The WMO Information System
Status and future direction

Copernicus Climate Data Store Workshop,
ECMWF, 3 March 2015

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Agenda

- Introduction to WIS
- Status of WIS
- Future directions
Launched in 1963, to support global collaboration in operational weather forecasting and weather research

Three core components: GOS, GTS, GDPFS

GTS - the Global Telecommunication System
- collects, exchanges, and distributes observational data and forecasting products
Limitations of GTS

- GTS is Reliable But…
  - Difficult to know what is there
  - Need special connections
  - Hard to set up routine delivery
  - “WWW club”
A global operational infrastructure operated by WMO Members which aims to increase data visibility and simplify data exchange and access

Add to GTS

Make it easier to
- find data
- fetch data
- publish data

Serve whole WMO community

Allow migration to new technologies
WIS structure

National Centre
- contributes information to WIS
- distributes WIS information to national users

Data Collection or Production Centre
- Manages sub-regional exchange of information,
- Collects, analyses or produces information

Global Information System Centre
- Holds catalogue of all information available through WIS
- Manages global exchange of information

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Discovery, Access, Retrieval

User
- Searches catalogue at GISC
- Asks GISC/DCPC for product

DCPC
1. Passes WIS metadata to GISC
2. Passes product to user

GISC
WIS implementation

- WIS became operational in January 2012
- There are now
  - 15 GISCs
  - 136 DCPCs
  - 223 NCs
  - More than 180,000 metadata records in the global catalog
- Some well known DCPCs
  - ECMWF
  - EUMETSAT
  - NCAR
  - NESDIS-NCDC/NODC/NGDC
  - …
Status of GISCs

(As of August 2014)

- GISC in operation
- GISC not in operation yet
- GISC candidate

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Copernicus : a WIS DCPC!

- Existing centres within WMO Member States may apply for designation as one of the functional centres forming the core infrastructure of WIS:
  - Global Information System Centres (GISCs)
  - Data Collection or Production Centres (DCPCs)
  - National Centres (NCs)

- Designation requires a statement of compliance with WIS requirements
WIS is critical to the following priority initiatives of WMO

- **WIGOS Framework**
  - WMO Integrated Global Observing System
  - WIS provides the interoperability layer as well as providing WIS data exchange and discovery

- **GFCS**
  - Global Framework for Climate Services
  - WIS supports the Climate Services Information System

- **Services and Disaster Risk Reduction**
  - WIS enables Members and decision makers access to authoritative, high quality weather, climate and water information
Future direction of WIS: Some facts

- Current and future project continuously increase the amount of data available
  - Petabytes of earth observation
- Constant increase in the flow of data to exchange and information to be disseminated to various users
  - The dissemination solutions will have to scale up to accommodate the data volume and to meet the demand
- What are the most effective dissemination infrastructures when data and information are big and will keep on increasing?
- How will these data and information be exchanged, processed, disseminated and archived?
Toward web services

High level interoperable services on data
Web services for data access and manipulation
Towards cloud services
Toward Data Lifecycle Management

- Create
- Store
- Share
- Use
- Archive
- Destroy

- World Radiation Centre
- Regional Instrument Centres
- IRI and other climate research institutes
- Universities
- Regional Climate Centres
- GCOS Data Centres
- Global Run-off Data Centre

KEY:
NC = National Centres
GISC = Global Information System Centres
DCPC = Data Collection or Production Centres

Real-time "push"
On-demand "pull"
Thank you for your attention!