

***EVALUATION OF THE UTILITY OF ROUTINE LAGRANGIAN TRAJECTORIES
AS A STANDARD ARM EXTERNAL DATA-STREAM***

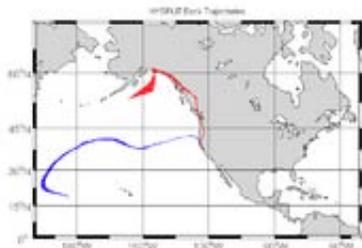
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For Presentation at the
Seventeenth Atmospheric Radiation Measurement (ARM)
Science Team Meeting
Monterey, CA
March 26-30, 2007

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ABSTRACT

In the absence of aerosol composition information, scientists in the Aerosol Working Group often refer to back-trajectories of the air-parcels in order to make an educated guess at aerosol type based on its potential origin or atmospheric history. For instance, during the AMF deployment at Point Reyes back-trajectories were needed in the analysis to classify the observations based on whether they are representative of pristine marine air or whether the Lagrangian air-parcel had recent "contact" with land. NOAA ARL provides a web-interface to their HYSPLIT model that is commonly used for this purpose. However, it quickly becomes tedious and burdensome if the analysis spans a long time range or many locations and altitudes. These back-trajectories would be more easily accessible if they were routinely produced as an ARM external data stream. We have evaluated the feasibility of such a product by installing and running the HYSPLIT model at the XDC in an automated procedure. We demonstrate with examples the potential utility for ARM aerosol.



10 day back-trajectories from Point Reyes, CA, for two different days research during the AMF deployment in 2005, illustrating a "typical" marine air and continental air day.