

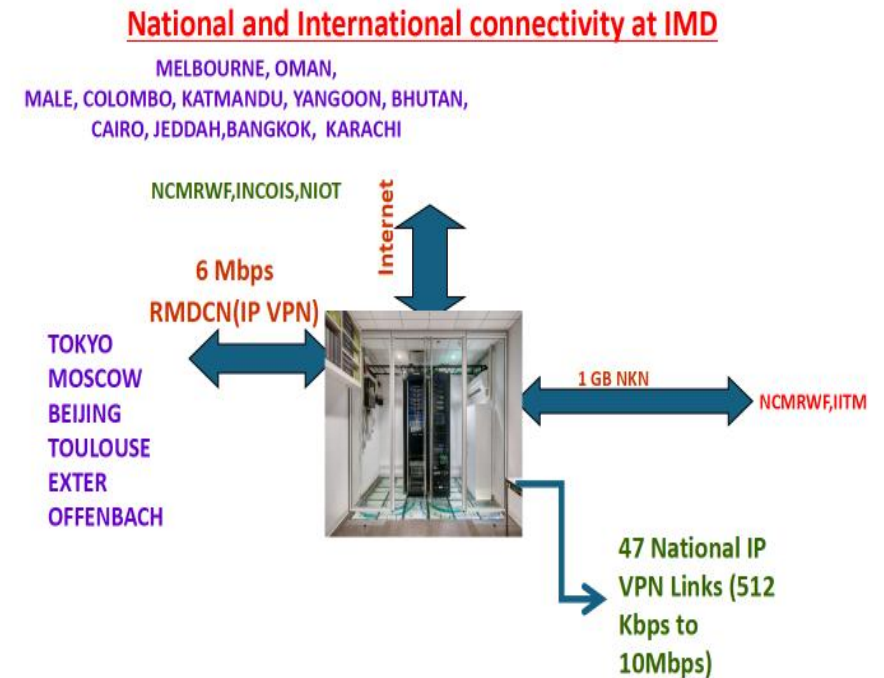
Support for WIS2 Implementation by GISC New Delhi

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GISC New Delhi
India

Introduction

- ❖ RTH New Delhi is functioning as a Regional Telecommunication Hub (RTH) on the Main Telecommunication Network (MTN).
- ❖ The automated centre of RTH, New Delhi is thus the Principal Meteorological Telecommunication Centres in South Asia and its zone of responsibility extends roughly from Saudi Arabia in the west to Thailand in the East and the adjoining sea areas.
- ❖ It collects data from this areas and feeds on to the Global Telecommunication System for Global and Regional Exchange.

Other meteorological services in the Middle East and South East Asia also depends for their data requirements on RTH, New Delhi.



WMO Information System

Three type of WIS Centres are defined: NCs, DCPCs and GISCs

NCs and DCPCs are affiliated with a Global Information System Centre (GISC)

As of the operational phase of WIS2 in 2025, the role of WIS Centres has evolved

- **NCs and DCPCs operate WIS2 Nodes to share their data**
- **Global Information System Centres (GISCs):**
 - ✓ **Support NCs and DCPCs** to establish their data sharing on WIS2
 - ✓ Perform **WIS2 Node Assessment** prior to WIS2 Node registration in Global Registry
 - ✓ **Ensure the smooth operation of data exchange in WIS2**, using the Global Monitoring tools and participating in the GISC Watch

For Designation Procedures for WIS Centres see:

[Manual on WIS, Volume I, Part II, Page 16](#)

For list of current NC/DCPC and affiliated GISC see:

<https://community.wmo.int/en/wis-centres>

GISC New Delhi WIS2.0 Status

- GISC New Delhi is operational from 2016. This can be accessed through the URL <http://wis.imd.gov.in>
- As per Resolution 51(Cg-XIV), following two centres have been designated as WIS DCPC under the principal GISC New Delhi:
 - RTH (New Delhi) and RSMC- Tropical Cyclones New Delhi.
 - Under WMO WIS2 pilot project India also participated and installed the wis2.0 box.
 - The URL is <https://wis2box.imd.gov.in>.



The screenshot displays the WIS 2.0 web interface. At the top, there is a header with the WMO logo and a 'SETTINGS' button. Below the header, a blue banner reads 'Welcome to WIS 2.0 in a box!'. The main content area is divided into four sections, each featuring a map of India on the left and data details on the right:

- Hourly synoptic observations from fixed-land stations (SYNOP) (in-imd)**
Topic: origin/a/wis2/in-imd/data/core/weather/surface-based-observations/synop
Metadata Identifier: urn:wmo:md:in-imd:surface-based-observations.synop
Buttons: EXPLORE, OBSERVATIONS, METADATA, MESSAGES
- Upper-level temperature/humidity/wind reports from fixed-land stations (TEMP) (in-imd)**
Topic: origin/a/wis2/in-imd/data/core/weather/surface-based-observations/temp
Metadata Identifier: urn:wmo:md:in-imd:surface-based-observations.temp
Buttons: METADATA, MESSAGES
- Satellite Products**
Topic: origin/a/wis2/in-imd/data/core/weather/space-based-observations/insat-3dr/imager
Metadata Identifier: urn:wmo:md:in-imd:satellite
Buttons: METADATA, MESSAGES
- Drifting buoy observations made as part of the --ENTER PROGRAM NAME HERE-- program**
Topic: origin/a/wis2/in-imd/data/core/ocean/surface-based-observations/drifting-buoys
Metadata Identifier: urn:wmo:md:in-imd:mdv5s5
Buttons: METADATA, MESSAGES

GISC New Delhi WIS2.0 Status



SETTINGS

CAR NICOBAR

DATA

LATEST VALUES

HISTORY

from 2025-09-16T12:00:00Z

Pressure reduced to mean sea level	1011.2 hPa
24 hour pressure change	1.9 hPa
Air temperature	27.4 Celsius
Dewpoint temperature	26.8 Celsius
Horizontal visibility	4000 m
Cloud cover total	62 %
Cloud amount	3 OKTAS
Height of base of cloud	600 m
Cloud type	STRATOCUMULUS CUMULOGENITUS
Cloud type	ALTOCUMULUS TRANSLUCIDUS AT A SINGLE LEVEL
Cloud type	NO CH CLOUDS
Present weather	NO SIGNIFICANT PHENOMENON TO REPORT, PRESENT AND PAST WEATHER OMITTED



CAR NICOBAR

0-20000-0-43367

Observations in json format for urn:wmo:md:in-imd:surface-based-observations.synop

PLOT

TABLE

Observed Property

Pressure reduced to mean sea level

24 hour pressure change

Air temperature

Dewpoint temperature

Horizontal visibility

Cloud cover total

Cloud amount

Height of base of cloud

Cloud type

24 hour pressure change



Jul 13 2025

Jul 27

Aug 10

Aug 24

Sep 7



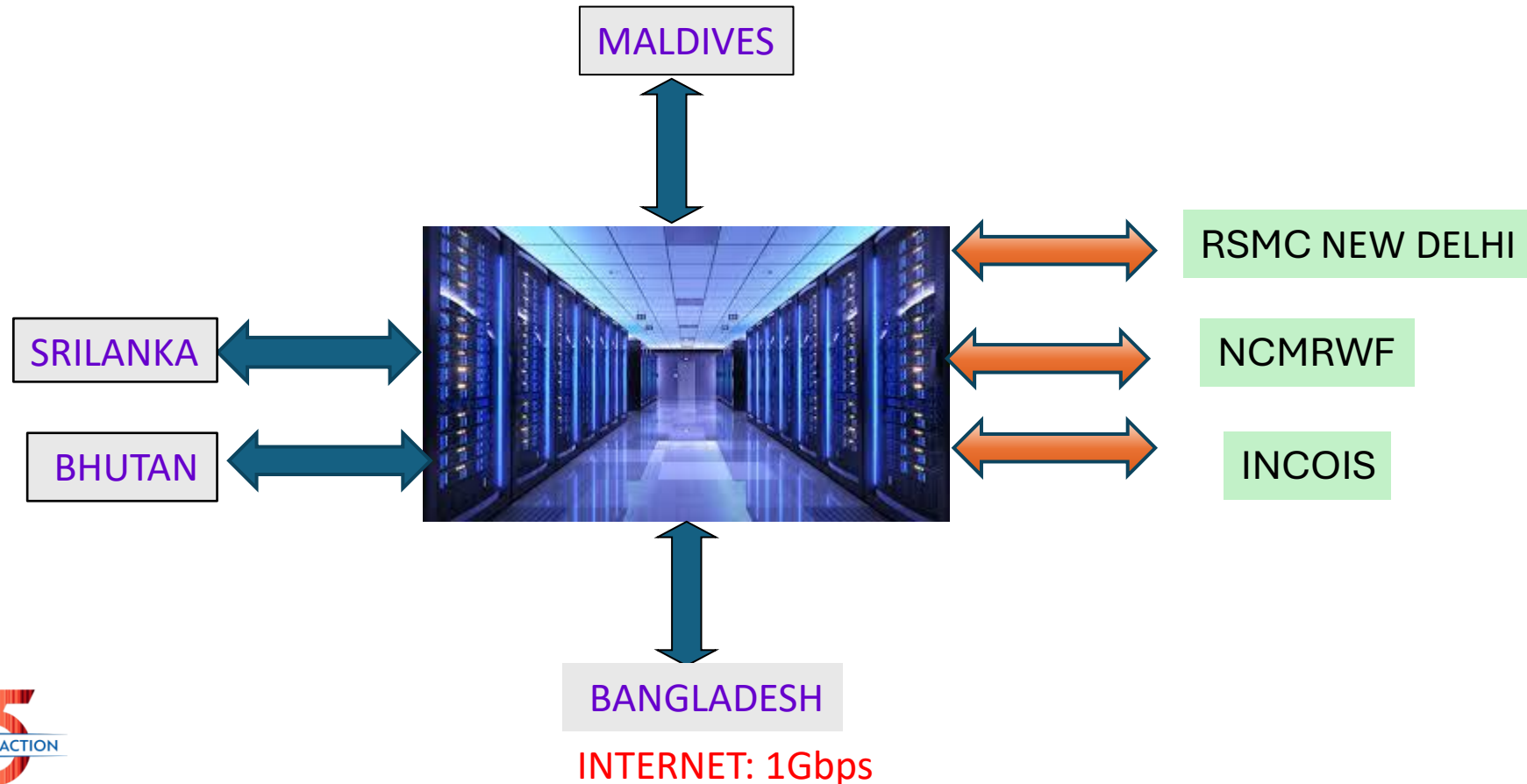
WORLD METEOROLOGICAL ORGANIZATION



GISC New Delhi AORs

In the WIS2 context, the Global Information System Centre (GISC) is a key component that supports National Centres (NCs) and Data Collection or Production Centres (DCPCs) in their Area of Responsibility (AoR) to facilitate data exchange and operate within the new WIS2 network.

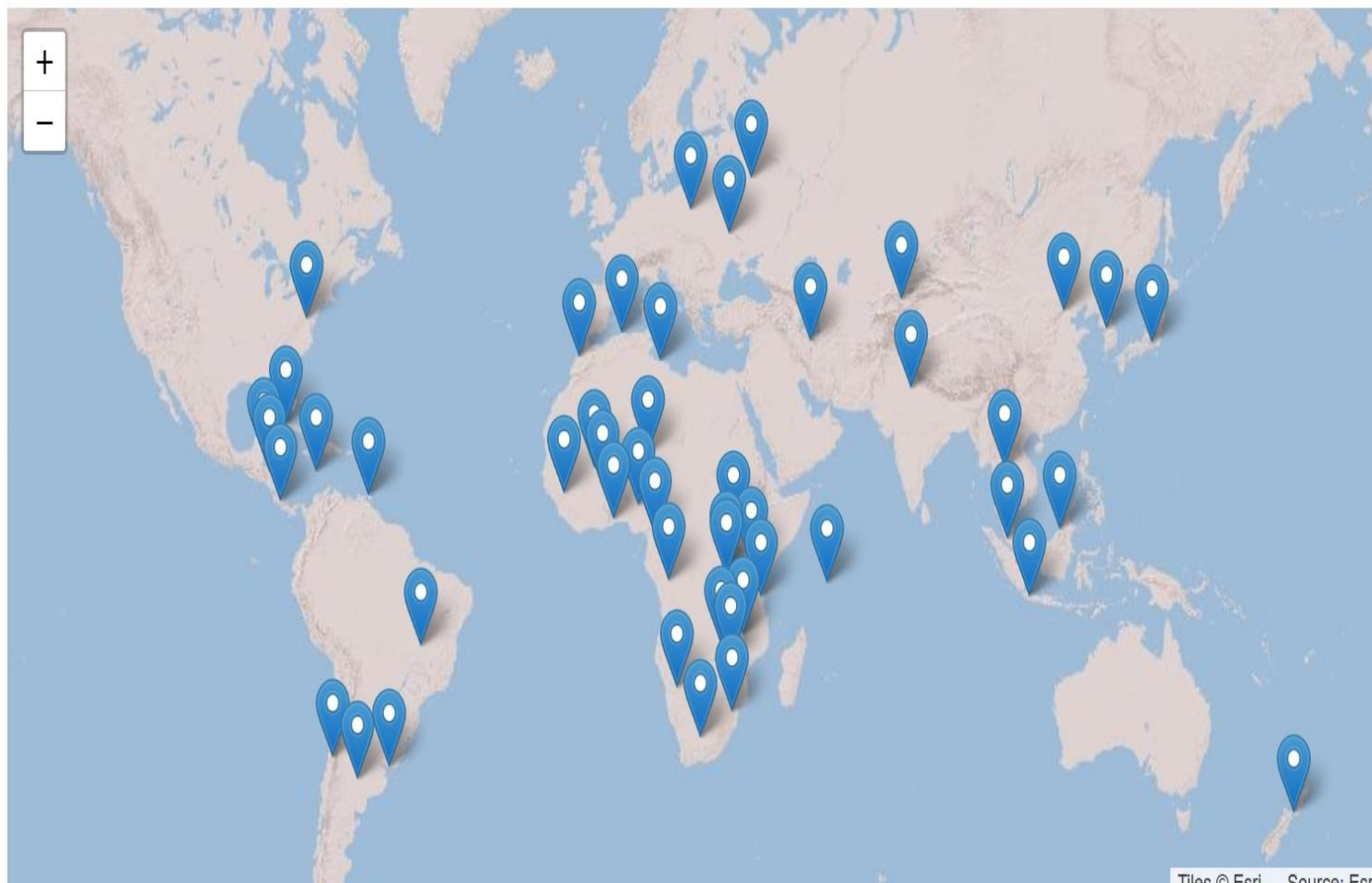
GISC New Delhi → Responsible for Bangladesh, Srilanka, Bhutan, Maldives



WIS2 Implementation Support by GISC

- Each WMO Member shall implement at least one WIS2 node to share data in WIS2

[WIS2 in a box](#) is a reference implementation of a WMO WIS2 Node. The following wis2box deployments are currently sharing data on the WIS network:



Tiles © Feri Source: Feri

Member	Region
China	Region II
Hong Kong, China	Region II
Hong Kong, China(swic)	Region II
India	Region II
Iran	Region II
Japan(gts-wis2 gateway)	Region II
Japan	Region II
Kyrgyzstan	Region II
South Korea	Region II
Kazakhstan	Region II
Saudi Arabia	Region II
Thailand	Region II
Israel	Region II

Minimum requirements for hosting a WIS2 Node using the wis2box-software

❑ VM hardware:

- 2 vCPUs, 4 GB Memory, 48 GB local storage (SSD)

❑ VM software:

- Ubuntu 22.04.3 LTS
- Python 3.10.12
- Docker 24.06, Docker Compose 2.21.0
- Latest wis2box-release
- cmd-line-editors: nano, vi, vim
- additional python-modules: minio

See wis2box documentation for information on the wis2box-host requirements

<https://docs.wis2box.wis.wmo.int/en/latest/user/getting-started.html>



Technical support by GISC New Delhi to its AORs

❑ Supprt can be provided to setup the wis2box

- Remote or onsite installation if member country have its own infrastructre
- Propose to Goverment of India to host the member country wis2box in India server

❑ Training and capacity building

- Regular training and workshops online and offline shall be conducted to ingest new types of data

❑ WIS2 Node assessment and registration in the Global Registry

WIS2 Node Assessment

The principal GISC verifies that the WIS2 Node is compliant with WIS2 requirements. This assessment includes:

- Verification of **compliance of the topics used by the centre** with the WTH specification;
- Verification of **compliance of the notification messages** with the WIS2 Notification Message (WNM) specification;
- Verification that the **data server** is correctly configured and **properly functioning**;
- Verification that the **Message Broker** is correctly configured and **properly functioning**.

What do you need to register a WIS2 node

1. WIS2 node must be fully functional.

- MQTT public endpoint
 - Global Brokers will subscribe and receive a notification when new data available
- HTTP public endpoint
 - Data will be shared through the HTTP link in the notification message

2. MQTT broker subscription information to be provided to Secretariat (including protocol, hostname or public IP address, port number)

- Example: `mqtt://wis2node.wis.cma.cn:1883` `mqtt://wis2.dwd.de:8883` `wss://globalbroker.meteo.fr:443/mqtt`

3. Centre id to be provided to Secretariat. Please refer to Guidance here (<https://community.wmo.int/en/guidance-assigning-centre-identifier-wis2-node>).

If you need help, ask the Secretariat (wis2-support@wmo.int)

Guidance on assigning a valid centre-id

- The centre identifier (centre-id) is an acronym as specified by the Member and endorsed by the PR of the Member and WMO.
- It is a single identifier comprised of a top-level domain (TLD) and centre name. It represents the data publisher, distributor or issuing centre of a given dataset, data product, data granule or other resource.
- The TLD list can be found [here](#).
- centre name: may contain dashes (but not other special characters).

• Example

- Algeria: dz-meteoalgerie
- Kazakhstan: kz-kazhydromet
 - Uruguay: uy-inumet
 - Saudi Arabia: sa-ncm
- St. Kitts and Nevis: kn-metservice
 - Singapore:
 - sg-mss (WIS centre/NC)
 - sg-mss-asmc (DCPC)
 - Poland: pl-imgw
 - ECMWF: int-ecmwf



- **Required inputs for WIS2 Node registration:**

- ***Submitter contact***

- **Should be NFP on WIS matters**
 - WMO Secretariat will contact the submitter after receiving form submission to validate identity
 - If you need assistance to nominate or update your NFP on
 - WIS matters, contact wis@wmo.int or wis2-support@wmo.int

- ***WIS2 Node details***

- ***Member-name***
 - ***Centre-id***
 - ***WIS2 Node broker connection string****

* for wis2box, the broker connection string is

`mqtt://<wis2box-host-address>:1883`

or

`mqttps://<wis2box-host-address>:8883` (with SSL enab

- ❑ Registration of a WIS2 Node must be approved by the Permanent Representative with WMO (PR) for the country or territory in which the WIS Centre resides.
- ❑ the National Focal Point (NFP) on WIS matters can register a WIS2 Node on behalf of the PR for an official NC or DCPC listed in the [Manual on WIS \(WMO-No. 1060\) Volume I: WIS 1.0](#).
- ❑ More guidance can be found at the [Guide to WIS, Vol. II. 2.c.1.1 Registration and decommissioning of a WIS2 Node](#)

Global Monitoring

- ❑ The global service level of WMO Information System 2 (WIS2) relies on the operational quality of all Global Services.
- ❑ The **Global Monitor** component within WIS 2.0 ensures reliability and transparency by tracking metrics, displaying dashboards, and alerting service managers of issues
- ❑ The procedures to be used:
 - Procedures for Take over
 - Procedures for Monitoring
 - Procedures for issue management
 - Procedures for Hand over
 - Procedure for Escalation

Global Monitor [GM] China

Global Monitor [GM] Dashboard



Welcome to Grafana

Email or username

Password

[Forgot your password?](#)

Log in



Home

- Home
- Starred
 - Your starred dashboards will appear here
- Dashboards**
 - Playlists
 - Snapshots
 - Library panels
 - Public dashboards
- Alerting
 - Alert rules
 - Contact points
 - Notification policies
 - Silences
 - Groups
- Administration

Dashboards

Create and manage dashboards to visualize your data

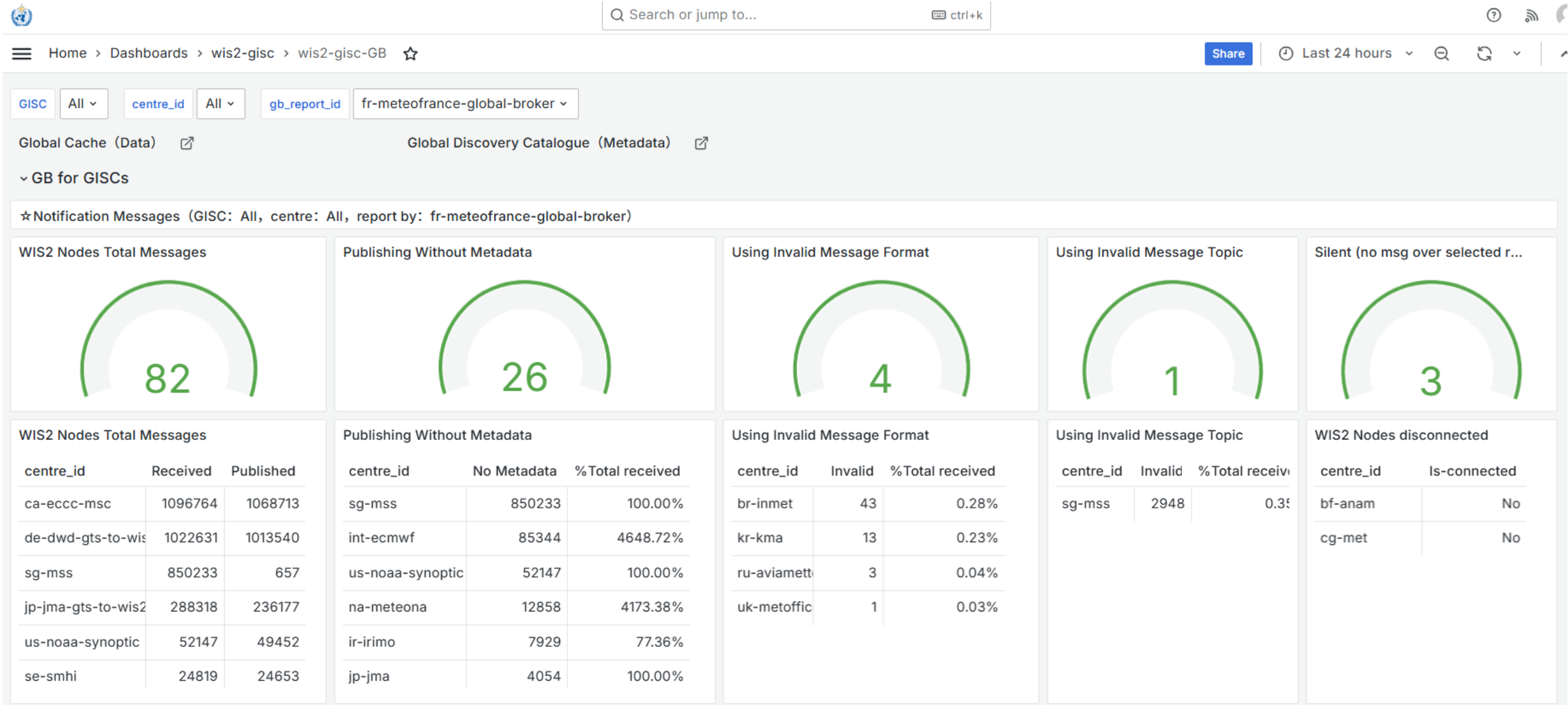
Search for dashboards and folders

Filter by tag ☐ Starred

Name
> Shared with me
> WIS2-GISC - Global Brokers Connection Status - wis2-gisc-GB - wis2-gisc-GC - wis2-gisc-GDC
> WIS2-Global Services

GISC Dashboards

Global Monitoring provides dashboards for GISCs to monitor WIS2 Operations:



Global Monitor Morocco

Global Monitor Dashboard



Welcome to Global Monitor Morocco

Email or username

gisc-user|

Password

.....

Log in

[Forgot your password?](#)



Home > Dashboards > wis2-gisc > wis2-gisc-GB ☆

Home

Starred

Your starred dashboards will appear here

Dashboards

Alerting

Administration

Search or jump to...

ctrl+k

GISC

All

centre_id

All

gb_report_id

fr-meteofrance-global-broker

Global Cache (Data)

Global Discovery Catalogue (Metadata)

GB for GISCs

★ Notification Messages (GISC: All, centre: All, report by: fr-meteofrance-global-broker)

WIS2 Nodes Total Messages



Publishing Without Metadata



Using Invalid Message Format



WIS2 Nodes Total Messages

centre_id	Received	Published
ca-eccc-msc	1096888	1095075
de-dwd-gts-to-wis	1067404	1067399
jp-jma-gts-to-wis2	320066	276507
us-noaa-synoptic	42364	41560
se-smhi	24430	24430
us-noaa-nws	21381	21045

Publishing Without Metadata

centre_id	No Metadata	%Total received
us-noaa-synoptic	42364	100.00%
sg-mss	18274	100.00%
jp-jma	4111	100.00%
it-meteoam	3204	100.00%
ar-smn	2367	100.00%
dz-meteoalgerie	1864	99.84%

Using Invalid Message Format

centre_id	Invalid	%Total received
br-inmet	2	0.01%
kr-kma	8	0.15%

wmo_wis2_gb_connected_flag

GISC Watch

New GISC Watch monitoring procedure launched in April 2025

- replacing the WIS1 Watch, which had been active from 2017 through 2024

New version of GISC Watch Guide (under development) adapting procedures originally developed for WIS1 to WIS2

GISC Watch follows-up on issues using the WIS2 Incident Management System

The screenshot displays the WIS2 IMS interface. The top navigation bar includes 'Dashboards', 'Projects', 'Issues', 'Boards', and a 'Create' button. The left sidebar shows a 'WIS2 IMS' section with options to 'Create board', 'Issues' (selected), 'Reports', 'Releases', and 'Components'. The main content area is titled 'All issues' with a 'Switch filter' dropdown. Below this, a list of issues is shown, including 'WI-82', 'WI-81', 'WI-80', 'WI-79', 'WI-78' (highlighted), 'WI-77', and 'WI-76'. The details for 'WI-78' are expanded, showing the title 'GB USA - Messages missing', a description, and various metadata fields.

WIS2 IMS

+ Create board

Issues

Reports

Releases

Components

All issues Switch filter

Assigned Issues Not Displayed on Dashboard and Filter E...

- WI-82
No recommended data from GTS-to-WIS2 gateway DWD.
- WI-81
All GBs have been unable to receive any messages from ...
- WI-80
Daily archive of Canada's GDC is outdated
- WI-79
update of WCMP2 records in GDC with valid time.resoluti...
- WI-78**
GB USA - Messages missing
- WI-77
GISC and GB Brazil are disconnected
- WI-76
DWD Gateway

WIS2 IMS / WI-78

GB USA - Messages missing

Edit Add comment Assign More Done

Details

Type: Incident

Priority: Medium

Labels: None

Description

It looks like there is no message on origin/a/wis2/# since lunchtime today on the US GB.

The attached image shows the difference in term of messages received.

Can this be looked at ?

GISC Watch_Roster_Apr2025-Sep2027

GISC	1st -Round	2nd -Round	3rd -Round	4th -Round
Toulouse	01/04/2025 - 15/04/2025	16/11/2025 - 30/11/2025	01/07/2026 - 15/07/2026	11/02/2027 - 25/02/2027
Beijing	16/04/2025 - 30/04/2025	01/12/2025 - 15/12/2025	16/07/2026 - 30/07/2026	26/02/2027 - 12/03/2027
Casablanca	01/05/2025 - 15/05/2025	16/12/2025 - 31/12/2025	31/07/2026 - 14/08/2026	13/03/2027 - 27/03/2027
Pretoria	16/05/2025 - 31/05/2025	01/01/2026 - 15/01/2026	15/08/2026 - 29/08/2026	28/03/2027 - 11/04/2027
Tokyo	01/06/2025 - 15/06/2025	16/01/2026 - 31/01/2026	30/08/2026 - 13/09/2026	12/04/2027 - 26/04/2027
Exeter	16/06/2025 - 30/06/2025	01/02/2026 - 15/02/2026	14/09/2026 - 28/09/2026	27/04/2027 - 11/05/2027
Seoul	01/07/2025 - 15/07/2025	16/02/2026 - 28/02/2026	29/09/2026 - 13/10/2026	12/05/2027 - 26/05/2027
Melbourne	16/07/2025 - 31/07/2025	01/03/2026 - 15/03/2026	14/10/2026 - 28/10/2026	27/05/2027 - 10/06/2027
Offenbach	01/08/2025 - 15/08/2025	16/03/2026 - 31/03/2026	29/10/2026 - 12/11/2026	11/06/2027 - 25/06/2027
Brasilia	16/08/2025 - 31/08/2025	01/04/2026 - 15/04/2026	13/11/2026 - 27/11/2026	26/06/2027 - 10/07/2027
New Delhi	01/09/2025 - 15/09/2025	16/04/2026 - 30/04/2026	28/11/2026 - 12/12/2026	11/07/2027 - 25/07/2027
Washington	16/09/2025 - 30/09/2025	01/05/2026 - 15/05/2026	13/12/2026 - 27/12/2026	26/07/2027 - 09/08/2027
Jeddah	01/10/2025 - 15/10/2025	16/05/2026 - 31/05/2026	28/12/2026 - 11/01/2027	10/08/2027 - 24/08/2027
Moscow	16/10/2025 - 31/10/2025	01/06/2026 - 15/06/2026	12/01/2027 - 26/01/2027	25/08/2027 - 08/09/2027
Tehran	01/11/2025 - 15/11/2025	16/06/2026 - 30/06/2026	27/01/2027 - 10/02/2027	09/09/2027 - 23/09/2027



WORLD
METEOROLOGICAL
ORGANIZATION



Watch Report From GB and GM

GISC New Delhi											
Global Service			Roaster Start Date							Operation Additional Dates	
Global Monitorings	Test source	Details (Forgot your us	9/1/2025	9/2/2025	9/3/2025	9/4/2025	9/5/2025	9/6/2025	9/7/2025	9/8/2025	9/9/2025
GM China GISC	https://gm.wis.cma.cn/	User : gisc_user	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok
GM Morocco GISC	http://wis2gmc.ma/	User : gisc-user	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok
Global Brokers											
Availability based on « WIS2 Nodes Total Message			9/1/2025	9/2/2025	9/3/2025	9/4/2025	9/5/2025	9/6/2025	9/7/2025	9/8/2025	9/9/2025
GB Brazil	GM China		80	83	83	80	81	77	77	77	
GB Brazil	GM Morocco		83	83	83	83	83	83	83	83	
GB China	GM China		76	80	80	77	75	75	74	75	
GB China	GM Morocco		86	86	86	86	86	86	86	86	
GB France	GM China		80	82	82	79	77	77	76	77	
GB France	GM Morocco		82	82	82	82	82	82	82	82	
GB US	GM China		77	79	79	76	74	74	73	74	
GB US	GM Morocco		86	86	86	86	86	86	86	86	
Global Caches											
WIS2 Nodes Total Downloaded over past 24h			9/1/2025	9/2/2025	9/3/2025	9/4/2025	9/5/2025	9/6/2025	9/7/2025	9/8/2025	9/9/2025
GC CN CMA	GM China		72	73	74	73	70	70	68	68	
GC CN CMA	GM Morocco		85	85	85	85	85	85	85	85	
GC MO NOAA UK/US	GM China		79	79	79	79	76	76	76	76	
GC MO NOAA UK/US	GM Morocco		82	No Data	No Data	82	82	82	82	82	
GC DE DWD	GM China		76	74	75	76	70	66	68	70	
GC DE DWD	GM Morocco		77	77	77	73	65	73	74	75	
GC JP JMA	GM China		56	52	54	54	52	54	55	47	
GC JP JMA	GM Morocco		29	16	9	40	13	36	38	35	
GC KR KMA	GM China		79	78	73	78	69	76	67	76	
GC KR KMA	GM Morocco		34	79	79	79	79	79	79	79	
GC SA NCM	GM China		68	69	70	69	66	66	64	64	
GC SA NCM	GM Morocco		No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	
Global Discovery Catalogue			9/1/2025	9/2/2025	9/3/2025	9/4/2025	9/5/2025	9/6/2025	9/7/2025	9/8/2025	9/9/2025
GDC ECCC	https://wis2-gdc.weather.gc.ca/		Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok
GDC CMA	https://gdc.wis.cma.cn/		Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok
GDC DWD	https://wis2.dwd.de/gdc/		Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok	Connect Ok



WMO
OR

Summary

GISCs **support NCs and DCPCs** in their WIS2 implementation

GISCs perform **WIS2 Node assessment** prior to registration in the Global Registry

GISCs **continuously monitor WIS2 operations** using Global Monitoring dashboard and participate in GISC Watch to follow-up on issues

New Expert Team in WIS2 “ET-WISOP” brings together all GISCs representatives to work consistently and coherently toward successfully implementing WIS 2.0

Thank you
Merci
谢谢
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