

Regional, Spatial, and Temporal Errors in NADP Deposition Maps

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The National Atmospheric Deposition Program (NADP) publishes maps that depict annual average concentration and deposition values of analytes present in precipitation. Concentration maps are produced using a standard inverse distance weighted (IDW) spatial interpolation model. A precipitation surface is generated by combining NADP station data with higher resolution data from the PRISM¹ model. A procedure was developed to smoothly blend the NADP data with the PRISM data to create a single precipitation surface.

A deposition surface is generated for each analyte by combining the precipitation surface with the concentration surface.

The resulting output, as with any model, provides a best estimate of wet deposition, but also contains model errors. An understanding of the errors is essential for proper interpretation of the maps.

This poster provides an overview of spatial interpolation errors, specifically the root mean square error (RMSE) of NADP wet deposition maps. The RMSE's are analyzed for all concentration and deposition analytes from 1985-2010. Spatial and temporal trend plots visualize how the errors change over time and in different geographic regions of the country.

¹PRISM Climate Group, Oregon State University, <http://prism.oregonstate.edu>, created 1 Oct 2011.