

NATIONAL WEATHER SERVICE INSTRUCTION 10-1721

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Operations and Services

Dissemination NDS 10-17

**INTERNATIONAL SERVICES AND COMMUNICATION SYSTEMS (ISCS)
MANAGEMENT**

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SUMMARY OF REVISIONS: This instruction supersedes NWSI 10-1721, International Satellite Communication System (ISCS) Systems Management, dated July 27, 2010.

The following changes have been made:

1. The Program name has been changed throughout to reflect the changes of support services as specified in this document and OSIP documents. The iconic “ISCS” remains the same.
2. In Section 1 text has been deleted and new text added to show the termination of the Inter-agency agreement between the FAA and NWS.
3. In Section 2 text has been changed to reflect the move from satellite communications to the GIFS and SSL/VPN Internet based systems.
4. In Section 2.1 and many following sections inferences and references to WAFS have been removed as these are no longer supported by the ISCS Program Office.
5. Most of Section 2.1.1 has been deleted and now refers only to GTS (refer to 3 & 5).
6. In Section 2.1 the SSL/VPN and GIFS systems are introduced and MPLS circuits deleted as they are no longer in use after June 1, 2012.
7. In Section 2.2 ISCS legacy system text was removed and GIFS added.
8. Section 2.3 was totally re-written to remove the legacy system and add NIDS, GIFS and SSL/VPN.
9. Section 2.4 was totally re-written to remove the legacy system, add GIFS, and SSL/VPN.
10. In Section 3 text referring to FAA was removed and WMO/RA-IV was added.
11. Text was added in Section 3.1.1 to reflect the additional OPS support for the GIFS and SSL/VPN and minor edits to Section 3.1.3
12. Sections 4, 5, and 6 were re-written to reflect changes from the legacy system.
13. Additional text has been added to Section 4 for clarification.

Signed

12/22/14

Deirdre Jones
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Date

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1.0 Document Purpose. This instruction describes how the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) operates and maintains the ISCS after the termination of the Inter-Agency Agreement by the Federal Aviation Administration (FAA) on June 30, 2012.

2.0 System Description. The ISCS is a communications data distribution system for meteorological data products which is operationally managed by the NWS. This system is an extension of the Global Telecommunications System (GTS¹), providing coverage to World Meteorological Organization (WMO) Regional Association IV (RA-IV) and adjacent regions RA-III and RA-V. The ISCS end-to-end service is composed of three components: the data provider, the communication service (data ingest and dissemination), and the remote computer processing system. These components are supported by the GTS Internet File Service (GIFS) and the NWS Secure Socket Layer Virtual Private Network (SSL/VPN). A third component, the GOENETCast-Americas (GNC-A) satellite broadcast, is scheduled to be added in FY2014.

2.1 System Purpose. This section describes ISCS support to GTS.

2.1.2 ISCS Support to GTS. ISCS provides support to sustain GTS services to Columbia, Ecuador, Venezuela² (members of WMO RA-III), and the Caribbean, Mexico, and Central American nations over the WMO RA-IV Meteorological Telecommunications Network (ISCS/RMTN), as part of cooperative efforts between NWS and WMO to improve meteorological data and information dissemination within WMO RA-IV. The pairing of the NWS SSL/VPN for input of data from these countries with the NWS GIFS for the dissemination of data, allows ISCS to provide for two-way exchange of meteorological information between RTH Washington, WMO RA-IV, and Ecuador.

2.2 First ISCS Component - Data Provider. The Regional Telecommunications Hub, Washington D.C. (RTH Washington), located in Silver Spring, Maryland, is an active communications center on the GTS/Main Telecommunications Network (MTN) and the ISCS/RMTN; and is the first component as data provider to the ISCS-GIFS. This facility distributes gridded products from networked facilities, builds and/or switches observational collectives, and distributes worded forecast messages from other communication centers into GIFS. The WMO RA-IV Members are also data providers to RTH Washington, providing their local observations, forecasts, and warnings to the RTH for both regional and global distribution in compliance with WMO Publication 386.

¹ The GTS is defined as: "The co-ordinated global system of telecommunications facilities and arrangements for the rapid collection, exchange and distribution of observations and processed information within the framework of the World Weather Watch." – WMO No 49 Technical Regulations. ISBN: 92-63-15049-4

² Columbia and Venezuela are also members of WMO Region IV.

2.3 Second ISCS Component - Communications Service. The data is delivered from the Washington RTH to the ISCS- GIFS which resides within the NWS Internet Dissemination System (NIDS).

The NIDS is a distributed, redundant system, providing continuity of service in the event of a catastrophic system failure at one of the GIFS locations. GIFS servers are located in Silver Spring, Maryland and Kansas City, Missouri. The SSL/VPN portion for the collection of data from the WMO RA-IV Members resides in the RTH Washington located in Silver Spring, Maryland. In the event of a catastrophic failure at, or evacuation of the facility in Silver Spring, Maryland, the NWS Backup Telecommunications Gateway (BTG) location is activated to provide continuity of operations.

2.4 Third ISCS Component – Remote Computer Processing System. The Remote Computer Processing System is the system intended to receive data from the Data Delivery System. For ISCS, it includes the workstations or personal computers at WMO RMTN offices pulling data from the GIFS and the National Weather Service Telecommunications Gateway (NWSTG) File Transfer Protocol (FTP) Ingest Server which receives data “pushed” by the WMO RA-IV offices. In both cases, the computer processing system (server, workstation) must be connected via Internet to access the GIFS and the SSL/VPN. Workstation vendors supporting legacy World Area Forecast Service (WAFS) software used by most of the ISCS/Region IV Meteorological Telecommunications Network (RMTN) connected offices are supporting integrated software interfaces to GIFS and SSL/VPN interfaces.

The Government has developed and made available to Users, software scripts to access the NWSTG FTP Ingest Server through the SSL/VPN. A “Software Terms of Use Disclaimer” with clearance from NWS General Counsel was provided to all Users requesting the Perl Scripts.

The WMO RMTN computer processing systems send data via “Push via the SSL/VPN”, receive the data via “Pull from the GIFS”, and stores the data for retrieval and use. Countries desiring to access the SSL/VPN and GIFS in order to send and receive data must first register with the NWS ISCS Program Office. Only WMO RMTN members are permitted to subscribe to this service. Countries that are no longer members of WMO RMTN or choose to end access to SSL/VPN will be removed from the service. Countries may select any WAFS workstation configuration from the available commercial vendors or use and properly configure their own workstation. Several vendors (located around the world) have built computer systems that meet the functional requirements for a WAFS workstation. A partial list of companies is located on the Internet at: <http://www.metoffice.gov.uk/aviation/sadis/manufacturers>.

3.0 Organizational Responsibilities. This section describes the responsibilities of the NWS concerning ISCS.

3.1 Headquarters, National Weather Service (WSH). The Assistant Administrator (AA) for Weather Services has responsibility for ISCS operations, and coordinates ISCS program administration with the WMO and RA-IV members.

3.1.1 Office of Operational Systems. The Office of Operational Systems (OPS) provides staff assistance to the AA for Weather Services for ISCS program operations and configuration control. The following are the responsibilities of OPS:

A. OPS17, Dissemination Systems Branch.

- a. Provides ISCS Program Management; including program, policy and financial management; system requirements; performance monitoring and reporting; and associated operational, engineering and communications responsibilities as required.
- b. Provides engineering and technical support for ISCS.
- c. Responsible for ISCS/RMTN data management, including establishing and maintaining the data product baselines and change management processes, and exercising authority to approve or deny data product change requests.
- d. Maintains the ISCS-GIFS directories and files in compliance with the approved baseline of products.
- e. Provides technical and system management liaison with ISCS stakeholders; including WSH, equipment manufacturers, other government agencies and user communities (foreign and domestic).
- f. Establishes and maintains access policies for all users in accordance with guidelines.
- g. Outreach to government and private organizations (both foreign and domestic); individuals, and the public regarding ISCS participation in WMO Region IV.
- h. Generate ISCS Request for Changes (RCs) on modifications to product baselines. Disposition of RCs are posted to the ISCS web page to notify end users and workstation vendors of changes.

B. OPS31, Operations Support and Performance Monitoring.

- a. Supports Data Management of GIFS data feed and switching directories in compliance with the approved baseline of products.

C. OPS32, Telecommunications Gateway Operations.

- a. Provides Tier 1 support for trouble calls and SSL/VPN monitoring.
- b. Open a trouble ticket and hand off trouble, investigation, and problem resolution to OPS17 for problems such as access, registration, and/or username and password problem, and data product problems.

D. OPS33, Telecommunications Software Branch.

- a. Provides support in managing username and password maintenance to the SSL/VPN server and the NWSSTG FTP Ingest server.
- b. Ensures IT security compliance of the FTP server.

E. OPS34, Telecommunications Infrastructure Branch.

- a. Operates and maintains SSL/VPN services, user accounts, technical support, and IT security; manage server connectivity to both internal and external resources; and manage equipment configuration.
- b. Provides troubleshooting support as Tier 2 support for the SSL/VPN server.

F. OPS13, Configuration Branch.

- a. Operates and maintains the NIDS hosting services and the GIFS application software, as well as Internet interfaces and communications services.
- b. Provides support services including application performance monitoring, account administration, software development processes (development, staging and production environments), configuration and change management, local data manager, software development technical support, and IT security compliance.

3.1.2 Office of Climate, Water and Weather Services (W/OCWWS). NWS OCWWS serves as the primary focal point for collaboration within the NWS and with the WMO to provide and disseminate weather products through the appropriate services.

The NWS OCWWS works with the OPS to collect observations and deliver products to users. NWS OCWWS creates internal and external partnerships to collect and validate service and mission needs, including those of the ISCS.

3.1.3 International Activities Office (W/IA). The NWS IA is responsible for the coordination of system and data requirements with all WMO Regions that acquire the ISCS-GIFS data (Regions III, IV, and V) to ensure the successful exchange of meteorological information. NWS IA also facilitates policy and matters of notification in coordination with the ISCS Program Office and the U.S. Permanent Representative to the WMO.

4.0 Area of Coverage. ISCS data can be acquired on compliant systems and other computer systems as configured with WMO International Standard interface and data format capability. Since the ISCS-GIFS and SSL/VPN are Internet based systems, any registered user can access the ISCS data. The majority of service users are located in WMO Region IV with the remaining users located in Regions III and V.

5.0 Meteorological Data Products and Information. The ISCS data format conforms to WMO (GTS) and RTH Washington guidelines. Information that is available to the supported

Regions is selected and prioritized by WMO RA-IV based on the weather needs of the people in the service area and in accordance with established WMO guidelines. In case of a conflict in requirements, priority is given to WMO RA-IV. Whenever a change is issued that affects one or more of the ISCS data streams, an ISCS Request for Change (RC) will be generated to document the change. ISCS RCs conform to the National Weather Service Instruction 10-101, Operations and Services, Change Management Process.

6.0 Policy on ISCS Access. Access to the ISCS-GIFS and SSL/VPN is free, but requires user registration with the NWS ISCS Program Office and an appropriately configured workstation or personal computer with Internet connectivity.