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Collaborative research as a social process: the case of climate services provision in southeastern South America

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Emerging approach to research in collaborative networks

Aims



- To produce usable knowledge,
- To support adaptation decisions,
- To provide straightforward estimates of uncertainty,
- To meet the needs of climate-sensitive sectors.

Implies
collaboration
among



- researchers,
- stakeholders
- outreach specialists
- User-centric research programs

What is there in a name?

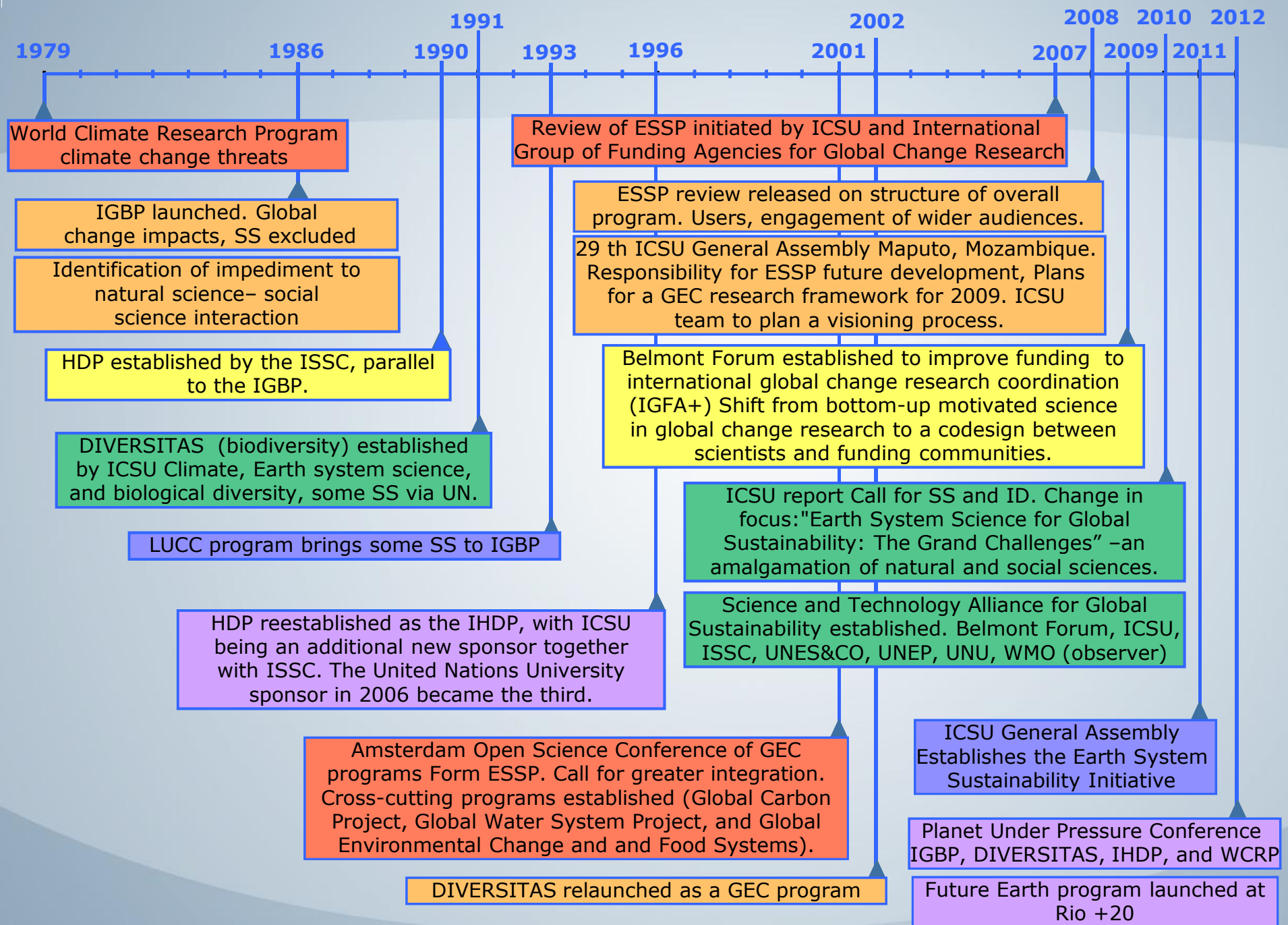
“climate service”

“the timely production and delivery of useful climate data, information, and knowledge to decision makers” (National Research Council, 2001).

Two main senses of the concept of co-production are involved

- ID articulating talents, perspectives and values needed to produce new types of knowledge. **Natural and social sciences.** (At this Congress biophysics, epidemiology, chemistry, biology, medicine, economy, sociology, anthropology, agro policy, and epistemology)
- Intertwined transformations of identities, institutions, languages and discourses that characterize the workings of **science and technology within society.**

**Time Line of Natural Science and
Social Science Interactions in the
Development of the Global Change
Research Programs**



Fuente: Harold A. Mooney, Anantha Duraiappah and Anne Larigauderie (2012)

A long path

From

- changes in the land use and soil coverage
- vulnerability
- mitigation
- adaptation

To

- scientific credibility
- independence
- inclusion
- equity

From truth to credibility

- A huge gap between what scientists think as their responsibility and what public think scientists' responsibility
- Scientific credibility threatened
- From transmission to interpretation
- “information transmitter” vs “information-interpreter.” “What would you do if you were me”?

Use of models: aims

- to provide an understanding of critical relations and feedbacks among climate, biophysical and social systems.
- to inform public and private risky decision-making

Communication under uncertainty

- Plurality of models, relevant institutions and potential users.
- Need to link:
 - the validation boundaries of different disciplines & mutual knowledge on the epistemic and pragmatic goals of each model
 - public and private needs and expectations

- Make probabilistic/statistical inferences based on multiple models
- Conveying uncertainty estimates depends on the audience and “timing”.
- The message must be unique, simple and clear, suitable to the recipient, timely, and must follow a familiar format.

“Truth in the models” a long distance from “truth/adequate in the target system”

- Huge difficulties of probabilistic/statistical inferences based on multiple models
- Conveying uncertainty estimates depends on the audience and the “moment”. Performative aspect of forecasts.
- The message must be unique, simple and clear, suitable to the recipient, timely, and must follow a familiar format.
- Experience and tacit k., conservatism and low controversy inferences prevail.

Regional models: assemblage, average, interpretation

Consensual Forecasts are based on the regular discussion of 25 models among institutions that have an important credibility that cannot be put at risk

Instituto Nacional de Meteorología (INMET-Brasil), Dirección Nacional de Meteorología (DNM-Uruguay), Dirección de Meteorología e Hidrología (DMH-Paraguay), Dirección Meteorológica de Chile (DMC-Chile), Servicio Nacional de Meteorología e Hidrología (SENAMHIBolivia), Servicio Meteorológico Nacional (SMN-Argentina), el Centro de Previsão de Tempo e Estudos Climáticos (CPTEC-Brasil), Centro de Investigaciones del Mar y de la Atmósfera (CIMA-Argentina), del Servicio Meteorológico de la Armada Argentina (SMARA-Argentina), del Instituto Nacional del Agua (INA- Argentina) y de la Cátedra de Climatología Agrícola de la Facultad de Agronomía (UBA-Argentina), Instituto Nacional de Tecnología Agropecuaria (INTA-Argentina), de la Autoridad Interjurisdiccional de las Cuencas de los Ríos Limay, Neuquén y Negro (AICArgentina), de la Subsecretaría de Recursos Hídricos de la Nación (SSRHArgentina) y de la Comisión Regional del Río Bermejo (COREBE-Argentina).

Barriers to the use of climate knowledge

misfit between

- the capabilities of climate science
and
- the expectations, needs and beliefs of decision-makers.

Obstacles to the use of climate information

- (1) limitations inherent to the climate system (variables that can be monitored or predicted, spatial resolution and skill of prognostic information)
- (2) technical aspects of the information (e.g., formatting of uncertain information, timing of its release in relation to decisions)
- (3) cognitive factors that influence the way users perceive the science-generated information (e.g., communication, trust, credibility, accessibility, experience);

More obstacles

- (4) institutional or procedural factors that constrain the use of new knowledge (e.g., rigid operating protocols)
- (5) structural factors that shape the capacity and willingness of different decision makers to use information (e.g. lack of access to knowledge, lack of choice in term of alternative technologies or policy change).

IAI –CRN 3035 (2013-17)

*Towards usable climate science -
information for decision-making and the
provision of climate services for
agricultural and water sectors of the
South-East of South America*

The project articulates

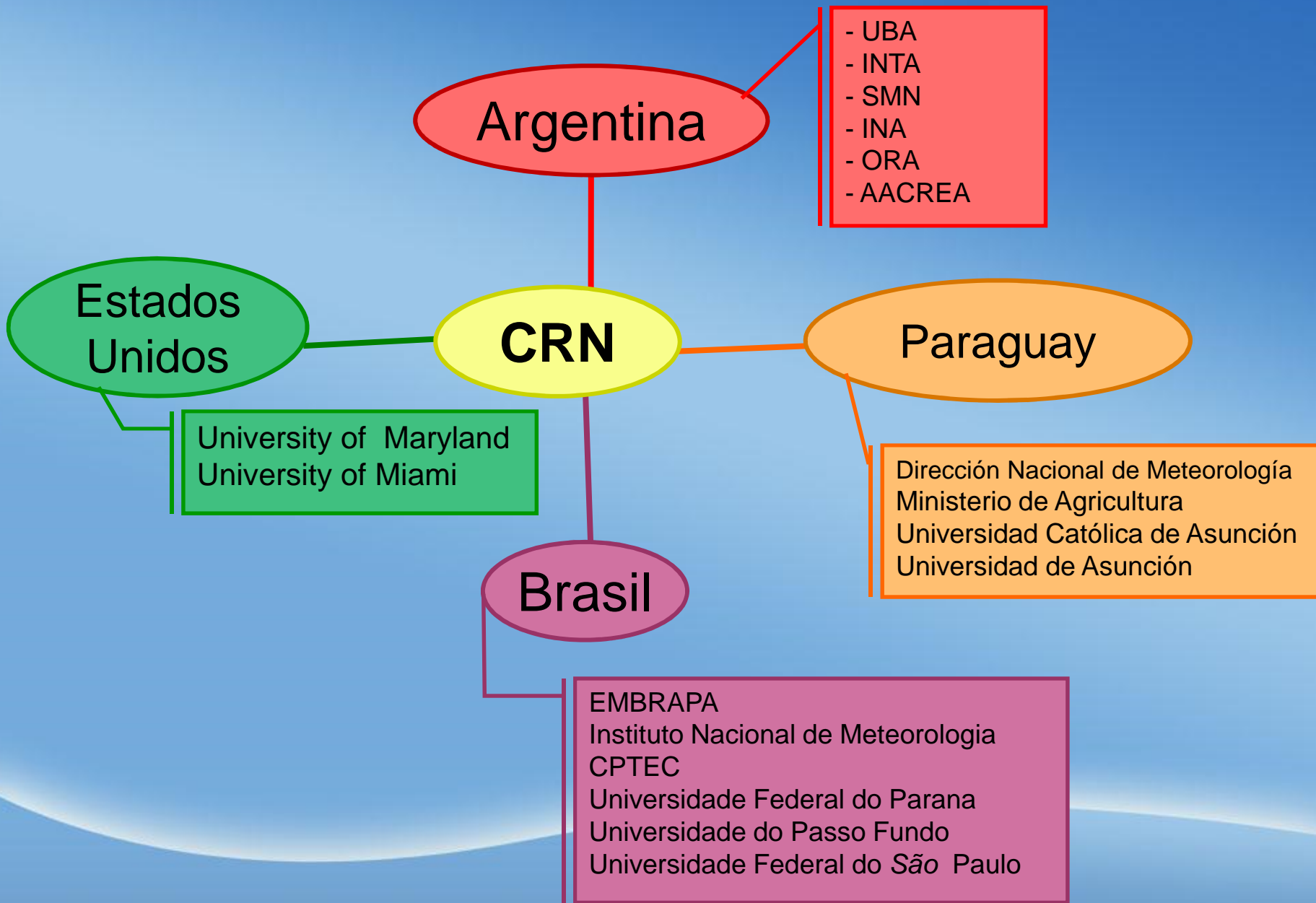
research on
climate science
including social
and natural
dimensions



research to improve the
way in which climate
information and
knowledge is analyzed,
assessed, synthesized,
communicated

{ articulates }

the needs, procedures and decision protocols of
climate-sensitive sectors of society



<http://serviciosclimaticos.blogspot.com.ar/>

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Servicios Climáticos para el Sur de Sudamérica

Producción, síntesis y diseminación de datos e información sobre el clima y sus impactos ambientales, económicos y sociales en el sur de Sudamérica.

Bienvenidos al Proyecto IAJ

Noticias

Quiénes Somos

Propuesta

Eventos

Enlaces

Bienvenidos al Proyecto IAJ

Conformamos una red colaborativa de investigación (Collaborative Research Network CRN3035) que además de producir conocimiento científico sobre el clima desde las dimensiones tanto naturales como humanas se propone mejorar la manera en la que se analiza, evalúa, sintetiza y comunica la información y el conocimiento sobre el clima. Para ello resulta esencial que la investigación se articule con las necesidades, los procedimientos y protocolos de decisión de los distintos sectores sociales sensibles al clima.

El 11 de diciembre de 2012 se concretó la firma del Acuerdo con el Inter-American Institute for Global Change Research. En las fotos se ve en plena tarea de firma a Holm Tieshan, Director del IAJ, y a Cecilia Hidalgo, investigadora principal con sede de trabajo en la Facultad de Filosofía y Letras de la UBA.



Cecilia Hidalgo (Investigadora principal) y Holm Tieshan (Director IAJ) firman el acuerdo

¿QUÉ SON LOS SERVICIOS CLIMÁTICOS?

El término "servicios climáticos" se refiere a la producción y diseminación de datos, información y conocimiento sobre el clima que sea útil y relevante para apoyar la toma de decisiones y la formulación de políticas en sectores sensibles a la variabilidad y el cambio climático.

¿QUÉ CONTIENE ESTE BLOG?

Este blog describe las actividades y resultados de un proyecto de investigación enfocado en el diseño, implementación, provisión y evaluación de servicios climáticos en el sur de Sudamérica.

El proyecto incluye colaboración entre organizaciones académicas, gubernamentales y no-gubernamentales de Argentina, sur de Brasil, Uruguay y Paraguay, y el Centro Climático Regional para el Sur de Sudamérica recientemente establecido por la Organización Meteorológica Mundial (OMM), que incluye a los cuatro países mencionados más Bolivia y Chile.

El proyecto es financiado por el programa de Redes Colaborativas de Investigación 3 (RCIN-3, por sus siglas en inglés) del Instituto Interamericano.

Regional focus

southern Brazil,
eastern Paraguay and central-
eastern Argentina



Strong interaction of our IAI Collaborative Research Network with the Regional Climate Center for southern South America (RCC-SSA) established by the WMO's Regional Association III (South America)

Specific limitations or barriers for the development, implementation, and provision of CS

- lack in regular communication and innovative partnerships among scientists and institutions of different background.

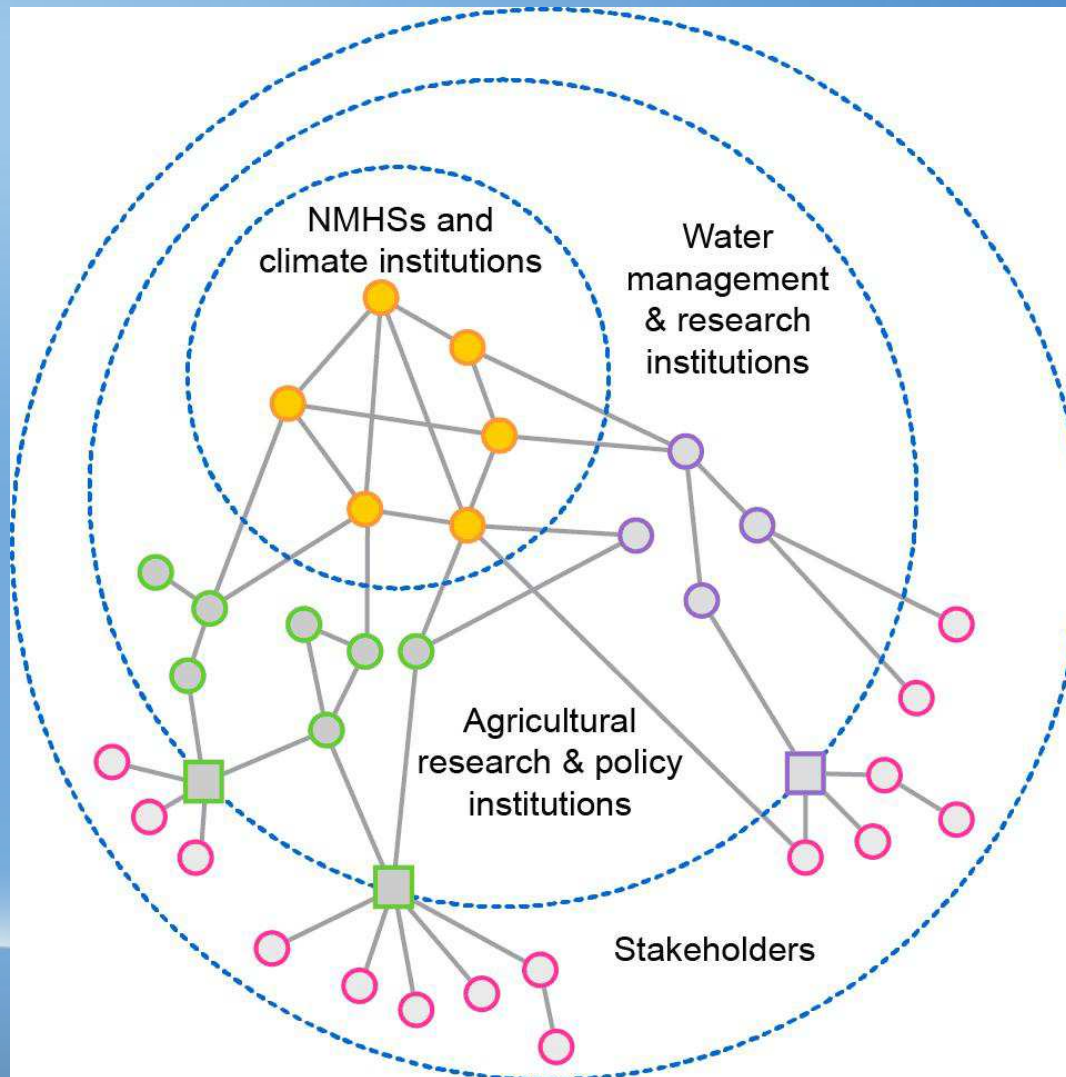
We are monitoring the creation of these new partnerships, contributing to the creation of some others (ie. Climate datasets of the CRC-SSA, JASMIN group), to the collective reflection on the process, and documenting it.

Specific limitations or barriers for the development, implementation, and provision of CS

- lack in regular communication and innovative partnerships among scientists, institutions and stakeholders.

We are monitoring the creation of these new partnerships, contributing to the collective reflection on the process, and documenting it (i.e. Seasonal consensual forecast meetings, Dialog tables with climate sensitive sectors).

Plausible institutional structure for a WMO Regional Climate Center (RCC)



Spaces of dialogue and common work

The creation and maintenance of interaction spaces sustained over the time has been identified as a crucial aspect for success in the provision of climate services.

Thanks

Muchas gracias