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           NOAA's National Centers for Environmental Information (NCEI)

Subject: NEXRAD Level-II format at NCEI Archive Changes Scheduled to Begin
June 1, 2016

NCEI is changing the process and format used to ingest and archive the
NEXRAD Level-II Radar Data beginning June 1, 2016. The new data format is
now going to preserve the internal compression used during the
transmission of data to NCEI. This format is common throughout the Radar
community. A variety of Radar tools and libraries, listed on the NCEI
website, support the format. Supported tools:
https://www.ncdc.noaa.gov/data-access/radar-data/radar-display-tools

This change only affects Level-II data after June 1, 2016. There will be
no change to historical data.

Overview of upcoming changes:

The naming convention for the archived hourly tar files will change.

Current example file name:
NWS_NEXRAD_NXL2DP_KILX_20160315020000_20160315025959.tar

New example file name:
NWS_NEXRAD_NXL2DPBL_KILX_20160315020000_20160315025959.tar

The additional "BL" in the product section of the file name indicates that
the volume scan files within the archived tar files use custom Block BZip2
internal compression.

The naming convention of the volume scan files will also change.

Current example file name: KILX20160315_000554_V06.gz

New example file name: KILX20160315_000554_V06.ar2v

The .ar2v extension of the file name indicates that the volume scan files
within the tar file use custom Block BZip2 internal compression.

The binary file format:
The internal binary file format will remain "Message 31" as defined in the
Interface Control Documents (ICDs) provided by the NWS Radar Operations
Center (ICD FOR RDA/RPG documents):
http://www.roc.noaa.gov/wsr88d/BuildInfo/Files.aspx

The upcoming change pertains to the collection and storage of data at
NCEI. NCEI receives these data in multiple messages, each representing a
portion of a sweep, and then concatenates the messages to create the
entire volume scan. Each message has an uncompressed header, followed by
bzip2-compressed content. NCEI is currently decompressing these messages
before combining them into the volume scan file. The volume scan file is
compressed using gzip compression.

After the upcoming change, NCEI will no longer decompress these messages
and will instead concatenate the compressed messages into the single
volume scan file. The volume scan file will not be recompressed, because
the data inside is already received as bzip2 compressed messages. The
Radar Operations Center documentation describes the transmission method.
(ICD for ARCHIVE II/USER documents).

Sample Data:

Samples of the new data format are available from NCEI. From the Archive
Access system: http://www.ncdc.noaa.gov/has/has.dsselect

Expand the "Radar menu" and select "NEXRAD Level II - Block BZip2 Format"
(Example data for upcoming archive format change).

For questions or comments, please contact:

NCEI Customer Service
NOAA's National Centers for Environmental Information
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National Technical Implementation Notices are online at:

https://www.weather.gov/notification/archive

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