

Introduction to the WMO Information System (WIS)

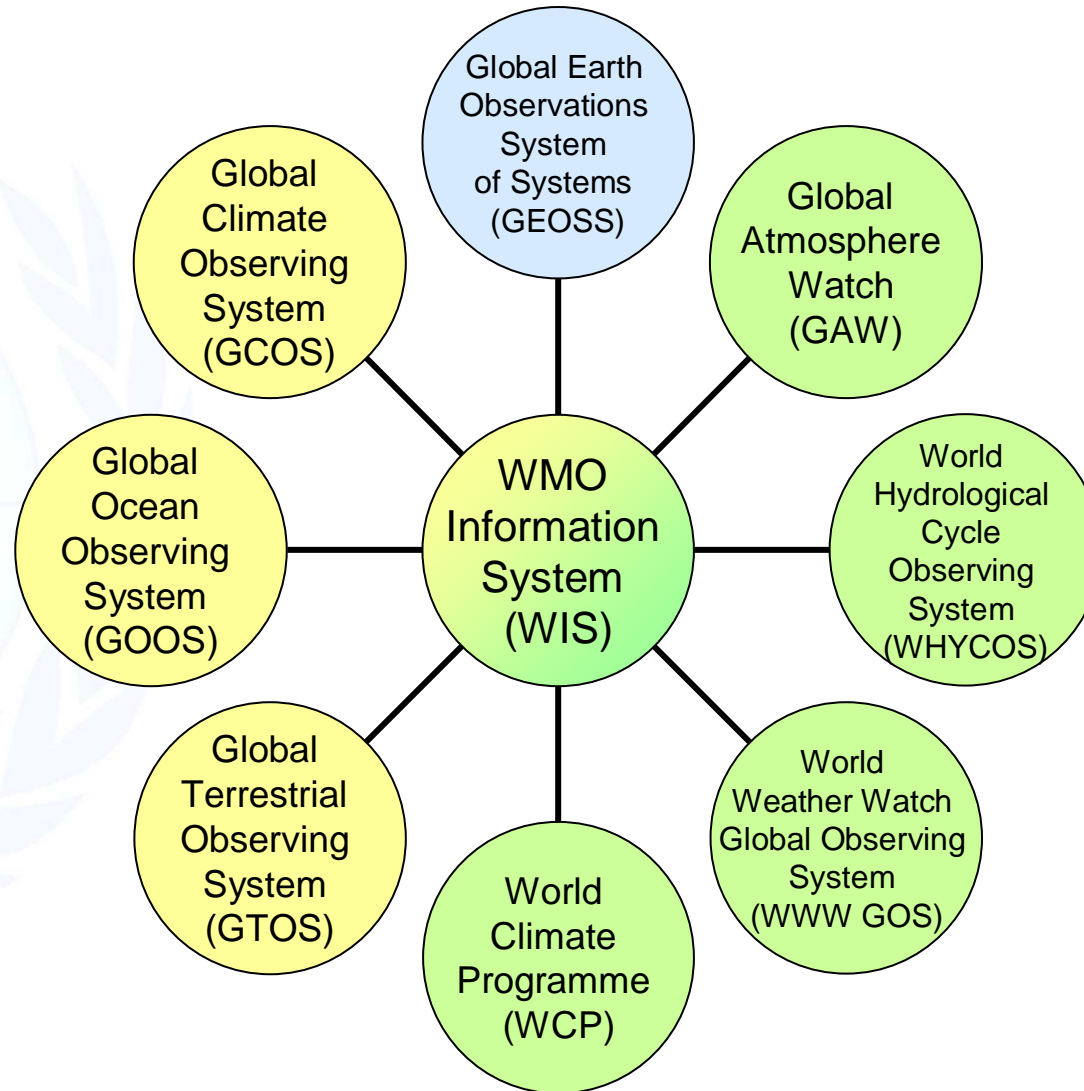
Presented to
Geoland Forum 5
in Berlin, Germany, 13 May 2009
by Eliot Christian <echristian@wmo.int>



**World
Meteorological
Organization**

Weather • Climate • Water

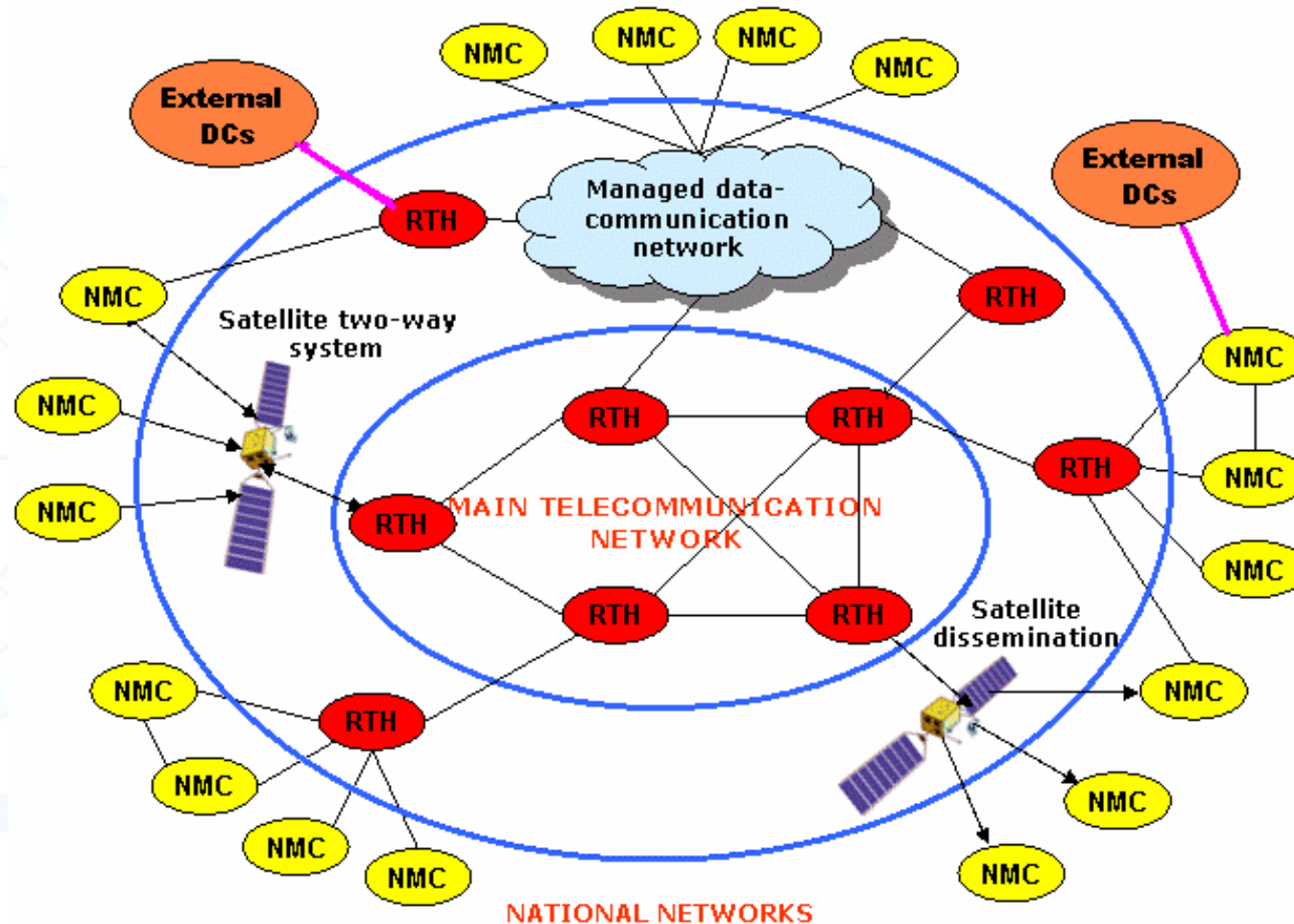
Major WMO Systems within WIS



Data Policies

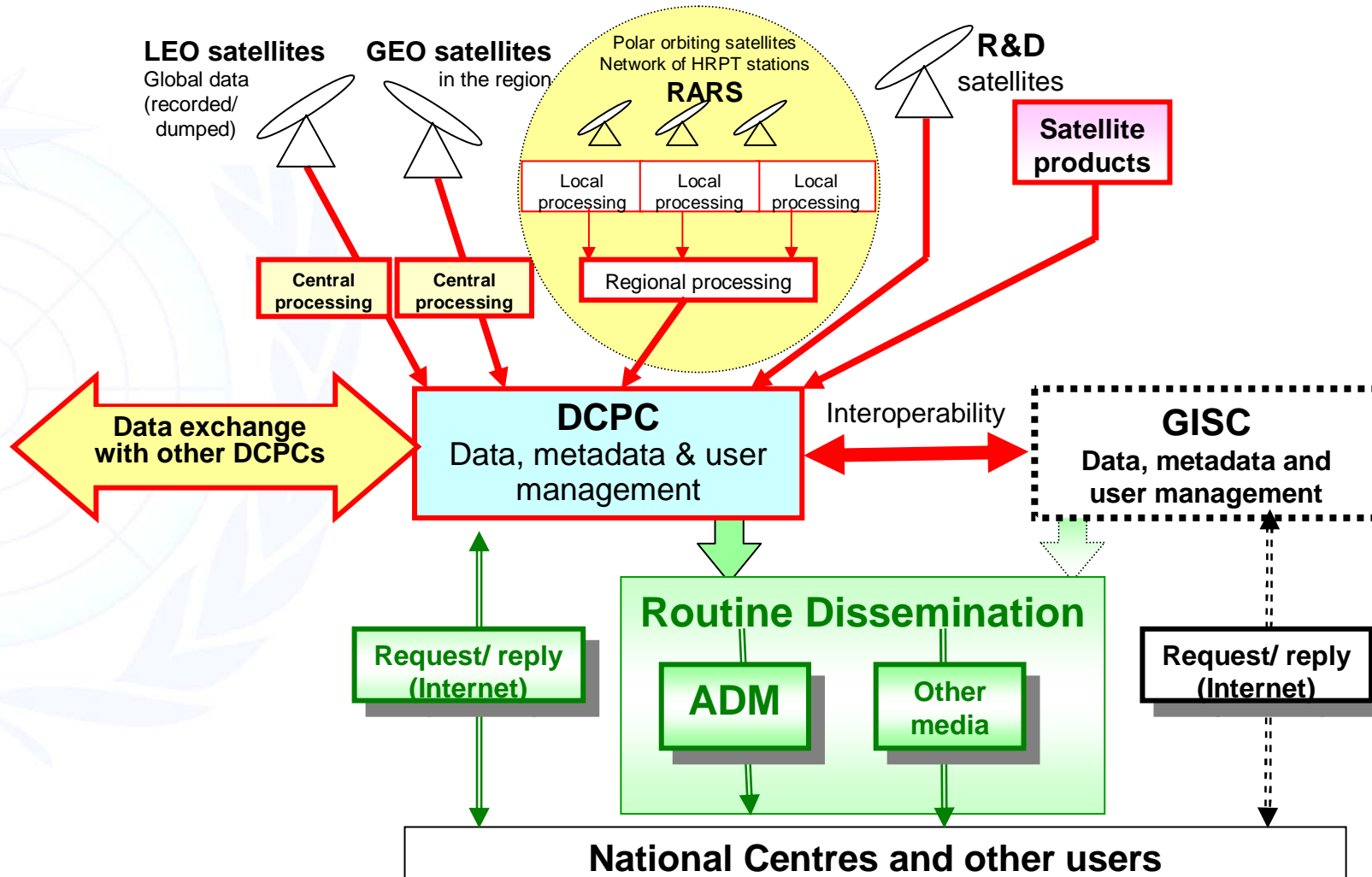
- WMO Resolutions 40 and 25 include free sharing of "essential data" while respecting all other data policies of WMO Members
- WIS is designed with mechanisms for authorization and authentication to support data policies and to ensure the integrity of data discovery and delivery

Global Telecommunication System (GTS)

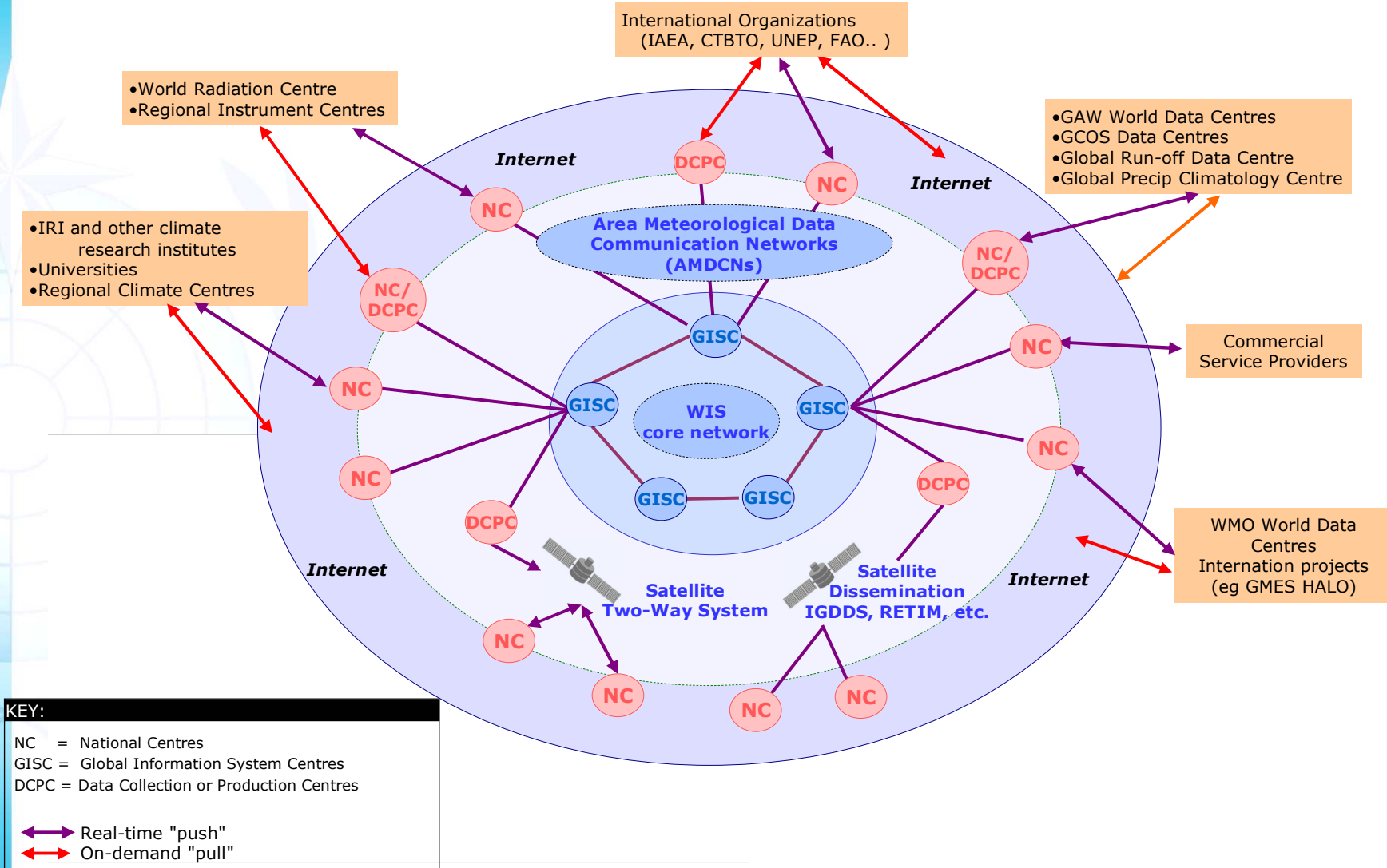


RTH – Regional Telecommunication Hub NMC – National Meteorological Centre DCs – Data Collectors/ Custodians

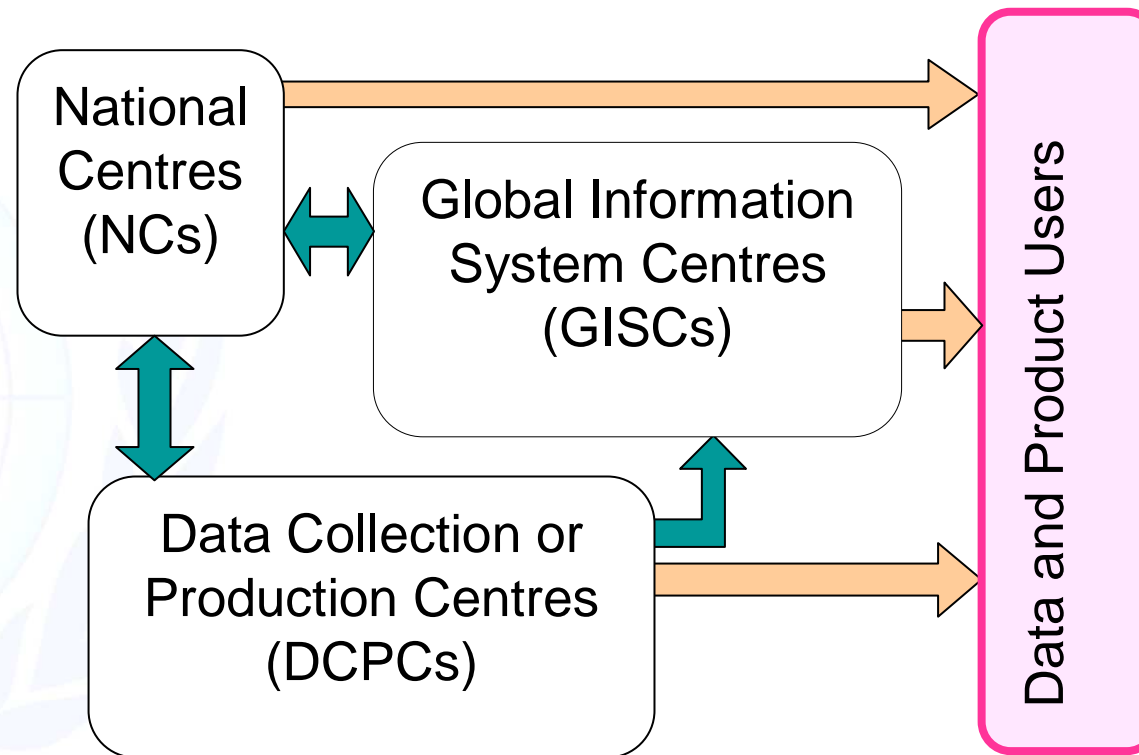
Integrated Global Data Dissemination System (IGDDS)



Types of Centres: GISCs, DCPCs, and NCs



WIS Architecture



Uploading Files / the GISCs "Cache"

	Interface Technical Specification	Required for:		
		NC	DCPC	GISC
1	Uploading of Metadata for Data and Products	✓	✓	✓
2	Uploading of Data and Products	✓	✓	✓
3	Centralization of Globally Distributed Data			✓

User Identification and Role Information

	Interface Technical Specification	Required for:		
		NC	DCPC	GISC
4	Maintenance of User Identification and Role Information	✓	✓	✓
5	Consolidated View of Distributed Identification and Role Information			✓
6	Authentication of a User		✓	✓
7	Authorization of a User Role		✓	✓

DAR Catalogue Search and Retrieval

	Interface Technical Specification	Required for:		
		NC	DCPC	GISC
8	DAR Catalogue Search and Retrieval		✓	✓
9	Consolidated View of Distributed DAR Metadata Catalogues			✓

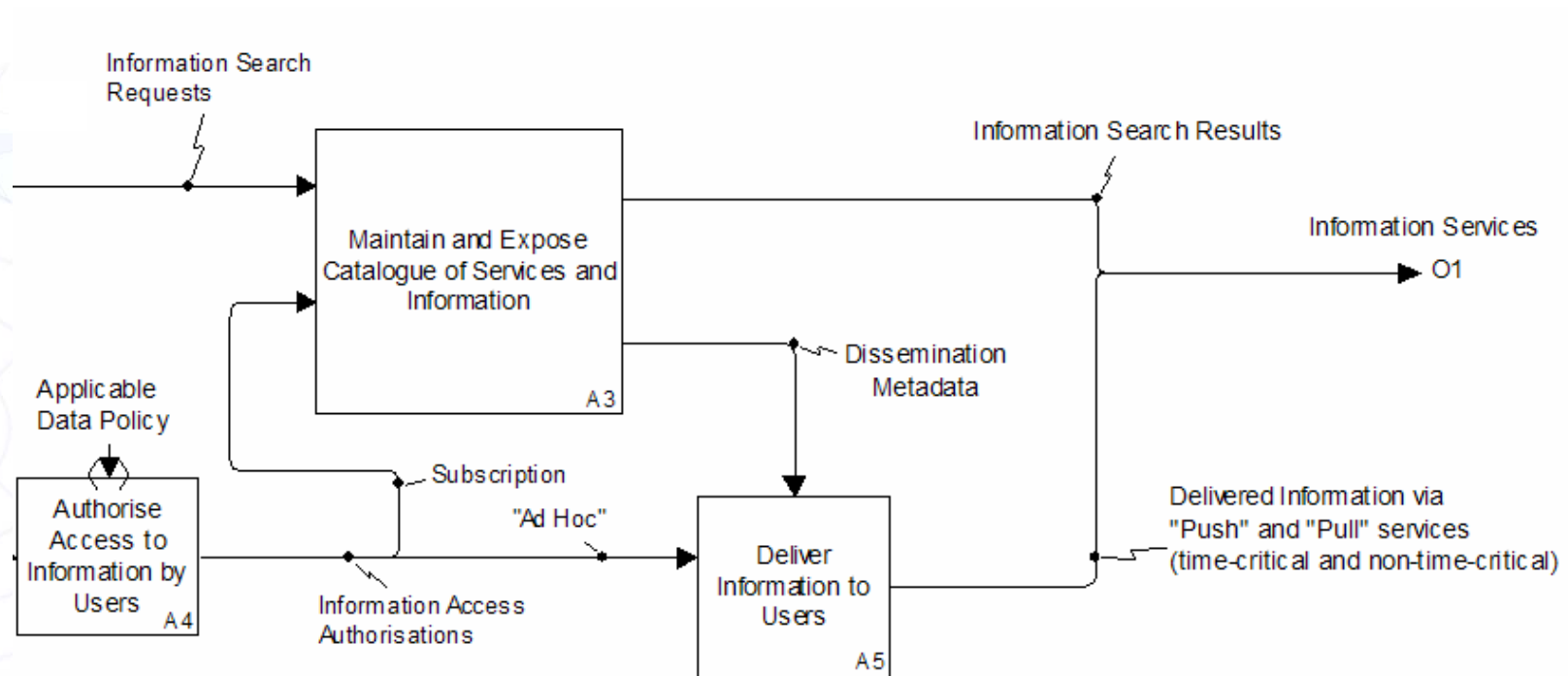
Dissemination Metadata / Downloading Files

	Interface Technical Specification	Required for:		
		NC	DCPC	GISC
10	Downloading Files via Dedicated Networks	✓	✓	✓
11	Downloading Files via Non-dedicated Networks	✓	✓	✓
12	Downloading Files via Other Methods	✓	✓	✓
13	Maintenance of Dissemination Metadata	✓	✓	✓
14	Consolidated View of Distributed Dissemination Metadata Catalogues			✓

Reporting of Quality of Service

	Interface Technical Specification	Required for:		
		NC	DCPC	GISC
15	Reporting of Quality of Service	✓	✓	✓

Discovery, Access and Retrieval Catalogue



Information Search and Retrieval (ISO 23950)

[http://www.search.gov/gsdi/sru2kml.php?operation=searchRetrieve&version=1.1&maximumRecords=100&recordSchema=XML&query=\(geo.bounds within/partial/nwse "43.772 -101.411 31.7723 -77.7499"\) and \(geo.keywords any "biologic ecologic"\)](http://www.search.gov/gsdi/sru2kml.php?operation=searchRetrieve&version=1.1&maximumRecords=100&recordSchema=XML&query=(geo.bounds%20within/partial/nwse%20%2243.772%20-101.411%2031.7723%20-77.7499%22)%20and%20(geo.keywords%20any%20%22biologic%20ecologic%22))

latitude, longitude
boundaries

terms, etc.

Metadata and ISO 19115 (WMO Core Profile v. 1.1)

- WMO adopted ISO 19115, an international standard for geospatial metadata content
- WMO Core Profile, version 1.1, provides cataloging rules for applying ISO 19115
- ISO 19139 defines an XML representation for ISO 19115-compliant metadata
- Example metadata compliant with WMO Core Profile, describing meteorological observation data flowing over GTS

[\[click here\]](#)

WIS and GMES Core Services

- Marine Core Service (MCS)
- GMES Atmosphere Core Service (GCAS)
- Emergency Response Core Service (ERCSS)
- Land Monitoring Core Service (LMCS)

Need for a Mature, Sustainable Infrastructure

"In situ observation infrastructures should ideally be organized on the basis of the existing and mature measurement infrastructures for which observational techniques, agreed standards and protocols are available. The main critical issue regarding these observational data is the sustainability of its infrastructure including the supporting networks."

"At international level, a number of highly evolved monitoring networks exist and operate strong procedures of standardisation, archiving, reporting and system maintenance. Meteorological monitoring undoubtedly represents the most advanced of these, and sets a standard to which other systems at present can only aspire."

Quotes from "Global component of the GMES Land Monitoring Core Service", Draft v.02 (GMES Global Land Working Group)

Conclusion

- WIS operational real-time infrastructure could be useful to the GMES Core Services
- Discovery functions of GMES Core Services could leverage the WIS DAR catalog facility
- GMES centres could partner with WIS NCs and DCPCs

References

WIS Web site

http://www.wmo.int/pages/prog/www/WIS/index_en.html

WIS Reference Documents

http://www.wmo.int/pages/prog/www/WIS/ref_docs_en.html

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