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Technical Implementation Notice 14-37
National Weather Service Headquarters Washington DC
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From: Timothy McClung
 Science Plans Branch Chief
 Office of Science and Technology

Subject: Hybrid Single-Particle Lagrangian Integrated Trajectory
(HYSPLIT) Model Update: Effective September 30, 2014

Effective on or about Tuesday, September 30, 2014, 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. There is no change to the format of the model output.

Forecasts from the updated HYSPLIT model are available through a parallel feed. The smoke HYSPLIT gridded binary (GRIB) products for all three domains (Continental U.S. (CONUS), Alaska and Hawaii) and the dust product for CONUS from the parallel feed are disseminated via the NCEP website:

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

The products also will be displayed through the NCEP website:

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

Current operational HYSPLIT model will continue providing forecasts through:

<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/>

and displayed at <http://airquality.weather.gov/>

The scientific enhancements include the following:

- Updated automated detection of fires in Canada, Mexico and Central America that provide inputs for smoke emissions for smoke predictions.

- Added three-dimensional (3-D) particle model approach to properly represent the additional fires identified with automatic fire detection.

- Modified the North American Mesoscale (NAM) Analysis and Forecast System by updating radiation, convective parameterization, microphysics, advection, hybrid variational ensemble gridpoint statistical interpolation (GSI) analysis, satellite bias correction, quality control of observations, satellite radiance assimilation, diabatic digital filter, etc.

More details about HYSPLIT are available at:

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

For questions regarding these updated predictions, contact:

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National Technical Implementation Notices are online at:

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

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