coordination of climate observations






Seasonal to decadal predictability of regional climate for decision making:
bridging the gap between users' needs and the state of climate knowledge


Topic 1: Predictability of regional physical climate from season to decades (S2D)


Perspectives from
Module 1 of JPI
Moving towards decadal predictions

- **Improving S2D prediction:** role of cryosphere, land, stratosphere and aerosols
- **Mechanisms** of phenomena potentially leading to **predictability on S2D**
- **Tropical monsoons:** teleconnections with mid & high latitudes; monsoons and **S2D prediction**
- Mechanisms of **past natural decadal variability** (link with mechanisms and teleconnections)

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Topic 1: Predictability of regional physical climate from season to decades (S2D)	
Module 1 of JPI	White paper (in prep)
Reducing uncertainties in climate processes that provide S2D predictability	
<ul style="list-style-type: none"> - Sea ice: potential for S2D predictability with sea ice initialisation (Arctic); impact of sea ice on atmosphere & ocean dynamics - Land-surface (soil moisture & vegetation): impact on seasonal predictability; on decadal (ground water, feedbacks ...) ? Vegetation some enhanced skill for D (esp. ITCZ shifts and monsoons) - Stratosphere: impact of a realistic representation of stratosphere (vertical resolution, chemistry and microphysics, QBO); role through teleconnections (eg ENSO and Europe) - Aerosols: improved representation of aerosols; impact of natural & anthropogenic aerosols on D predictions (eg. Monsoons); 	
Complement EU projects (COMBINE, SPECS)	

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Topic 1: Predictability of regional physical climate from season to decades (S2D)	
Perspectives from Module 1 of JPI Moving towards decadal predictions	<ul style="list-style-type: none"> • Improving S2D prediction: role of cryosphere, land, stratosphere and aerosols • Mechanisms of phenomena potentially leading to predictability on S2D • Tropical monsoons: teleconnections with mid & high latitudes; monsoons and S2D prediction • Mechanisms of past natural decadal variability (link with mechanisms and teleconnections)
Several countries potentially interested TBC after scoping WK FR, UK, DE, NO, SE, FI, NL, IT, BE Monsoon focus: NO, SE, FI: teleconnections NL: S2D Decision by Governing Board	




Seasonal to decadal predictability of regional climate for decision making:
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Topic 2: Bridging the gap between climate models and local knowledge and decision-making processes for adaptation

<p>Module 2: Research on climate services <i>Development, Interfaces, User needs, Methods and approaches</i></p> <ul style="list-style-type: none"> • Identify user needs and develop adequate services 	<p>Module 4: Tools for decision-making <i>Impact intercomparison, economic assessment, science-practice labs</i></p> <ul style="list-style-type: none"> • Science-practice tools and knowledge transfer
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Main focus on Europe on tropical monsoons ?

Workshop, KNMI, 17-18 october 2013
« Bridging the gap between climate scientists, providers and users of decadal predictions »
Module 1-Module 2 workshop, involving Module 4
37 participants, 13 European countries and one from Brazil



Workshop, KNMI (NL), 17-18 October 2013
« Bridging the gap between climate scientists, providers, purveyors and users of decadal predictions » (context of Climate Services)


Research questions / Tools / Good practices and pitfalls / Funding and collaboration

User needs for climate information

- **What information** can climate predictions and observations (temporal and spatial) provide that has utility from the perspective of users?
- **What are the limits** and where is there potential for enhancing that utility? (incl. downscaling, impacts, different view points)
- **How to coproduce information** with scientists, providers, purveyors and users?
 - How to attract users ? How to use case studies, demonstration projects? What is the process of coproducing and developing new knowledge (hackathons, fireplaces, market places etc)?
- **What is the process to identify climate related thresholds/sensitivities?**
 - Do meaningful sensitivities/thresholds exist? Can we map them to climate variables?
- **How to identify and use analogues?**
 - what data is available (climate, climate impact, decision data)? Can data be rescued, extended back in time ? How to include both climate, climate impact and decision data?

Tools

- Dialogue (internal and external): different methodologies, experimentations (eg different concepts, methods and tool for discussion support; regional climate fora)
- Interdisciplinary and transdisciplinary teams : social science methodologies, marketing tools




Workshop, KNMI (NL), 17-18 October 2013
**« Bridging the gap between
climate scientists, providers, purveyors and users
of decadal predictions »** (context of Climate Services)

Access and usability of climate information

- **How to optimize processing and tailoring of data?**
 - Large amounts; “Right”/relevant data
- **Can this information be used to inform the development of standards?**

Information tools

- Infrastructures software and computing tools (visualisation, web services, portals ...)
- Access to metadata, observation and model data, contextual data
- Quality assessments and control methods (for data reliability and skill): standards, certification, glossary etc ...



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Communication

- **How does the manner** by which we present and disseminate climate services **affect the users’ perceptions**, trust and use of those services?
- **How does the production and characterisation of services**, including language and presentation, **affect the utility** and perceived quality of those services?
 - Comparability of different types of climate information (predictions, projections, observations)

Communication tools

- Outreach
- Education, training, Capacity building (of producers, researchers, purveyors, and users)
- Multidisciplinary glossary
- Interdisciplinary and transdisciplinary communication: eg Studying the process of engaging and co-producing
- Good examples, learning cases, good and bad practises
- Quality assessment from user perspective



Credits: SeaWiFS Project
NASA/GSFC & Orbimage