

Spot Hysplit Function – Smoke Forecasts

Background:

- Air Resources Laboratory (ARL) has an established feature within any NWS Spot Forecast which allows a user to receive HYSPLIT trajectory forecasts via their email box. The HYSPLIT model is a complete system for computing simple air parcel trajectories to complex dispersion and deposition simulations.
- This feature was developed in response to repeated customer requests for more smoke forecast information.
- Benefits: This provides an easy method for NWS customers to receive smoke forecast information by taking advantage of the base information that is already input into the spot request form. The HYSPLIT trajectories can be used for any purpose (i.e. HAZMAT, smoke, etc.).

HYSPLIT Requests:

1. NWS customer initiates a spot forecast request.
2. Click on the “YES” radio button within the “NOAA Hysplit Model” section of the page...
***Note: This will work for all email domains, not just .gov**
3. Servers at ARL receive the email, create hysplit graphics and tables, and email it to the customer.

Spot Forecast Incident Type: Wildfire

Spot Request Contact Information	
(*) PROJECT NAME: <input type="text"/>	For NWS Spot forecast policy, see section 4.0 in NWS Instruction 10-401 at: http://www.nws.noaa.gov/directives/010/010.htm
(*) Requesting Agency: <input type="text"/>	(*) Requesting Official: <input type="text"/>
(*) E-mail address: <input type="text"/>	(*) Phone number: <input type="text"/> Phone Extension: <input type="text"/>
Contact Person: <input type="text"/>	FAX number: <input type="text"/>

Location	
(WGS84 / NAD83 preferred)	
(*) Latitude: <input type="text" value="38.9156"/>	7.5' Quad: <input type="text"/>
(*) Longitude: <input type="text" value="-122.617"/>	
TOP	BOTTOM
Elevation: <input type="text" value="1355"/>	<input type="text"/>
Feet	Feet
(Elevation preferred in feet)	

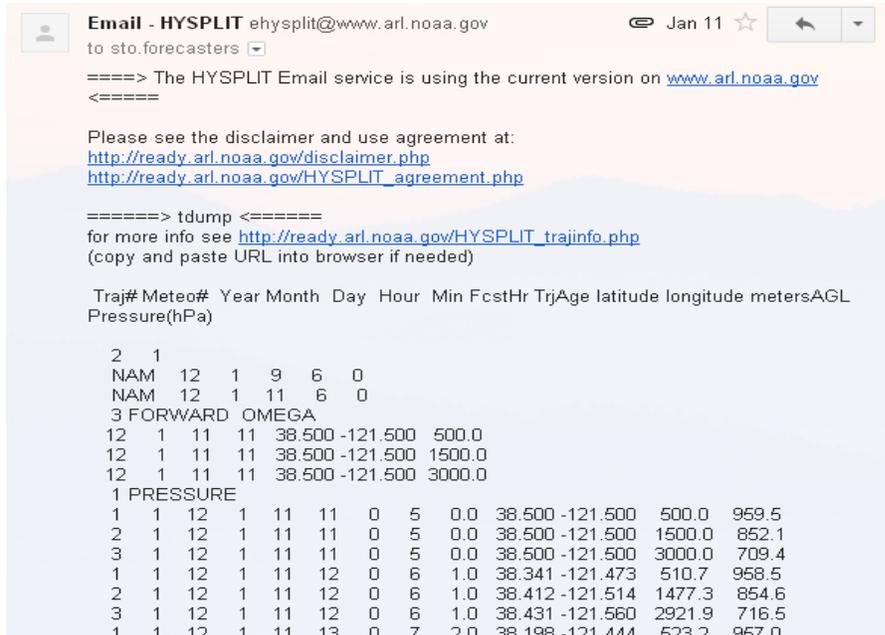
Fire Weather Supplemental Information	
Drainage: <input type="text"/>	Size: <input type="text"/>
(In Acres)	
Aspect: <input type="text"/>	Fuel Type: <input type="text"/>
Sheltering	
<input type="radio"/> Full <input type="radio"/> Partial <input type="radio"/> Unsheltered	

Forecast Information		
DELIVER FORECAST	FORECAST STARTING	TIMEZONE
Date: <input type="text" value="08/22/2016"/>	Date: <input type="text" value="08/10/2016"/>	(Local Time)
Time: <input type="text" value="00:00"/>	Time: <input type="text" value="06:00"/>	<input type="text" value="PACIFIC"/>
Narrative <input type="text" value="Narrative"/> FORECAST FORMAT		
<input type="text" value="2 Hr"/>	<input type="text" value="2 Hr"/>	<input type="text" value="3 Hr"/>
		Tabular Time Table Interval

NOAA Hysplit Model
Would you like to include a run of the Hysplit Model with this request? If so please verify your email address above as this will be used to send you the hysplit model run.
<input type="radio"/> YES
<input checked="" type="radio"/> NO

HYSPLIT Trajectory Product

- The trajectories forecast where a parcel would travel from a given latitude/longitude starting at a specific elevation.
- For technical details of HYSPLIT trajectories, visit the [HYSPLIT Tutorial](#).
- The following image is an example of the email message. Scroll to the bottom (not on image) and click the GIF or KMZ graphic. KMZ will open up in Google Earth.



Output Maps

- The products consist of a 3-level trajectory forecast. Starting at 500 (red triangles), 1500 (blue squares), and 3000 meters (green circles) above ground level.
- The figure represents a typical product from HYSPLIT. For these maps, the following items are identical:
 - (a): The source location is SOUTH TEXAS, TEXAS, UNITED STATES;
 - (b): It is located at latitude 28.80 degrees N and at longitude 96.05 degrees W;
 - (c): The hypothetical release started at 1200 UTC on 10 June 2010.
- The image below has been marked with red coded letters in this document only to explain the meaning of each section. A description follows:
 - 1:** Identification of the NOAA HYSPLIT transport model used in the calculation.
 - 2:** Trajectory start date/time in UTC.
 Note: UTC is +8 hrs ahead of PST and +7 hrs ahead during PDT. (Ex. 12 UTC = 4 am PST)
 - 3:** The latitude and longitude of the trajectory start (fire) location in degrees. Single letter abbreviations are used for East, West, North and South.
 - 4:** The time at which the forecast model was initialized and an abbreviated name for the meteorological model: NAM, GFSG (Global Forecast System model).
 - 5:** More information, including the trajectory start heights, and a label indicating the trajectory was requested via the Spot webpage.

1 NOAA HYSPLIT MODEL
 Forward trajectories starting at 12 UTC 10 Jun 10 2
 4 06 UTC 10 Jun GFSG Forecast Initialization

