INMET

INSTITUTO NACIONAL DE METEOROLOGIA

WEATHER CLIMATE WATER
TEMPS CLIMAT EAU

PLATA BASIN HYDROMETEOROLOGICAL FORECASTING AND EARLY WARNING SYSTEM

CONSULTATION MEETING
Brasilia, Brazil, 21-25 May 2018

WIGOS AND WHOS IN THE PLATA BASIN

WMO OMM

World Meteorological Organization
Organisation météorologique mondiale

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SUMMARY OF THE PRESENTATION

- BACKGROUND INFORMATION
- REGIONAL ACTIVITIES
- WIGOS SAS/CP PROJECT
- EXISTING REGIONAL COMPONENTS

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BACKGROUND INFORMATION

- **MAIN MEETINGS**
  - Informal Coordination Meeting (AR-III, CBS, Asuncion, September 2014)
  - CIC/WMO Expert meeting WIGOS-SAS/CP (Montevideo, August 2015)
  - Meeting of Plata Basin Meteorological and Hydrological Authorities (Brasilia, August 2015)
  - Workshop on the Plata Basin Hydrometeorological Networks (Brasilia, September 2015)
  - WMO ICG-WIGOS (Geneva, 2015 to 2018)
  - Joint RA-III WGs (Asunción, 2015 and 2017)
  - USAID/OFDA Preparatory Meeting (Brasilia, August 2017)
  - Meetings of Mercosul CTSH and RMAGIR (Brasilia, November 2017)
- **RELATED RA-III ACTIVITIES**
  - WIGOS Regional Centers (WRC)
  - Regional Basic Observing Network (RBON)
  - WIGOS Station Identification (WIGOS ID)
  - WMO Severe Weather Forecasting Demonstration Project (SWFDP)
  - Meteorological Warning System (ALERT-AS)
  - WMO Information System (WIS)

WMO INTEGRATED GLOBAL OBSERVING SYSTEM (WIGOS)

World Weather Watch

GOS

GDPFS

GTS

WIGOS

GAW

GCW

WHOS

GCOS

Partners

Co-sponsors

WIS

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WIGOS IMPLEMENTATION FRAMEWORK

WIGOS Framework: Key activity areas

Management of WIGOS Implementation

Collaboration with co-sponsors and partners

To oversee, guide and coordinate WIGOS

Data discovery, delivery & archival

To ensure supply of and access to WIGOS observations

To plan, implement and evolve WIGOS component systems

Design, planning and optimised evolution

Observing system operation & maintenance

Capacity Development

To facilitate and support the operation of WIGOS

Communications and outreach

Operational Information Resource

Standards, interoperability & compatibility

Quality Management

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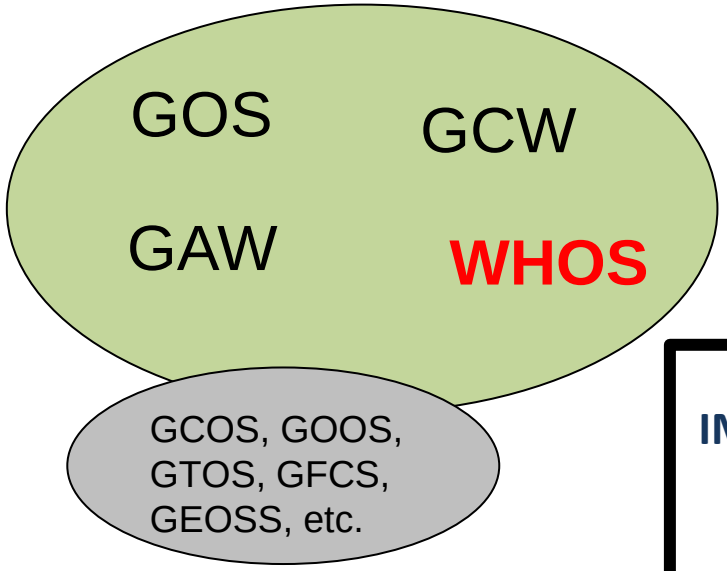
WIGOS GENERAL CONCEPT

(System of Systems + Implementation Framework)



WIGOS

IMPLEMENTATION FRAMEWORK:

- **Governance**
- **Collaboration Mechanisms**
- **Technical Activities**

PRIORITIES DEFINED FOR THE PREOPERATIONAL WIGOS

a) Implementation of the national WIGOS plans;

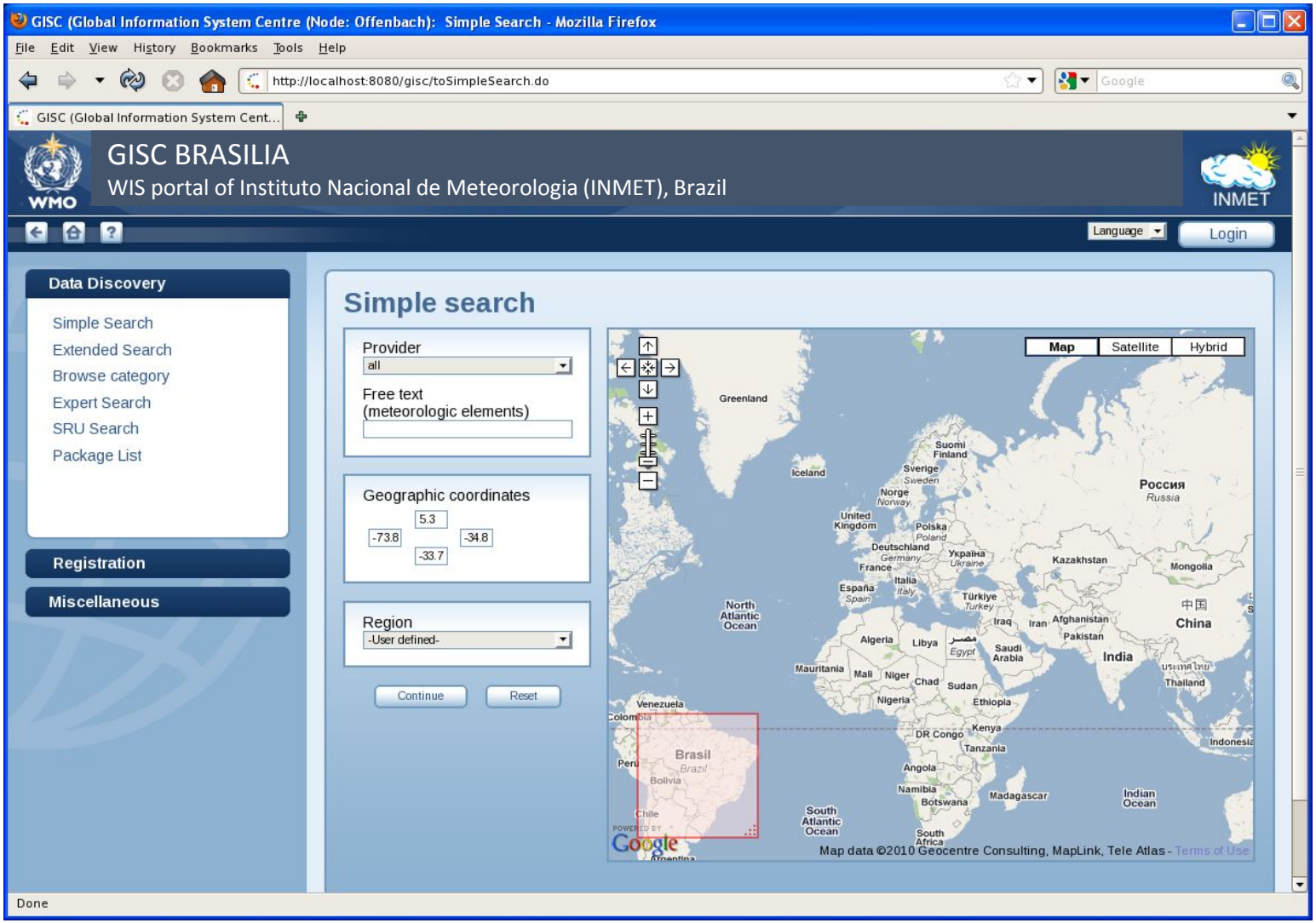
b) WIGOS Regulatory Framework;

c) Full Operation of OSCAR;

d) Development and implementation of a WIGOS Quality Monitoring System;

e) Concept Development and Implementation of WIGOS Regional Centers.

WMO INFORMATION SYSTEM (WIS)



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INTERNET ACCESS OF RA-III NMHS

	2008	2017	
		Comercial	Internet 2
	Mbps	Mbps	Mbps
ARGENTINA	17	250 + 250	500
BOLÍVIA	2	4 + 4 + 15	
BRASIL	10	200 + 200	1000
CHILE	20	100	
COLOMBIA	3	128 + 64	
ECUADOR	1	30	
G. FRANCESA	0.5	-	
GUYANA	0.5	5 + 5+ 5	
PARAGUAY	1	80 + 40	
PERU	6	70	
SURINAME	0.2	8, up to 45	
URUGUAY	3	3	
VENEZUELA	1	4 + 2	

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PROJECT WIGOS-SAS/CP

Participating countries
(NMHSs and Water/Energy Agencies)

ARGENTINA *BOLIVIA* *BRASIL* *PARAGUAY* *URUGUAY*

Participation of WMO and CIC

Project duration: 2015-2019

Sustainable Operation: end 2019 ...

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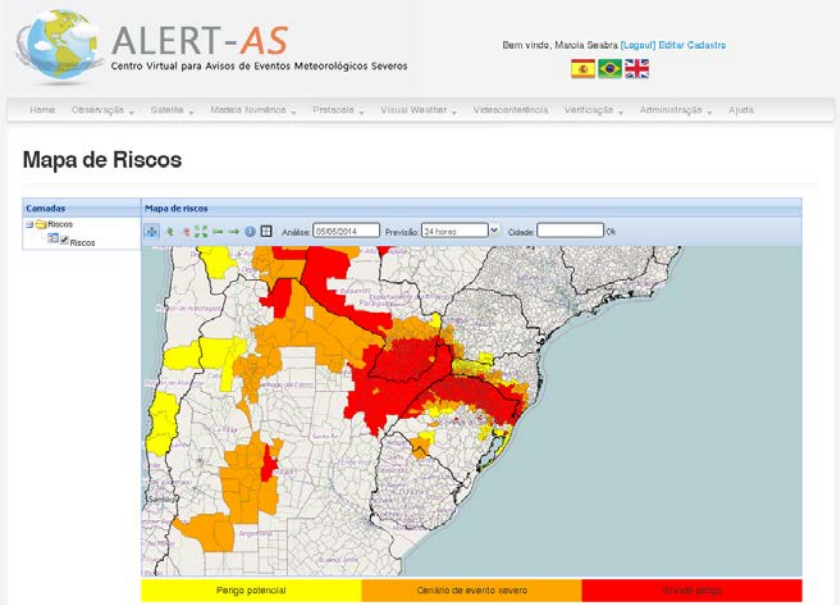
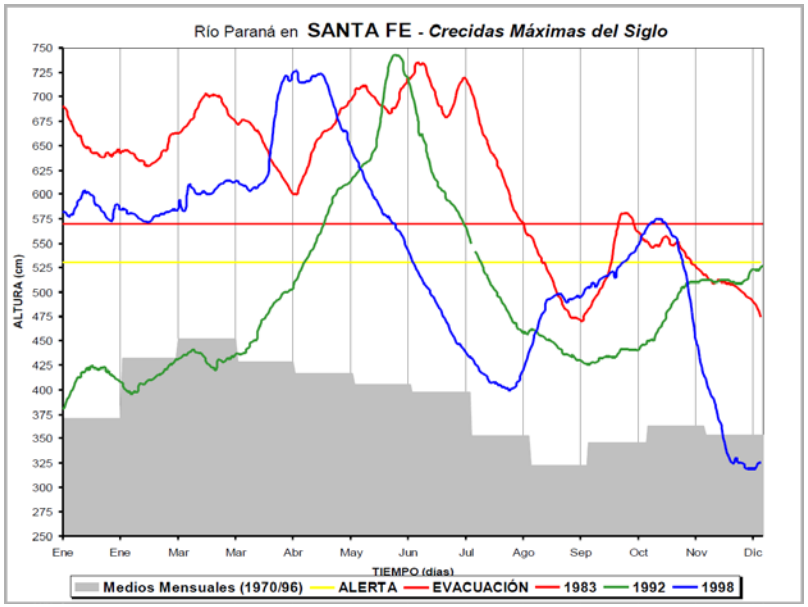
OBJECTIVES OF THE PROJECT

SPECIFIC PRODUCTS FROM A JOINT EFFORT AND SHARED RESOURCES

A FULLY OPERATIONAL HYDROMETEOROLOGICAL INFRASTRUCTURE





Fuente: INA

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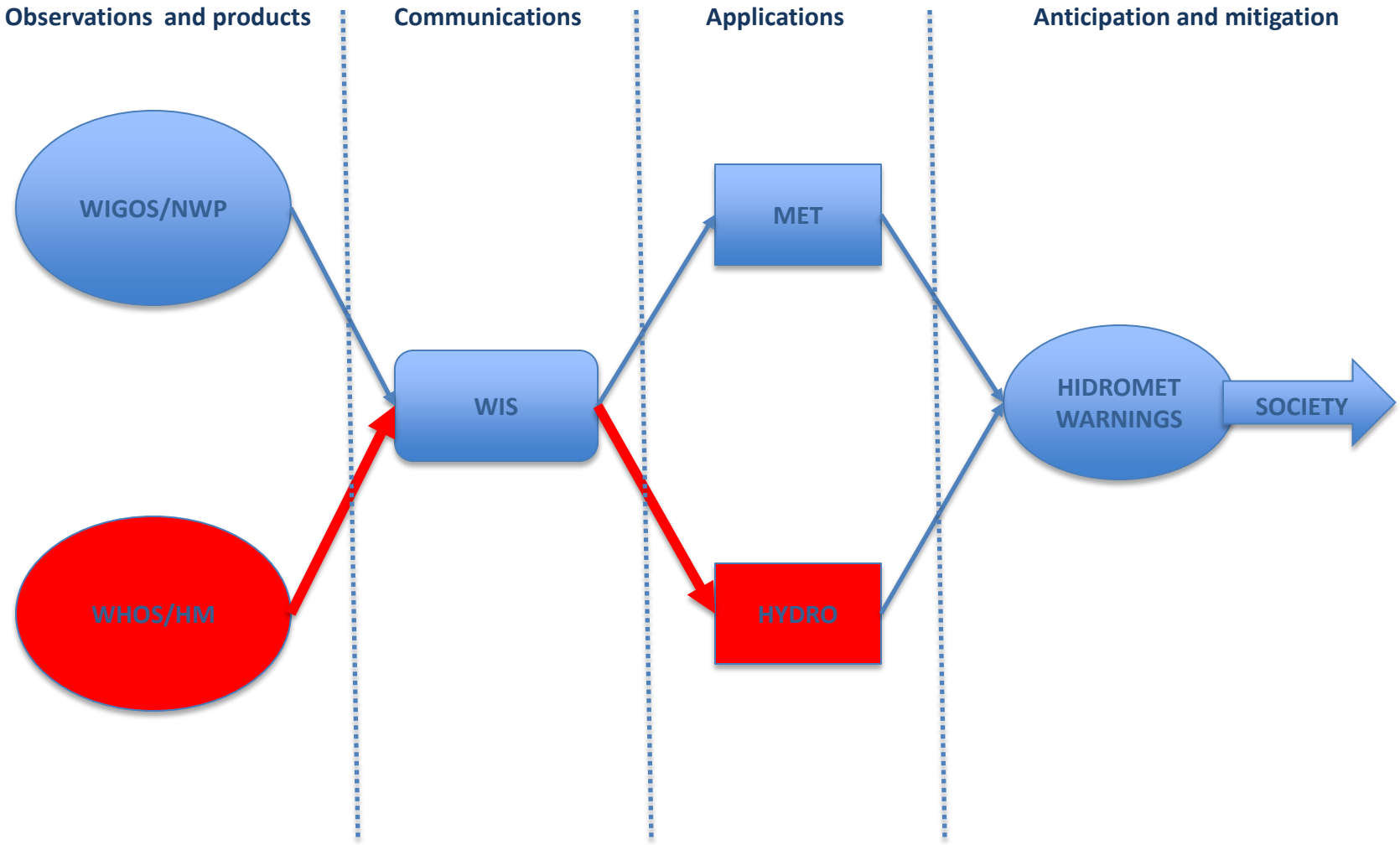
GENERAL CONCEPT OF THE HYDROMETEOROLOGICAL INTEGRATION



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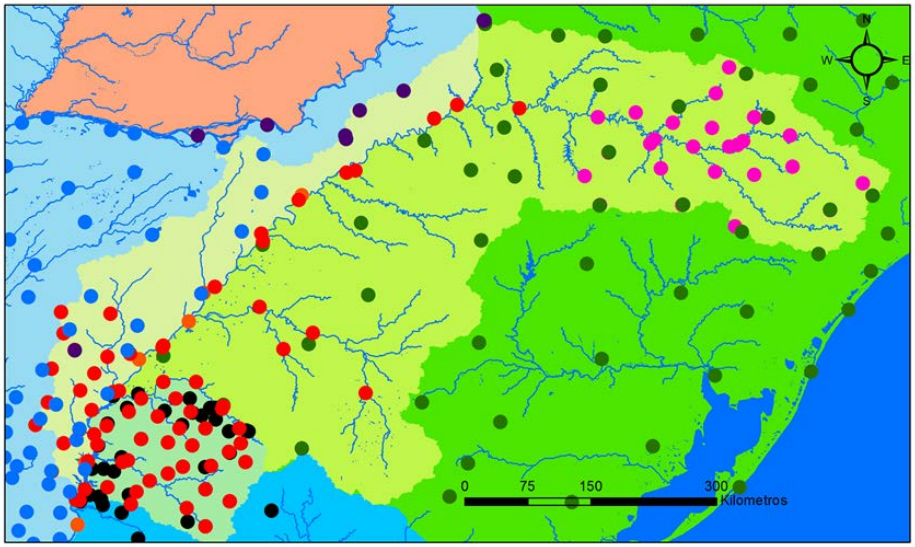
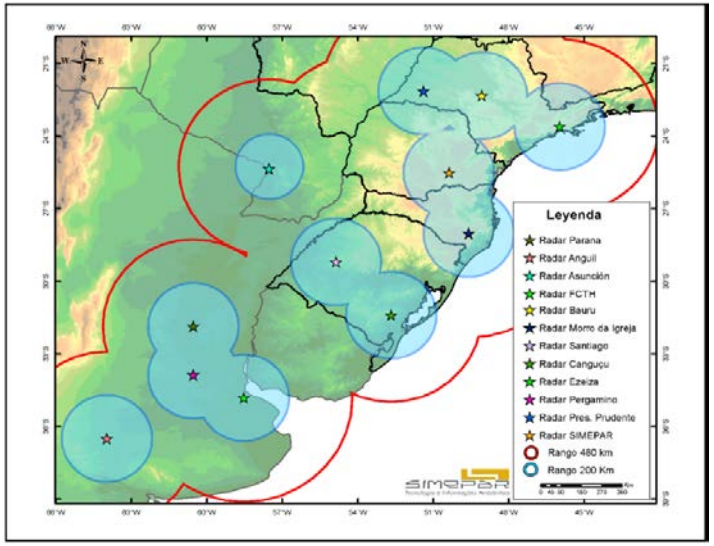
COMBINATION OF EXISTING RESOURCES

(Two examples)

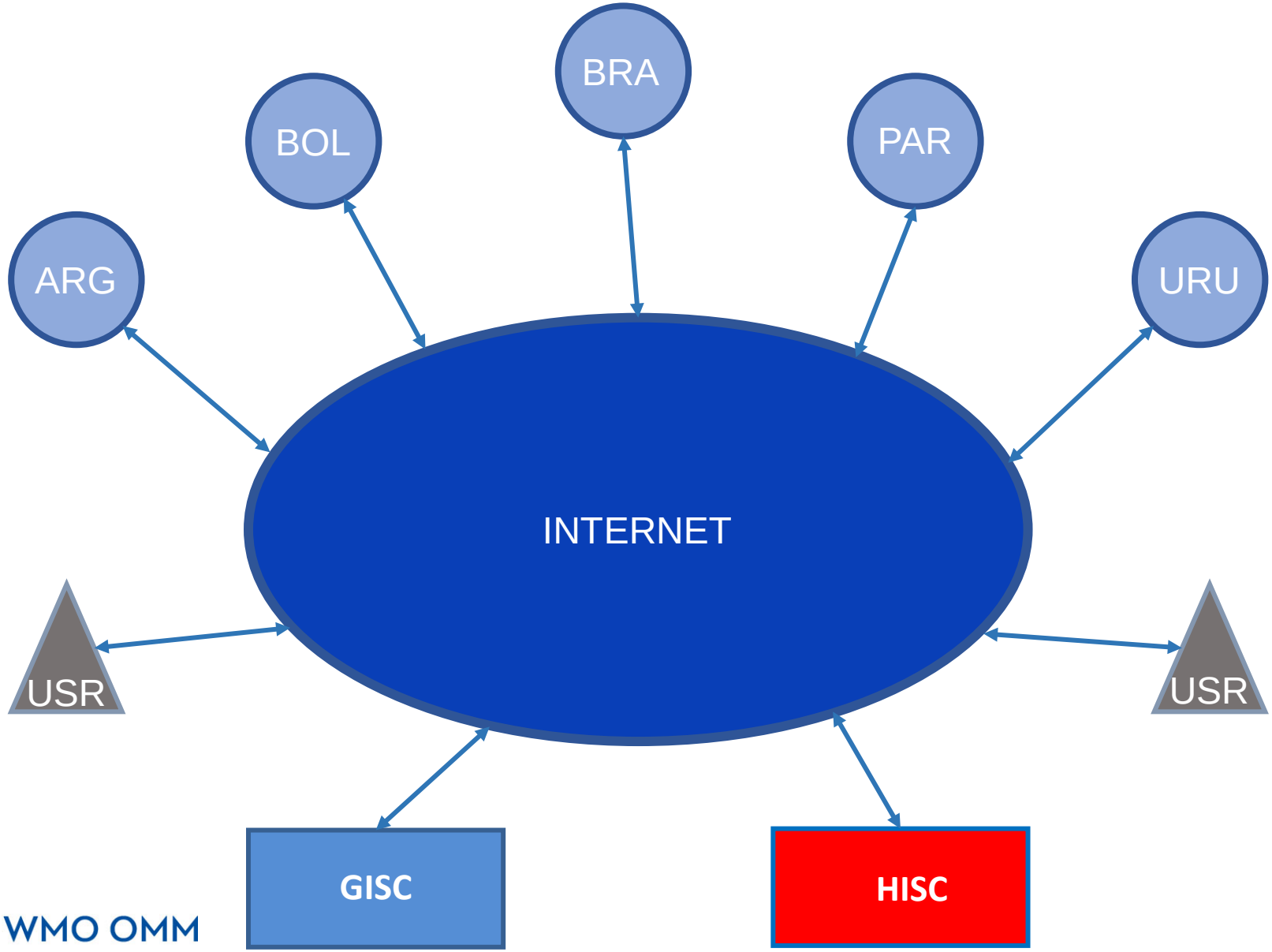
Shared observing network



Radar network in the Region



GENERAL CONFIGURATION PROPOSAL



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HIS PLATA DEMONSTRATION CONCEPT

Hydrological Systems

Argentina
Data

Bolivia
Data

Brasil
Data

Paraguay
Data

Uruguay
Data

Web services

Register

Access

HIS PLATA

Metadata Catalog

HIS Central

Hydrologic Ontology

Discovery

Users

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PLANNED ACTIVITIES FOR THE OPERATIONAL PLATA HYDROLOGICAL INFORMATION SYSTEM (HIS)

A. Upstream activities

1. Porting the current prototype of Plata HIS in the GISC of Brasilia

Transfer the HIS from server in Italy to GISC Brasilia. HIS is composed by a broker and 5 hydroservers (they simulate the data systems which each country should have)

2. Porting and evolution of data systems in each country. The following options will be considered:

(option a) Connect the broker to the original data systems of each country, but it is needed to know how to access them,

(option b) alternatively automate the upload of data from countries to the hydroservers in Brasilia,

(option c) To transfer the hydroservers used in the prototype to the 5 countries,

(option d) To adopt a supported free-source one (MCH or Hydroservers)

B. Midstream activities

1. Optimisation of the distributed architecture (GISC and NHSs)

   Optimize the distributed architecture (broker and 5 data systems) considering the system available in Brasilia (defined in A.1) and the choice in A.2

2. Ontology extension

   To define an equivalence of terms used in different countries and different languages to refer to the same hydrological feature

C. Downstream activities

1. Development of a Plata web portal as the Plata HIS interface

   Identification of a web designer and assistance to the designer for the connection of the web portal with the functionalities of HIS

D. Training and documentation

1. Training on the broker and mediator installed in Brasilia

   For IT people of the GISC, dictated by developers (CNR Firenze)

2. Training on the current data systems (hydroservers in Brasilia), web and desktop clients (hyrodesktop)

   For hydrologists of each participating country, either as roving seminars or as a regional workshop, dictated by developers (in the case of hydroserver and hydrodesktop CUAHSI)

3. Training on new data systems (defined by countries)

   For those countries deciding to adopt a new system (see A.2)

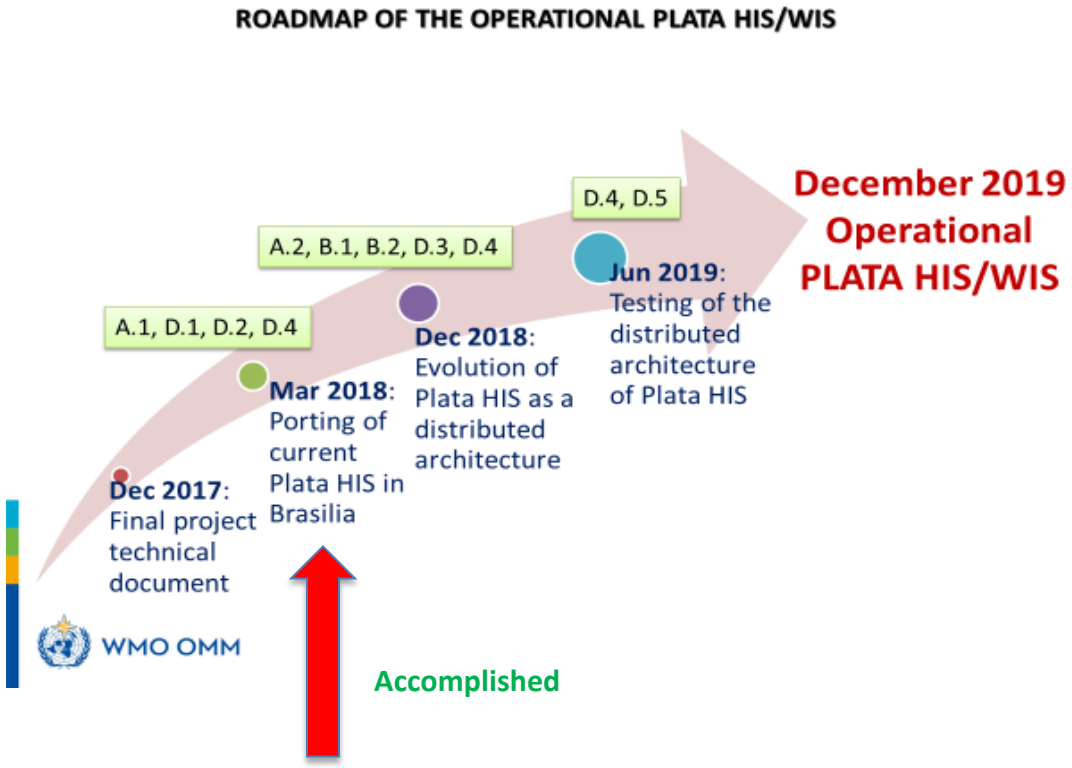
4. Training on the Plata web portal

   For hydrologists of all countries as users and for someone IT responsible regionally (probably in GISC-Brasilia)

5. Production of manuals and user guides

   Guides for broker and hydroserver. Much exist in English and should be translated into Spanish; in the case of the web portal the developer should produce a manual in Spanish.

PROJECT ROADMAP



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PROJECT ACTIVITIES AND BUDGET

Activity	USD
Transfer of the current HIS Plata prototype to GISC Brasilia	30.000
Regional Workshop to train experts from 5 participating countries on WIGOS-WIS-WHOS issues	15.000
National meeting in each of the 5 participating countries, with invitation extended to potential partners, under coordination of the experts which attended the Regional Workshop.	50.000
Technical assistance, which includes visits of experts to the 5-participating country to: a) Install webservices in 5-participating countries and adaptation of their respective databases b) Train local experts on the operation and maintenance of the system	75.000
Complementary hardware and software	40.000
TOTAL	**210.000**

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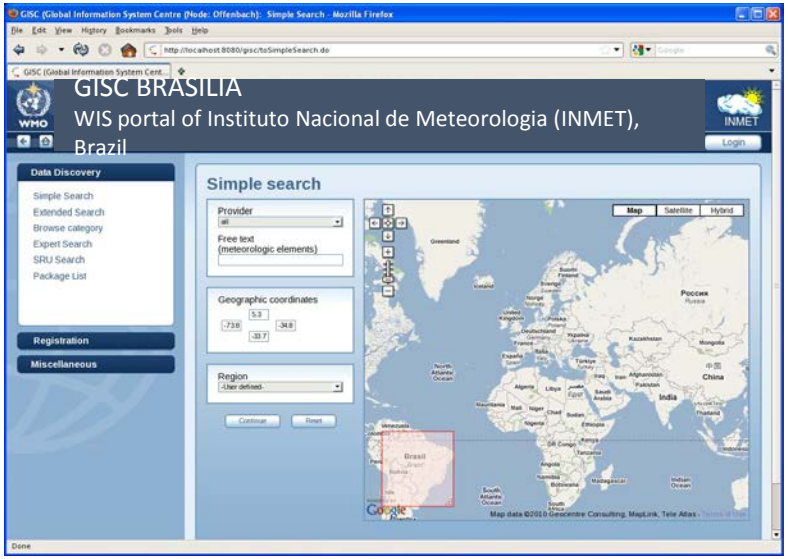
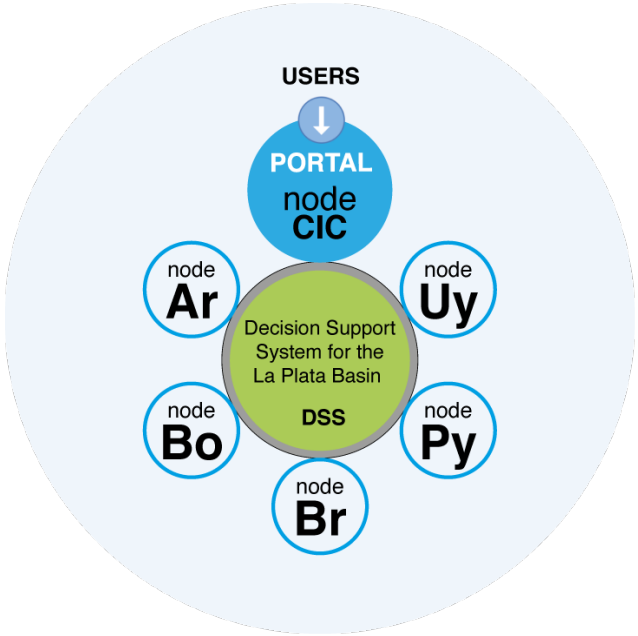
EXISTING REGIONAL COMPONENTS

GISC-Brasilia



Decision Support System for the La Plata Basin



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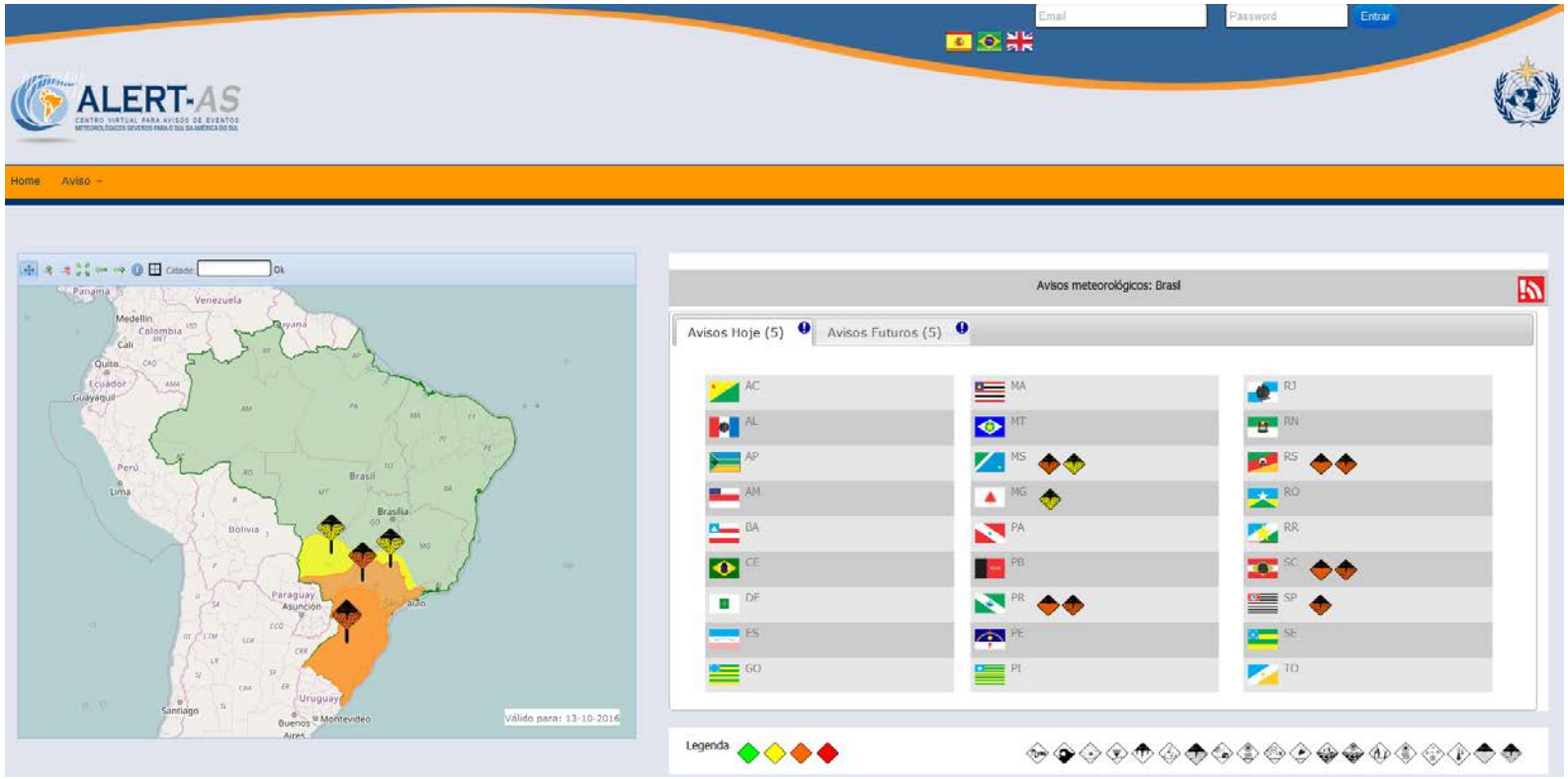
ALERT-AS: THE BRAZILIAN IMPLEMENTATION



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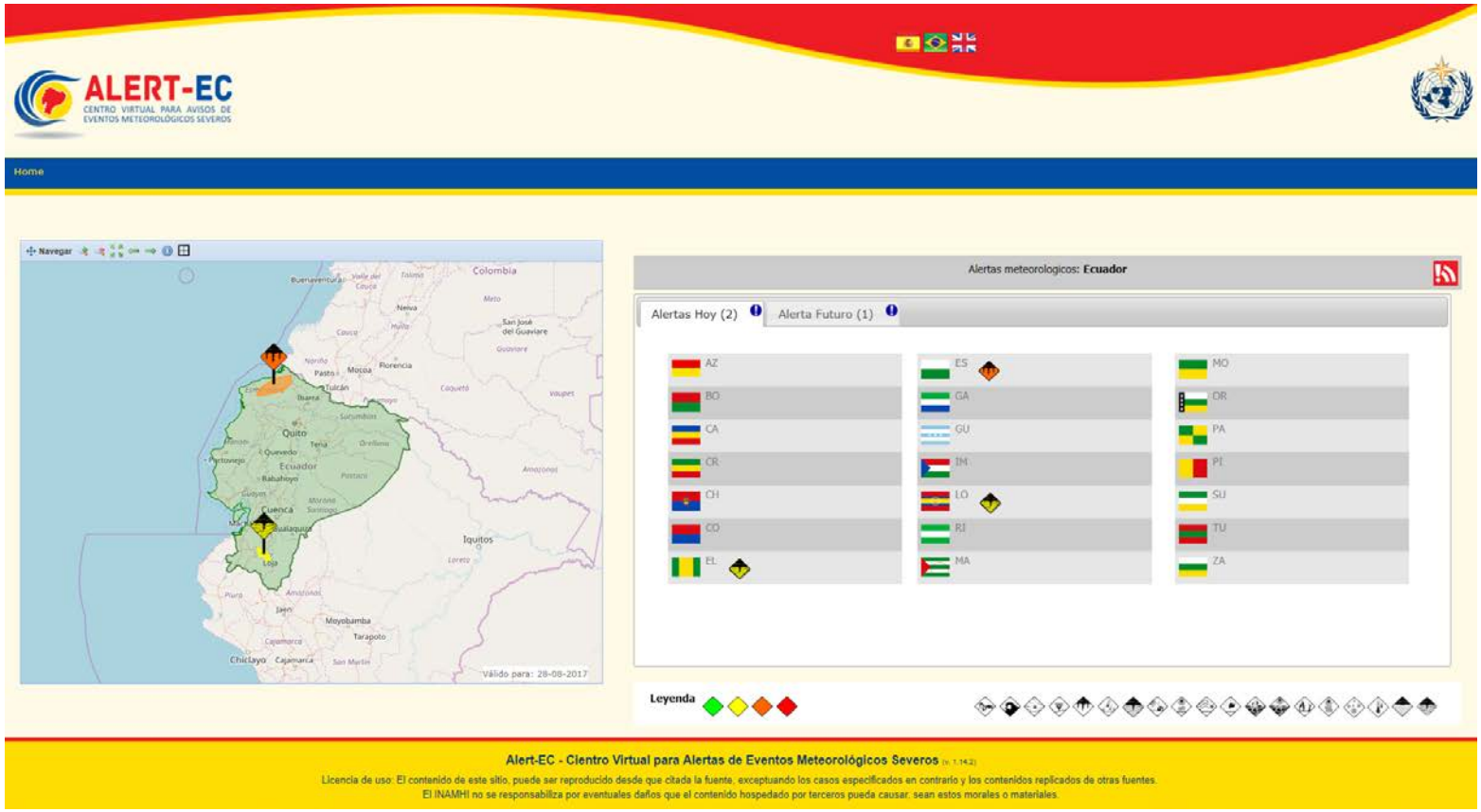
ALERT-AS IN ECUADOR



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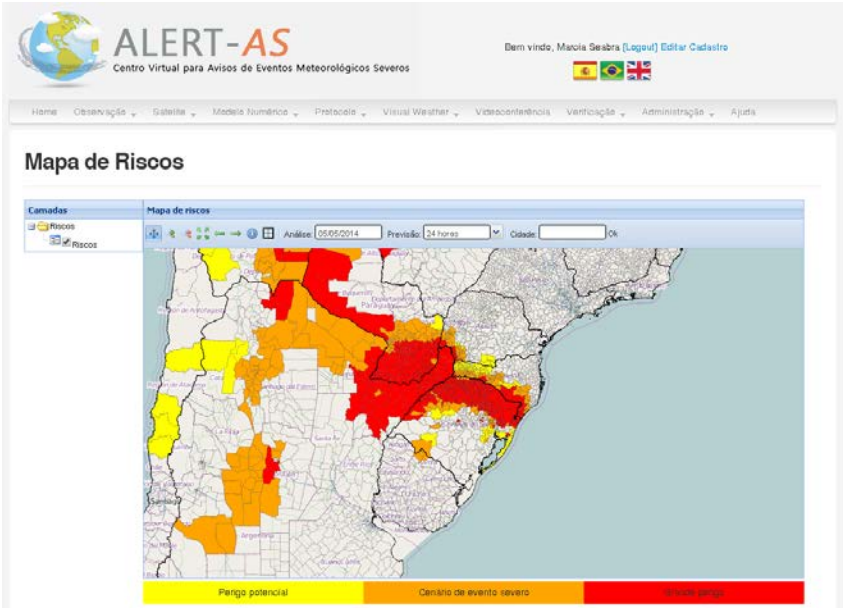
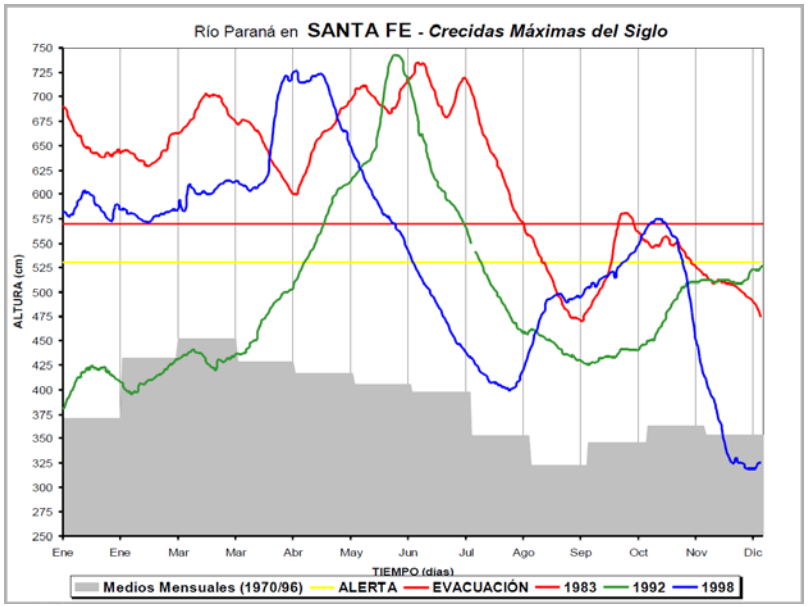
WIGOS-SAS/CP PROJECT

BASIS FOR A REGIONAL HYDROMETEOROLOGICAL SYSTEM





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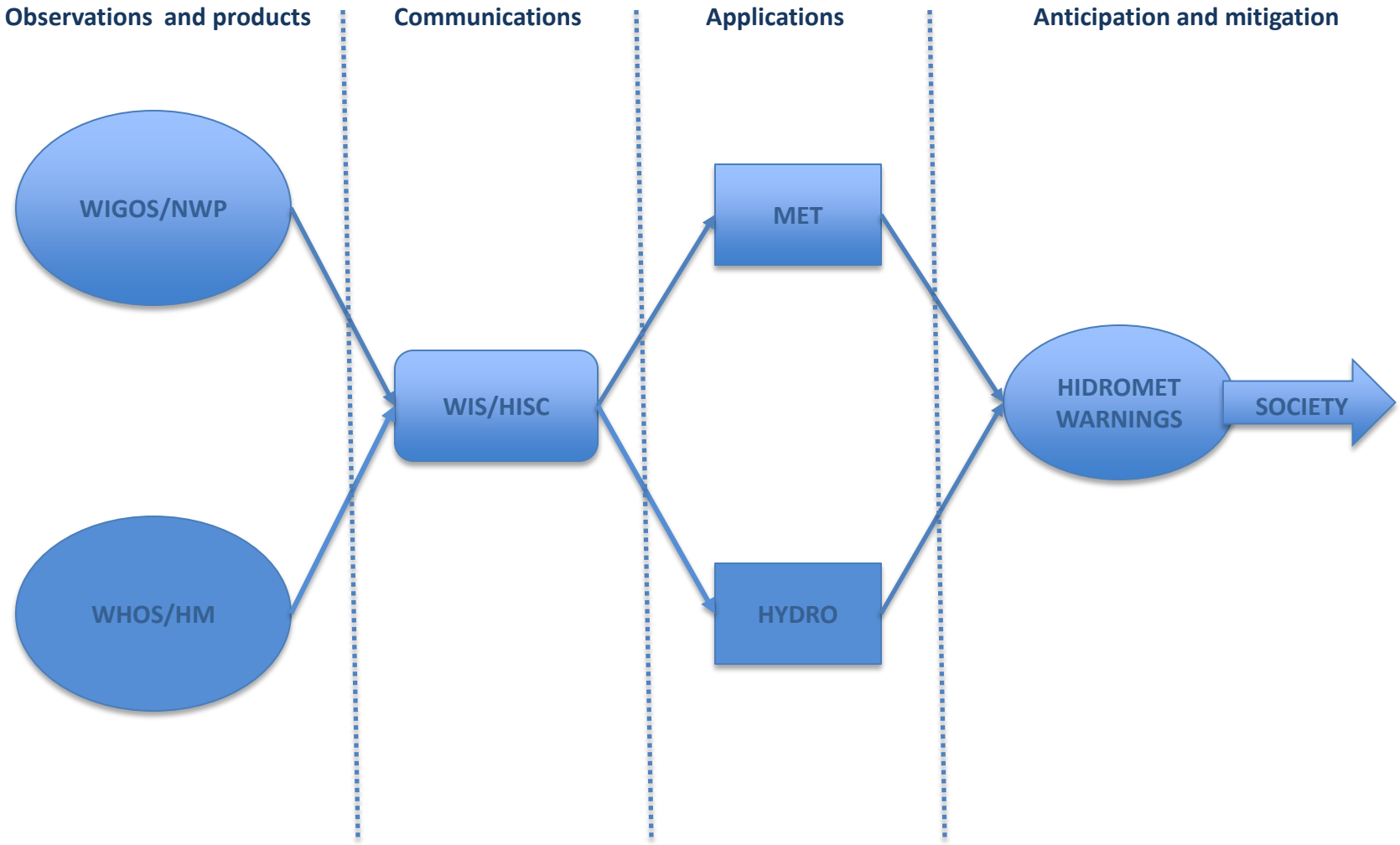

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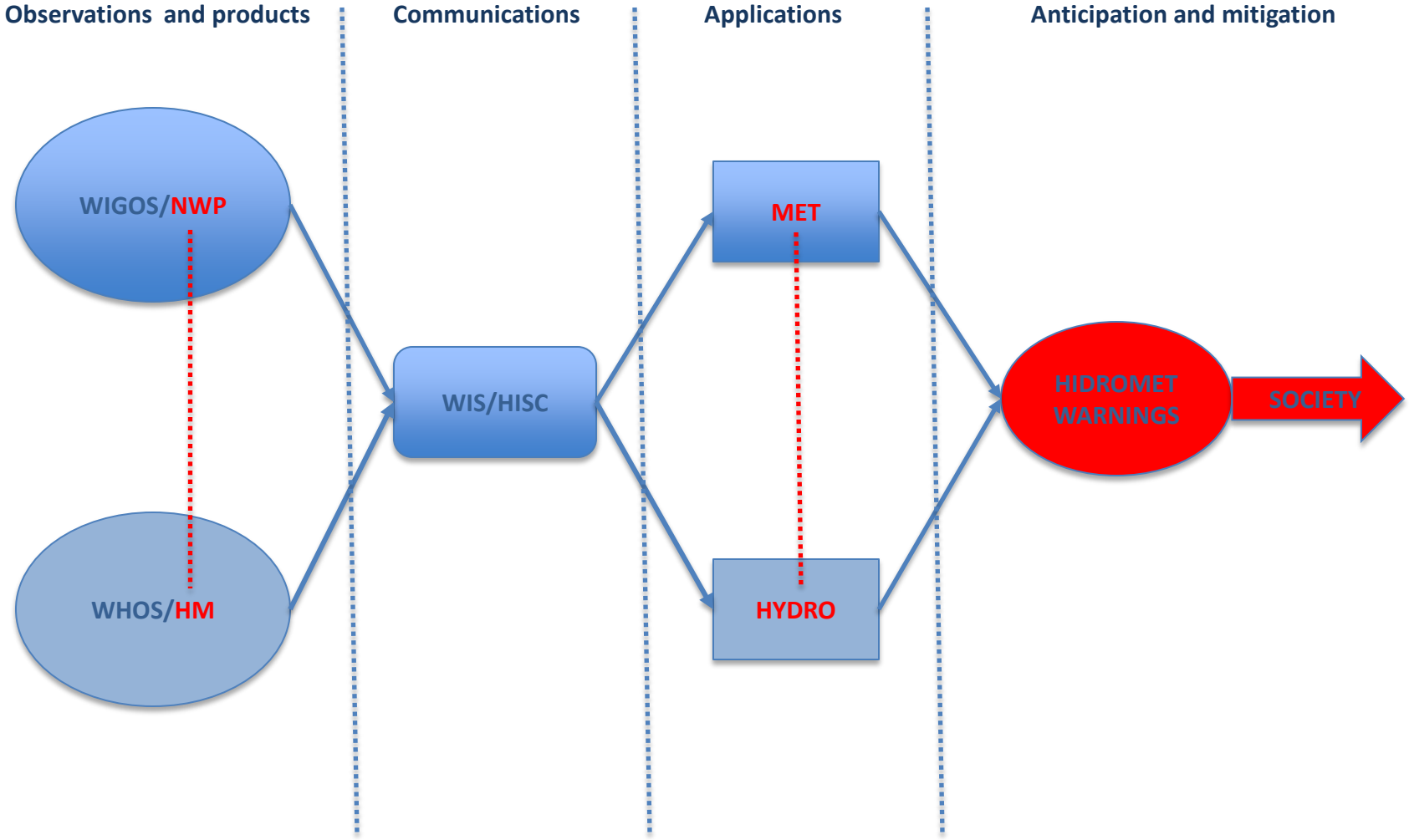
PUTTING THE PIECES TOGETHER



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Thanks/Gracias

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