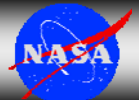




Human Health Societal Benefit Area:

Using Earth Observations Data to Improve a Dust Forecast Model and Enhance Public Health Decision Support Systems

Earth Data Analysis Center, University of New Mexico
and
Department of Atmospheric Sciences, University of Arizona
USA





Improvements to DREAM Using MODIS Data

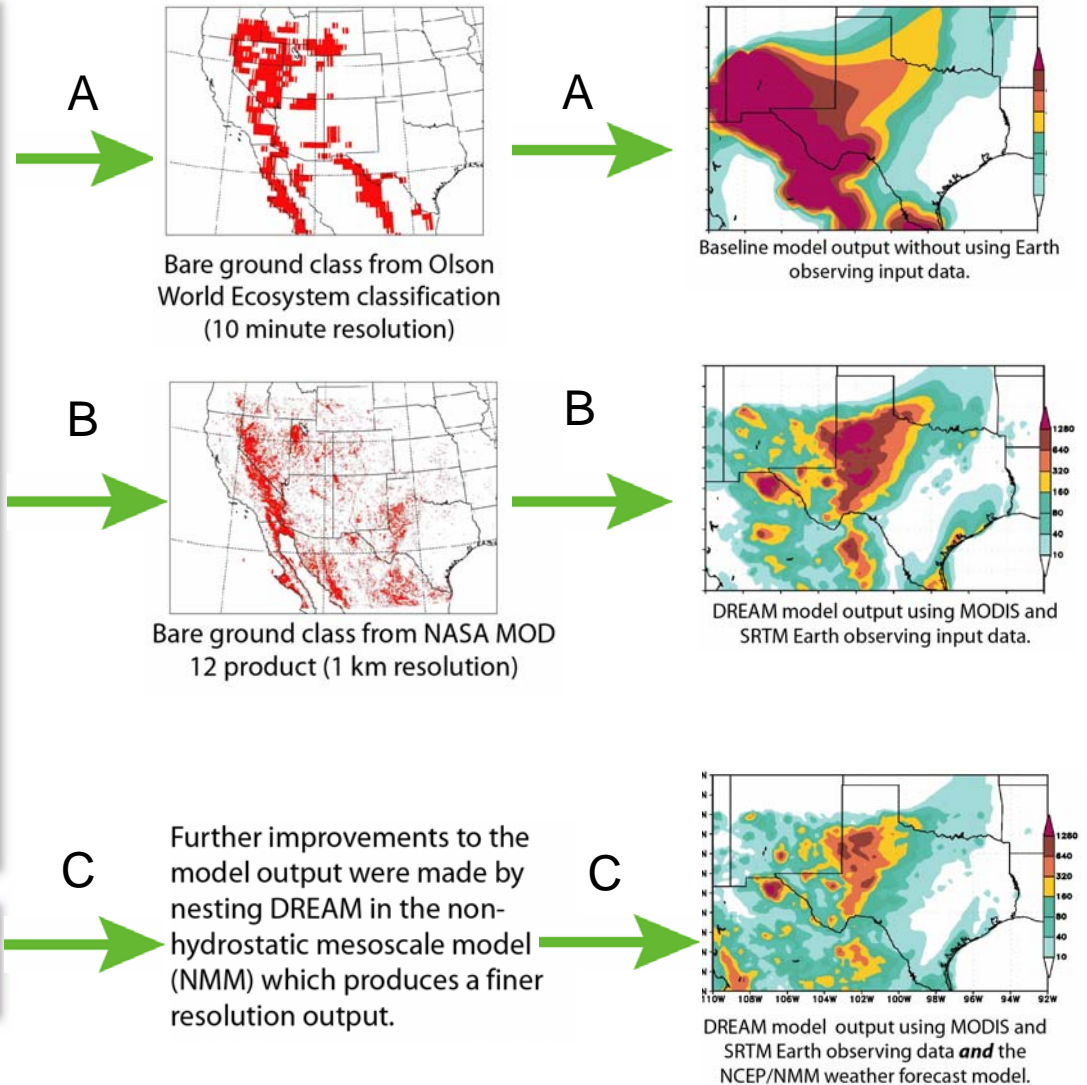
DREAM Equation

$$\frac{\partial C_k}{\partial t} = -u \frac{\partial C_k}{\partial x} - v \frac{\partial C_k}{\partial y} - (w - v_{gk}) \frac{\partial C_k}{\partial z} - \nabla \cdot (\mathbf{K}_H \nabla C_k) - \frac{\partial}{\partial z} \left(\mathbf{K}_Z \frac{\partial C_k}{\partial z} \right) + \left(\frac{\partial C_k}{\partial t} \right)_{SOURCE} - \left(\frac{\partial C_k}{\partial t} \right)_{SINK}$$

DREAM Dust Forecast Modeling Process

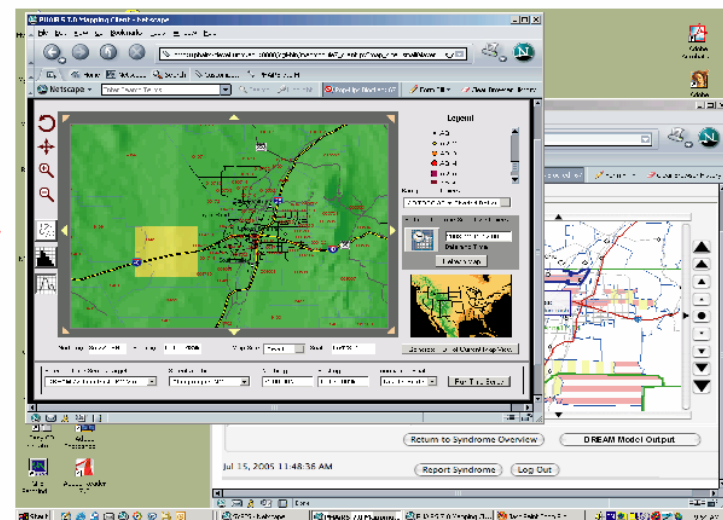
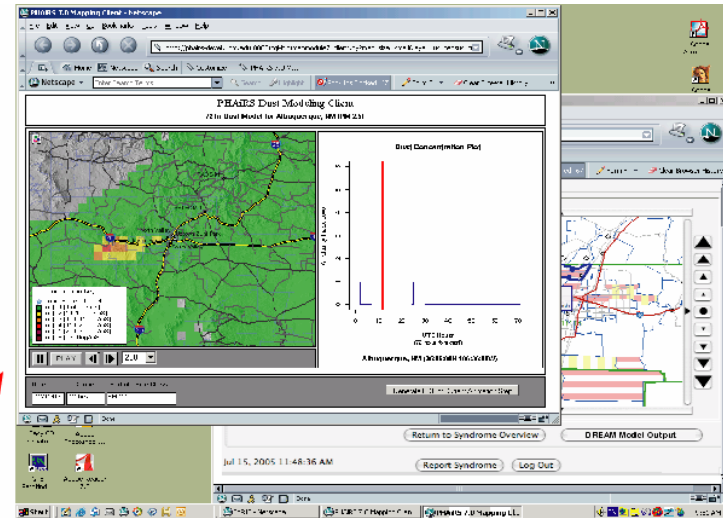
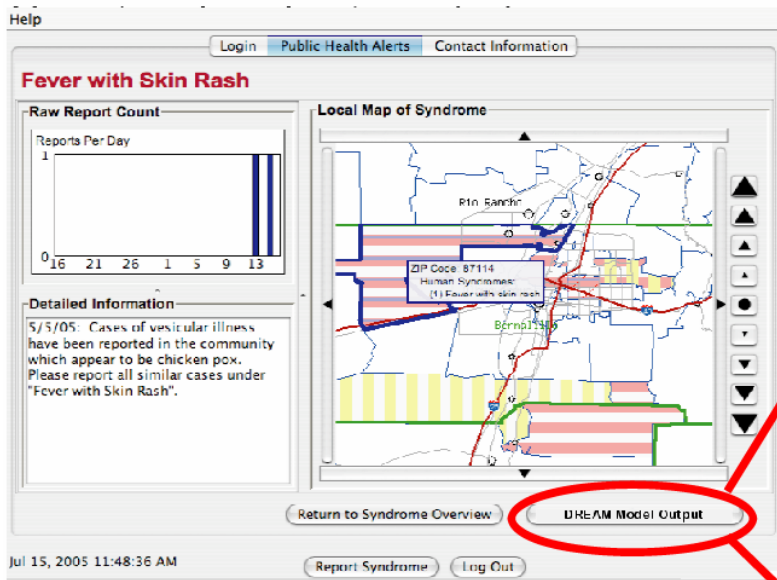
DREAM is nested within the NCEP/eta weather forecast model.

DREAM nested within the NCEP/NMM weather forecast model.





Enhancements to SYRIS Public Health Decision Support System

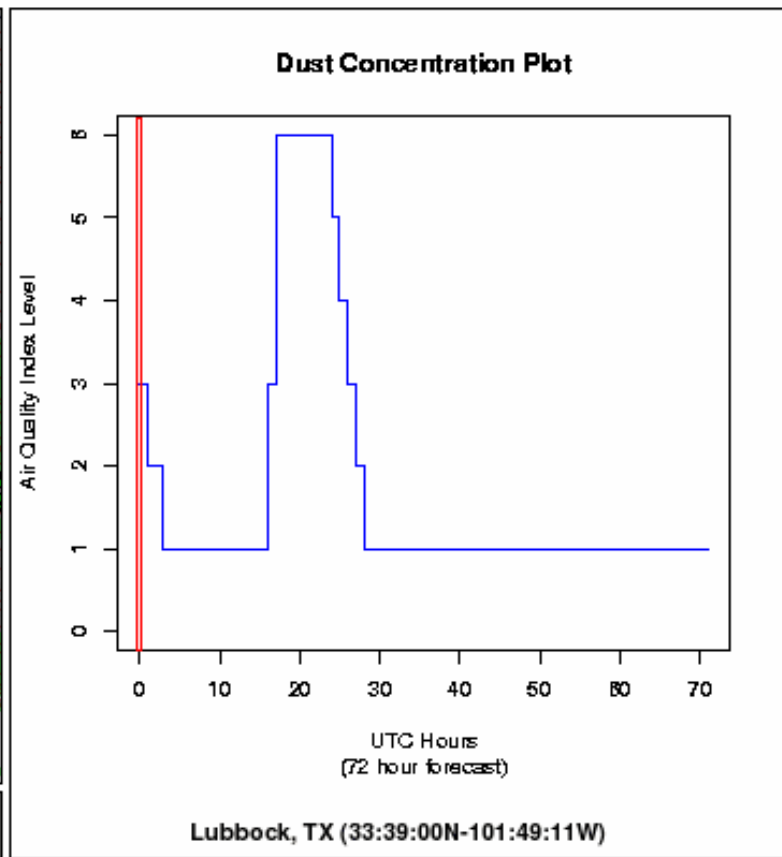
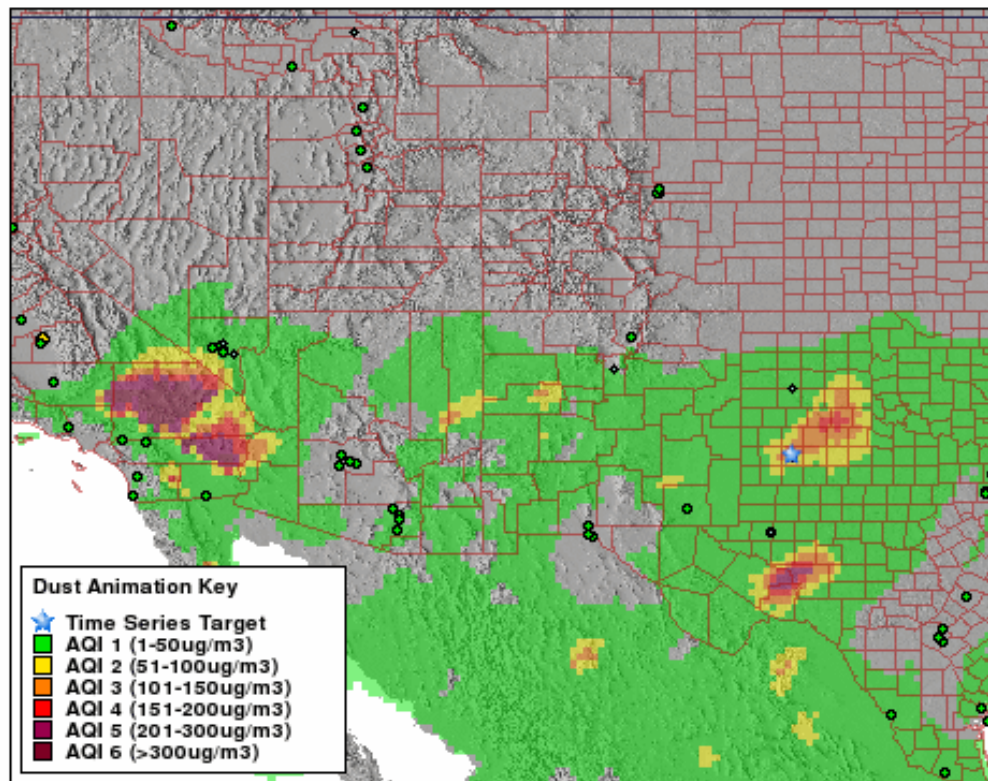




Client Interface for Time Series Tool

PHAIRS Dust Animation Client

72 hr Dust Model for Lubbock, TX (PM 10)



Control panel with buttons: PAUSE, PLAY, REWIND, FAST FORWARD, and a speed slider set to 200.

Date	UTC Time	Particle Size Class
12/15/03	00 hrs	PM 10

Generate PDF of Current Animation Step





Thank you.

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