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PNSWSH

Technical Implementation Notice 16-05 Amended  
National Weather Service Headquarters Washington DC  
250 PM EDT Mon Jun 6 2016

To:           Subscribers:  
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From:         Timothy McClung  
              Chief Operating Officer  
              NWS Office of Science and Technology Integration

Subject: Amended: Hybrid Single-Particle Lagrangian Integrated  
Trajectory (HYSPLIT) Model Update: Effective Date July 6, 2016

Amended to change the date from to be determined (TBD) to July  
6, 2016.

Effective Wednesday, July 6, beginning with the 1200 Coordinated  
Universal Time (UTC) run, the National Centers for Environmental  
Prediction (NCEP) will upgrade the HYSPLIT modeling system that  
produces operational predictions of wildfire smoke and dust from  
dust storms as well as volcanic ash. The output file names on  
the NCEP ftp servers will change.

#### Science Upgrades

No scientific enhancements to the smoke and dust products were  
made.

For volcanic ash, the wet deposition technique was modified.  
The new wet deposition technique has been shown to give improved  
deposition results when there is precipitation for an analogous  
application (particulate from the Fukushima Nuclear Power  
Plant), and hence is expected to also apply to volcanic ash.

New volcanic ash trajectory products will be generated:

6 hour forward trajectories from the GFS at 1525, 3050, 4550,  
6100, 9100, 12200, and 15200 m AGL for each of these volcanoes  
in Alaska:

Akutan, Aniakchak, Atka, Augustine, Churchill, Cleveland, Dutton, Gareloi, Great Sitkin, Griggs, Hayes, Iliamna, Kaguyak, Kanaga, Kasatochi, Katmai, Mageik, Makushin, Martin, Novarupta, Okmok, Pavlof, Pavlof Sister, Redoubt, Seguam, Semisopochnoi, Shishaldin, Spurr, Trident, Ugashik-Peulik, Veniaminof, Westdahl, and Wrangell.

#### Expected Benefits

Improved Volcanic Ash predictions for ash in and near areas of precipitation. Ash well-above clouds and precipitation will not be affected.

Consistent GRIB2 smoke/dust output file name structure  
New Volcanic Ash trajectories products for user (NWS, United States Geological Survey (USGS)) requirements

#### File name changes

The files found under this operational server will change:

<http://www.ftp.ncep.noaa.gov/data/nccf/com/hysplit/prod/>  
<ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/hysplit/prod/>

The smoke directory and file name formats will change: CONUS  
GRIB2 directory and files:

/smoke.yyyymmdd -> /smokecs.yyyymmdd  
smoke.t06z.grib2\_pbl.1hr\_227 -> smokecs.t06z.pbl.1hr\_227.grib2  
smoke.t06z.grib2\_sfc.1hr\_227 -> smokecs.t06z.sfc.1hr\_227.grib2

Alaska GRIB2 files: smokeak.t06z.grib2ak\_pbl.1hr\_198 ->  
smokeak.t06z.pbl.1hr\_198.grib2 smokeak.t06z.grib2ak\_sfc.1hr\_198  
-> smokeak.t06z.sfc.1hr\_198.grib2

Hawaii GRIB2 files: smokehi.t06z.grib2hi\_pbl.1hr\_196 ->  
smokehi.t06z.pbl.1hr\_196.grib2 smokehi.t06z.grib2hi\_sfc.1hr\_196  
-> smokehi.t06Z.sfc.1hr\_196.grib2

Additional files will be available:

The forecast duration HYSPLIT-formatted NAM CONUS Nest files will be extended from 24-h to 48-h with the following files:

hysplit.yyyymmdd/hysplit.tCCz.namsf24.CONUS  
hysplit.yyyymmdd/hysplit.tCCz.namsf30.CONUS  
hysplit.yyyymmdd/hysplit.tCCz.namsf36.CONUS  
hysplit.yyyymmdd/hysplit.tCCz.namsf42.CONUS, where CC=00, 06, 12, or 18 and yyyymmdd is year, month, day.

For some meteorological situations, there may be improved HYSPLIT dispersion guidance using NAM CONUS Nest predictions for longer times (up to 48 hours) into the forecast.

#### Parallel data

Forecasts from the updated HYSPLIT model will be made available through a parallel feed starting in late February, 2016. The HYSPLIT smoke GRIB2 products for all three domains, CONUS (continental US), Alaska and Hawaii and dust for CONUS from the parallel feed are disseminated via the NCEP website:

<http://para.nomads.ncep.noaa.gov>

The products for smoke and dust will be displayed through:

<http://www.emc.ncep.noaa.gov/mmb/aq/hysplit/web/html/>

Current operational HYSPLIT model will continue providing forecasts through:

<ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/hysplit/>

<ftp://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndgd/GT.aq/AR.conus/>

<ftp://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndgd/GT.aq/AR.alaska/>

<ftp://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndgd/GT.aq/AR.hawaii/>

Graphical display for smoke and dust at:

<http://airquality.weather.gov/>

Display for Volcanic ash at:

<http://weather.noaa.gov/fax/wafsash.shtml>

<http://www.aviationweather.gov/iffdp/volc>

More details about the HYSPLIT are available at:

<http://www.ready.noaa.gov/HYSPLIT.php>

For questions regarding these updated predictions, please contact:

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