

## WMO Headers for (HRRR) AWIPS grid products

The following WMO headers information are for HRRR AWIPS hourly output.

2.54 km NDFD grid over CONUS (Lambert Conformal)

### 1. Forecast hours

The forecast hours start from 00 and will be extended from 15 to 18 at every hour. See below:

00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18

### 2. The HRRR model runs at every hour (00Z - 23Z)

3. WMO Headers      WMO Header template:      T1 T2 A1 A2 ii      cccc  
     cccc is KWBY      where Y is High Resolution Rapid Refresh (HRRR)

All WMO headers have KWBY

- T1 = Y for forecast hours: 00, 01, 02, 03, 04 , 05, 06, 07, 08

09, 10, 11, 12, 13, 14, 15, 16, 17, 18.

- T2 specifies parameter as follows:

E - Total precipitation (APCP)

S - Snow depth (SNOD)

Water equivalent of accumulation snow depth (WEASD)

(replaced for 1-hour snowfall)

M - Categorical Rain (CRAIN), Categorical Snow (CSNOW),

Categorical Freezing Rain (CFRZR), Categorical Ice Pellets (CICEP).

A - Dew point (DPT)

- Total Cloud cover (TCDC)

- Wind speed at 10 m above ground

D - Percent of frozen precipitation (CPOFP)

F - Precipitable water (PWAT)

H - Height (HGT), Height of ceiling or lowest cloud base (HGT),

Height of cloud top (HGT), Lifted Condensation Level (HGT)

Planetary Boundary Layer Height (HPBL), Model terrain height (HGT)

K - Visibility (VIS)

T - Temperature (TMP)

U - u-component of wind (UGRD); u-Component Storm Motion (USTM)

u-Comp Wind Shear-Low Level (VUCSH),

u-Comp Wind Shear - Deep Layer (VUCSH)

V - v-component of wind (UGRD); v-Component Storm Motion (VSTM)

v-Comp Wind Shear-Low Level (VVCSSH),

v-Comp Wind Shear - Deep Layer (VVCSSH)

N - Wind Gust Speed (GUST)

Q - Best (4 layer) lifted index (4LFTX)

X - Surface lifted index (LFTX)

W - Convective available potential energy (CAPE)

O - Mean Vertical Velocity (DZDT)

Y - Convective inhibition (CIN)

P – Pressure Surface (PRES), Pressure Mean Sea level (PRMSL)

Pressure of level from which parcel was lifted (PLPL)

Z (Refer to GRIB PDS)

- Storm Relative Helicity (HLCY)

- Maximum of updraft helicity over Layer 2 to 5km AGL (MXUPHL)

- Maximum\_updraft\_velocity (MAXUVV)

- Maximum\_downdraft\_velocity (MAXDVV)

- Total Column Integrate Graupel (TCLOG)

- A1 specifies the grid id as follows:

C - 2.5 km NDFD grid over CONUS (Lambert Conformal)

- A2 specifies the forecast hours as follows:

A = 00; B=01; C=02; D=03; E=04; F=05; G=06; H=07; I=08; J=09; K=10;

L=11; M=12; Z=13; Z=14; Z=15; Z=16; Z=17; Z=18.

- ii specifies level as follows:

99 = 1000mb; 92=925mb; 85=850mb; 70=700mb; 50=500mb;

00 = Entire Atmosphere

86 = Boundary Layer (SPDY)

89 = Reduced to Sea Level (MSL)

96 = Level of the Maximum wind

97 = Level of the Tropopause

98 = Surface, 10 m above ground, 80 m above ground, 2 m above ground

01 = Refer to GRIB PDS

73 = Cloud base level

74 = Cloud top level

#### 4. Additions

The F16, F17, and F18 data are new. The data for hours F00 to F15 are unchanged.

5. Total volume of data per day

Was .011 GB (16 files/per cycle) x 24 = 42.4 GB per day.

New .011 GB (19 files/per cycle) x 24 = 50.1 GB per day

6. HRRR Sample test files and WMO headers are on Tide or Gyre:

- HRRR sample test files are in the directory:

`/pcom2/para/hrrrr`

- A list of the additional WMO headers for hourly HRRR output can be found at:

`/meso/save/Geoffrey.Manikin/nwprod/hrrr.v2.0.0/util/parm/wmoheaders_hrrrhourly.txt`