

Accessing information to support risk analysis and mapping through NMHSs, WMO Global Telecommunication System (GTS), WMO Information System (WIS) and the Global Framework for Climate Services (GFCS) and other specialized networks”

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Introduction

- Currently data flows from the source instrumentation and gets processed as messages for distribution around the globe.
- This known as the WMO-Global Telecommunication System (GTS)
- The challenges with the GTS was realised back in 1998,
 - The system is based on a data push distribution model.
 - It is very internally based to the Meteorological community
 - Does not allow easy data availability to researchers and others.
- Countries in Africa that's running a Regional Telecommunication Hubs are, Algeria, Senegal, Niger, Congo Brazzaville, Egypt, Kenai and South Africa.

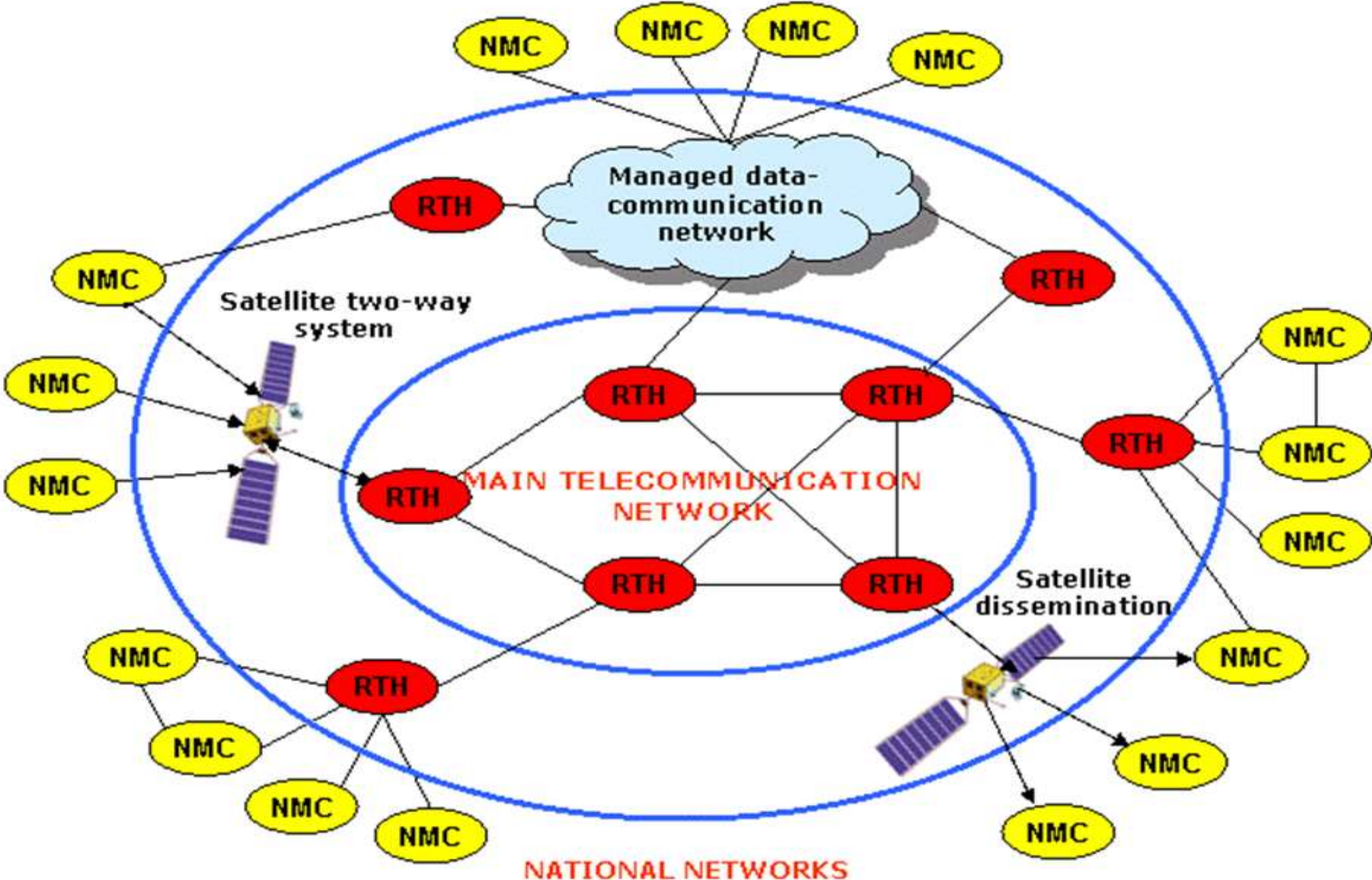
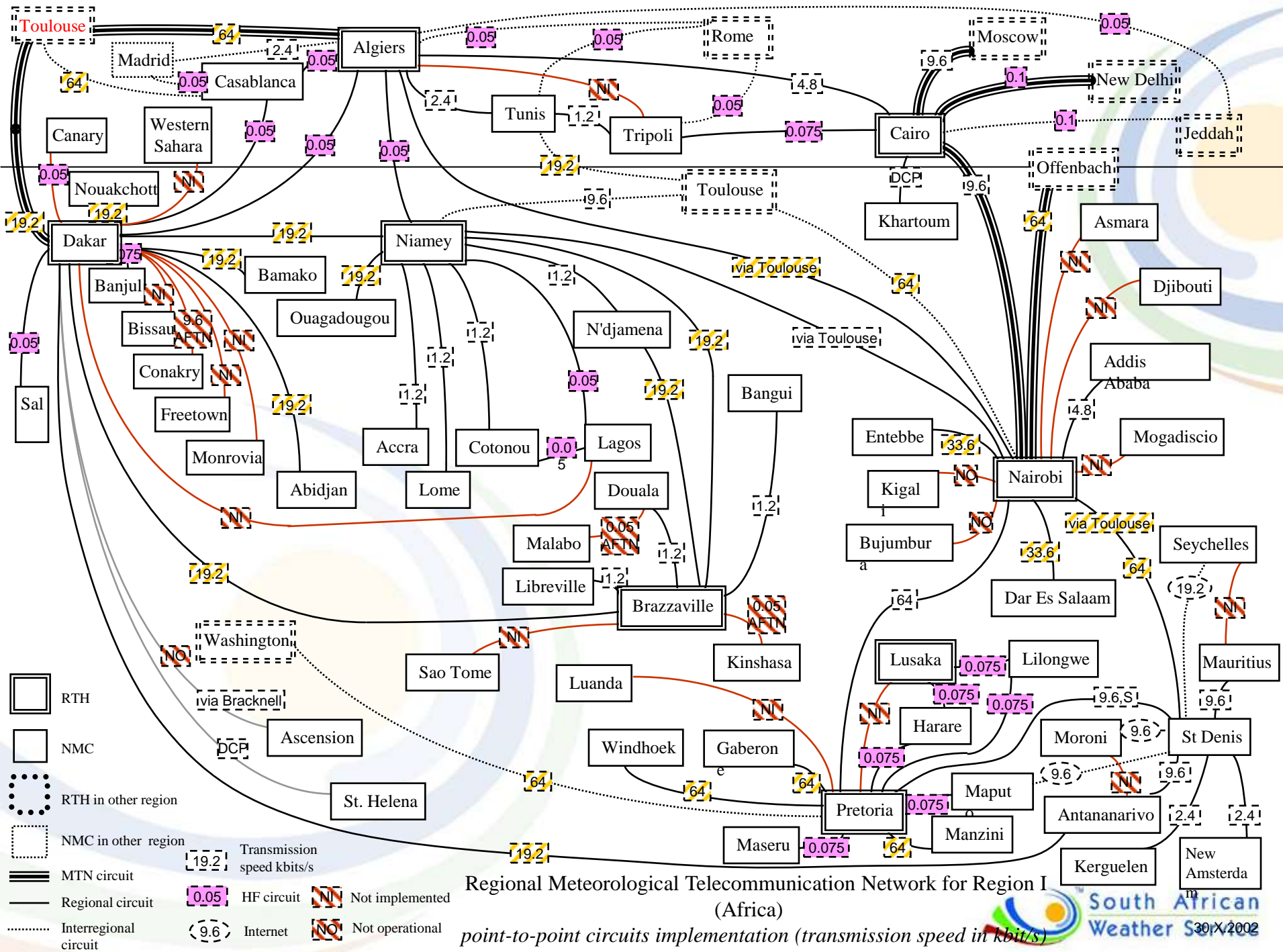


Figure 1 The Global Telecommunication Network



WMO – Information System (WIS)

- The idea to have an over arching system that will both allow for *push* and *pull* of data was adopted by WMO EC 2003 and the WIS-Project was initiated to address this need.
- Three major components are defined:
 - National Centres (NC) – (NMHS)
 - Data Collection or Product Centres (DCPC) – (RTH)
 - Global Information System Centres (GISC)

together with a data communication network connecting the components

- WIS DCPC's and GISC's will keep *Meta-data catalogues* pointing to the data sources (NC) from where the data will then be available through the Internet.

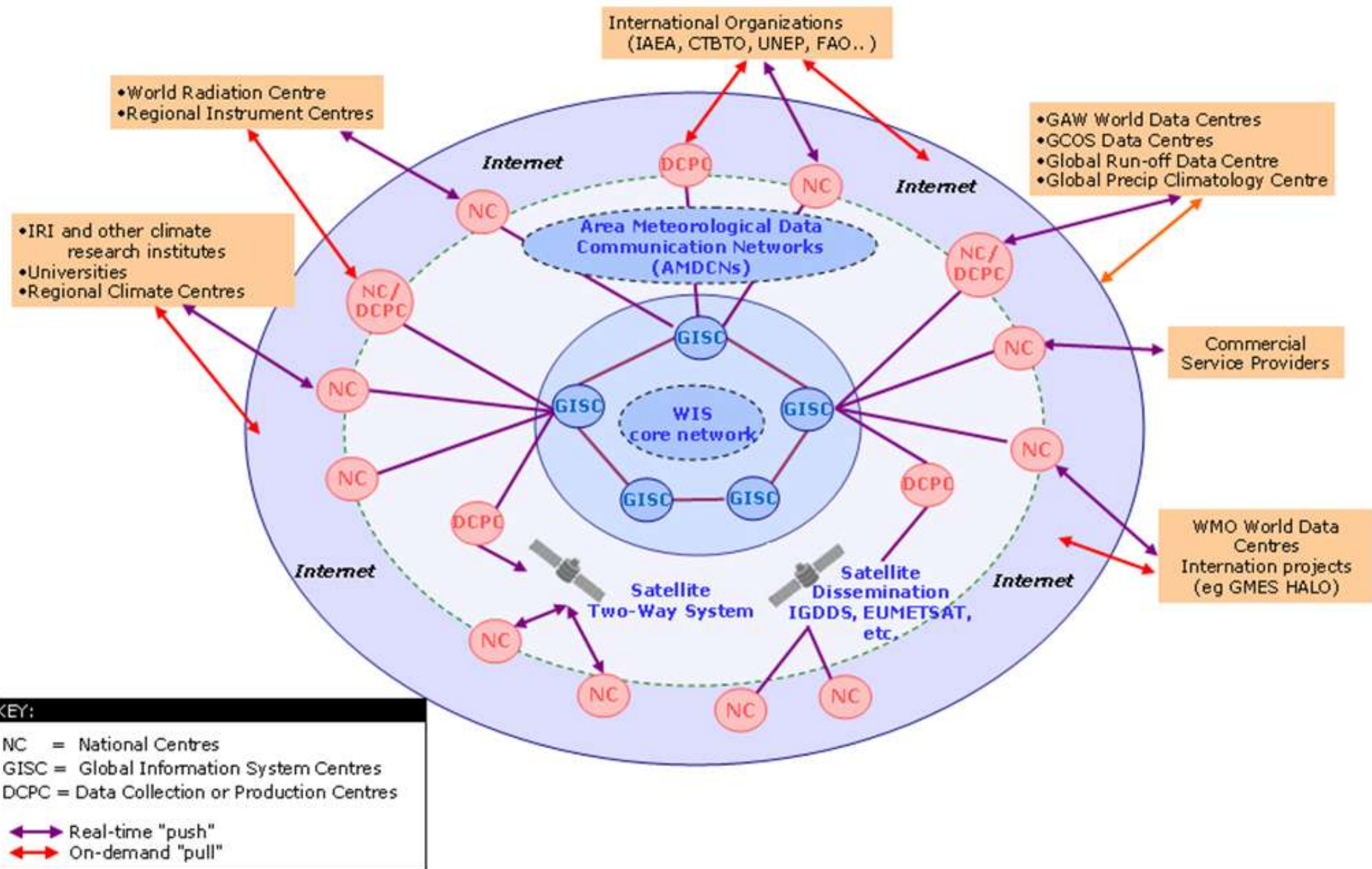


Figure 2 WIS Vision

Data exchange model (WIS) Cont.

- 13 GISC's nominations and 110 DCPC requests were received by WMO.
- Countries with active GISC developing programs are:
 - Operational:* Germany, Japan and China, UK & France
 - Under development:* UK, France, Korea, USA, Russia, Australia, Brazil and South Africa.
- In Africa (DCPC's) nominations received include:
 - Algeria, Egypt, Kenya, Nigeria and Senegal
- WMO is operating a WIS project office over seeing and advising member countries in the development of their WIS initiatives.

Network and Infrastructure needs

- Bandwidth Recommendations for the WIS include
 - National Centres to link at 128Kbps or better
 - DCPC's to have at least 512Kbps bandwidth
 - GISC to have bandwidth of at least 1Mbps for synchronisation to other GISC's. Link to RMDCN a requirement.
- *Data Network in Africa remain a challenge for most member countries having low capacity data links or internet connections for data sharing. These will not be sufficient to realise the full capability of the WIS implementation.*
- Regional Meteorological Data Communication Network was established to for the backbone of WIS for data exchange.

WIS Functionality

- Sharing of data between various sectors
- Enhanced research due to data accessibility
- Metadata captured in data catalogues will be an advert for data availability
- WIS allows for a push-pull mechanism which overrides the current RTH push only system
- Standardisation of metadata throughout the NMHS's
- Total redundancy for global data availability

Distribution of products and services

To Met Services

- WIS will enable NMHS to collect data from sources that would have been hidden the past. The Meta-data catalogues will be a vital tool to search for data.
- Data sources include EumetSat, National Centre for Atmospheric Research, ECMWF and others.

From Met services to Users

- Various platforms can be used for disseminating of data, warning and services.
- These include the DCPC/GISC, Internet portals, mobile devices, media and others.

WMO - Global Framework for Climate Services (GFCS)

- The main goal of the GFCS is to *‘enable better management of the risks of climate variability and change and adaptation to climate change, through the development and incorporation of science-based climate information and prediction into planning, policy and practice on the global, regional and national scale’*.
- WMO and its partners are working on a detailed implementation plan and governance structure designed to maximize the full potential of the Framework.
- This project was initiated in 2011 and the first documents are now being debated at the WMO EC-Meeting Geneva.

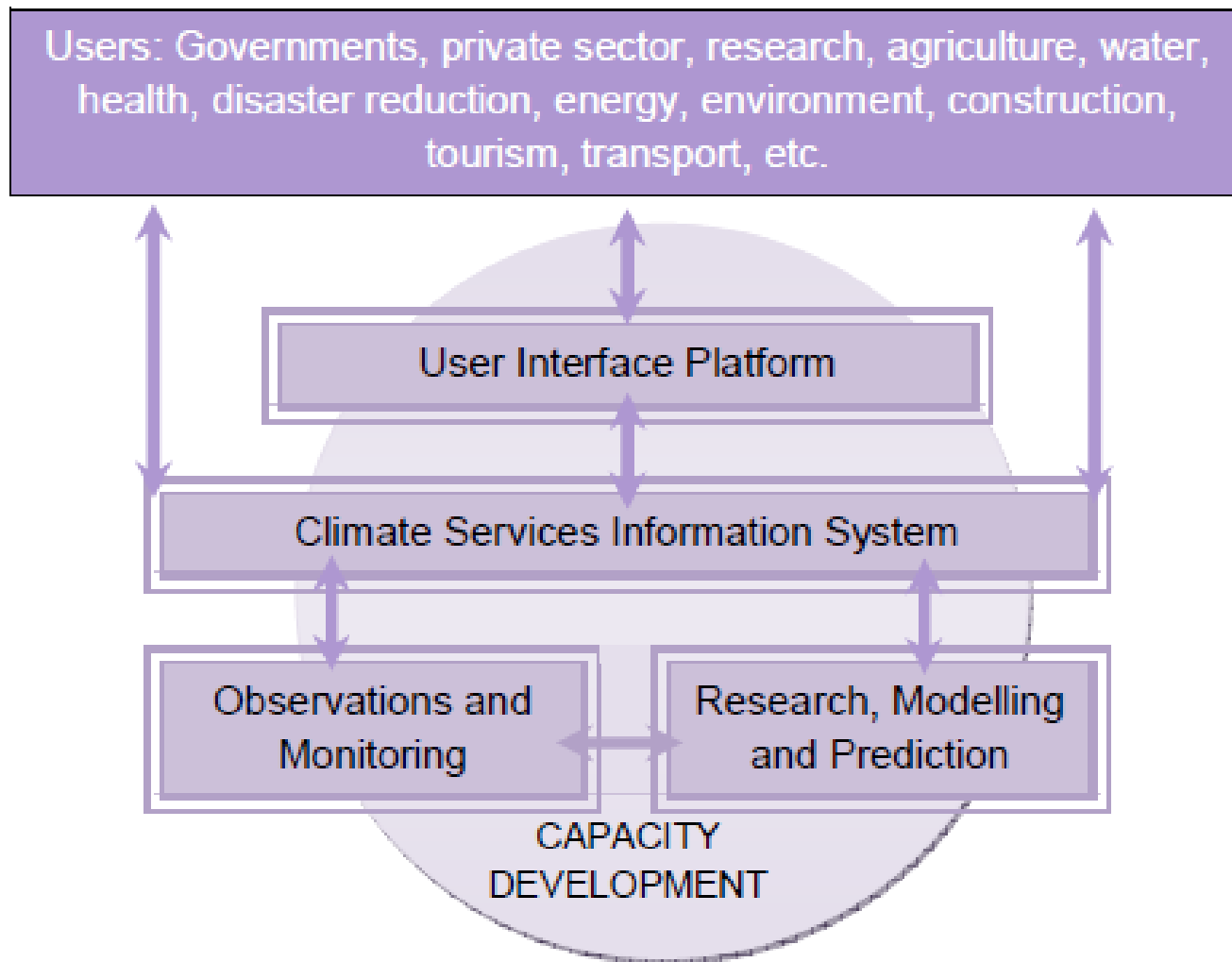


Figure 1.1: A schematic illustration of the pillars of the Framework, with the indication that the Capacity Development component encompasses the other components. Arrows depict flows of information and feedback.

Conclusion

- WIS will be an *enabler* for creating awareness around the initiatives of NMHS's and their capability by acting as an advertising portal for products to the community.
- Centres of Excellence like National Centre for Atmospheric Research, Eumetsat, European Centre for Medium Range Weather Forecasts and others currently excluded, will form part of the WIS.
- GFCS aims towards the production, availability, delivery and application of climate services in the four priority sectors (agriculture, water, health and disaster risk reduction)