

U.S. NATIONAL WEATHER SERVICE

Enterprise EMWIN FTP Service Description

Draft Version 0.2

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Document Control

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1. **OVERVIEW.** The “enterprise Emergency Managers Weather Information Network” (eEMWIN) File Transfer Protocol (FTP) service is an anonymous FTP service operated by the United States (US) National Weather Service (NWS) National Centers for Environmental Prediction (NCEP) Central Operations (NCO). The files on the eEMWIN FTP service provide time segmented archived collections of weather, water and climate information which has been broadcast on the EMWIN segment of the National Environmental Satellite and Information Service (NESDIS) Geostationary Operational Environmental Satellite (GOES) East and West systems. The files on the FTP server are updated/overwritten at specified time intervals, and provide users the option of selecting the most appropriate range of file quantities and latency, ranging from 2 min to 3 hours. The files are in a compressed ZIP file format and contain either text or binary (image) formatted files.

2. **FILE RETRIEVAL.**

a. The eEMWIN FTP service is a file pull service in that data is received only in response to remote users actively requesting the data. Downloading files can be accomplished using a web browser Graphical User Interface (GUI) or an FTP command line interface. Commercial applications or scripts which automate either of these methods may be used as well.

b. The files on the FTP server are available over the public Internet. The anonymous FTP service does not require a user account or any special passwords to access and download the archived EMWIN files from the server, or to subsequently extract the individual text or binary files from the archive files on the remote user platform.

c. The eEMWIN FTP service includes two distinct URLs to access archive files from the EMWIN broadcast on the GOES-N and GOES-R series satellites, respectively. The distinction between the two broadcast groups is discussed in Section 4, “GOES-N vs GOES-R FTP ARCHIVE”, below.

GOES-N FTP Server: <http://tgftp.nws.noaa.gov/> -- TBD --

GOES-R FTP Server: <http://tgftp.nws.noaa.gov/> -- TBD --

d. The Government does not furnish software to users in support of the eEMWIN FTP service. Customers are responsible for providing all the resources necessary to acquire the EMWIN archive files over the public Internet, un-ZIP the archived files, and display or read the individual files.

3. **FILE DESCRIPTION AND PERSISTENCE.**

a. The archive files available on the eEMWIN FTP server are identified and described in the following table:

Archive	Description	Update / Overwrite Interval (<i>persistence</i>)
txtmin02.zip	Text Files < 2 minutes old	Created every 2 minutes
txtmin06.zip	Text Files < 6 minutes old	Created every 6 minutes
txtmin20.zip	Text Files < 20 minutes old	Created every 20 minutes
txthrs01.zip	Text Files < 1 hour old	Created every hour
txthrs03.zip	Text Files < 3 hours old	Created every hour*
imgmin15.zip	Image Files < 15 minutes old	Created every 15 minutes
imghrs01.zip	Image Files < 1 hour old	Created every hour
imghrs03.zip	Image Files < 3 hours old	Created every hour*
Notes: * - The three hour archive is created every hour. The process removes the oldest one-hour block of files, retains the more recent two-hour block of files, and adds a new one-hour block of files to the archive.		

b. No more than 8 archive files as listed in the table above will be present on either FTP service at any point in time. Archive files are created and then saved to the FTP server at or near the top of the hour, and at the specified time intervals thereafter. The file creation date and time will be available on the FTP server for visual and script reference. Once an archive file on the FTP server is overwritten, the overwritten file is no longer available.

4. **GOES-N vs GOES-R FTP ARCHIVE**

a. Two separate eEMWIN FTP services are required for GOES-N and GOES-R as a result of: (1) different product file naming conventions, and (2) the greater quantity of products which may be broadcast per unit of time on the GOES-R HRIT/EMWIN transponder. The increase in the GOES-R transponder bandwidth more than doubles the amount of EMWIN traffic which may be broadcast in comparison to the 19.2 kbps GOES-N series satellite transponders. These differences coupled with the simultaneous operations of the GOES-N and GOES-R series satellites in different orbital locations, necessitates the operation of two correspondingly unique FTP services.

b. The general characteristics of the Archive Files identified in Section 3.a. are likely to be significantly different for the GOES-R and GOES-N files as described in the following table.

Characteristic	GOES-R Archive	GOES-N Archive
File Count	Higher – due to the increased transponder throughput per unit of time.	Lower
File Latency	Lower – due to the increased transponder throughput.	Higher

c. The file names of the products stored in the Archive Files will be different due to the unique file naming conventions for the EMWIN GOES-N and the GOES-R broadcasts.

(1) The EMWIN GOES-R product file names in the Archive File will adhere to the following convention which is identical to the product file names received over the satellite broadcast. This convention is fully described in the NWS “EMWIN GOES-R FILENAME CONVENTION” publication (http://www.nws.noaa.gov/emwin/EMWIN_GOES-R_filename_convention.pdf).

(A/Z)_TTAAiiCCCCYYGGgg[BBB]_C_KWIN_yyyyMMddhhmmss_nnnnnn-p-
NNNxxxqq.ext

File name example:

A_WFUS54KBMX260104_C_KWIN_20160126010535_000179-1-TORBMXAL.TXT

(2) The EMWIN GOES-N product file names in the Archive File will retain the legacy GOES-N 8 character alpha-numeric sequence and a period followed by the appropriate file extension. To this, a 6-digit message sequence number assigned in the GOES-R file naming process will be inserted immediately preceding the period, thereby creating a unique file name within the Archive File. The inserted message sequence number will only appear in file names extracted from an Archive File on the FTP Server; it will not appear in the files sent over the EMWIN GOES-N satellite broadcast.

Broadcast file name convention: NNNxxxqq.ext
File name convention in Archive File: NNNxxxqqnnnnn.ext

Broadcast file name example: TORBMXAL.TXT
File name found in the Archive File: TORBMXAL000179.TXT

(3) Identical text products appearing in both the GOES-R and GOES-N Archive Files will have the following information in common, providing a one-to-one relationship between the products through file name associations:

- 8 character legacy EMWIN alpha-numeric file name (NNNxxxqq)
- 6-digit message sequence number (nnnnn)
- file extension (ext)

5. FTP SERVICE AVAILABILITY. The eEMWIN FTP service is available 24 hours a day, 7 days a week, under normal operating conditions. Any scheduled activities which may impact operations will normally be announced by the NWS in advance of the potential service interruption. The NWS operates the FTP services from two locations: College Park, MD, and Boulder, CO. In the event of a scheduled or unscheduled outage at the active site, services will transition to the backup site. Service may be temporarily interrupted during service transition

6. USER RULES OF BEHAVIOR. See: <http://tgftp.nws.noaa.gov/readme.txt>

7. **FTP CONNECTION AND COMMAND RESTRICTIONS**. See: <http://tgftp.nws.noaa.gov/readme.txt>

8. **ISSUE RESOLUTION**. See: <http://tgftp.nws.noaa.gov/readme.txt>

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Appendix B: Operational Transaction/Repository Metrics

Operational and Transaction metrics (as of 09/02/2016) are based on current EMWIN production system (Silver Spring TG Environment) values.

The following values apply to both GOES-N and GOES-R archives:

Metric	Current Value	Expected Range
Connections Per Day	1224 / day	[1100 - 2000] / day
Average Interval Between Connections	Every 70 Seconds	[30 - 90] Seconds
Average Download Size	215 KB	[100KB - 6 MB] / Download
Average Repository(.zip) Size	1.1 MB	[1 - 4] MB