**HYSPLIT 4.9 Concentration / Display / File Format**

The output format of the unformatted binary (big-endian) concentration file written by dispersion model (*hycs\_std)* and read by all concentration display programs is as follows:

Record #1

l CHAR\*4 Meteorological *MODEL* Identification

l INT\*4 Meteorological file starting time (*YEAR, MONTH, DAY, HOUR, FORECAST-HOUR*)

l INT\*4 *NUMBER* of starting locations

l INT\*4 Concentration packing flag (0=no 1=yes)

Record #2 Loop to record: Number of starting locations

l INT\*4 Release starting time (*YEAR, MONTH, DAY, HOUR*)

l REAL\*4 Starting location and height (*LATITUDE, LONGITUDE, METERS*)

l INT\*4 Release starting time (*MINUTES*)

Record #3

l INT\*4 Number of (*LATITUDE-POINTS, LONGITUDE-POINTS*)

l REAL\*4 Grid spacing (*DELTA-LATITUDE,DELTA-LONGITUDE*)

l REAL\*4 Grid lower left corner (*LATITUDE, LONGITUDE*)

Record #4

l INT\*4 *NUMBER* of vertical levels in concentration grid

l INT\*4 *HEIGHT* of each level (meters above ground)

Record #5

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l INT\*4 *NUMBER* of different pollutants in grid

l CHAR\*4 Identification *STRING* for each pollutant

Record #6 Loop to record: Number of output times

l INT\*4 Sample start (*YEAR MONTH DAY HOUR MINUTE FORECAST*)

Record #7 Loop to record: Number of output times

l INT\*4 Sample stop (*YEAR MONTH DAY HOUR MINUTE FORECAST*)

Record #8 Loop to record: Number levels, Number of pollutant types

l CHAR\*4 Pollutant type identification *STRING*

l INT\*4 Output *LEVEL* (meters) of this record

No Packing (all elements)

l REAL\*4 Concentration output *ARRAY*

Packing (only non-zero elements)

INT\*4 Loop non-zero elements

l INT\*2 First (I) index value

l INT\*2 - Second (J) index value

l REAL\*4 - Concentration at (I,J)