Use of MODIS Satellite Images and an Atmospheric Dust Transport Model To Evaluate *Juniperus* spp. Pollen Phenology and Dispersal

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Abstract - Pollen can be transported great distances. Van de Water et. al., 2003 reported *Juniperus spp.* pollen was transported 200-600 km. Hence local observations of plant phenology may not be consistent with the timing and source of pollen collected by pollen sampling instruments. The DREAM (Dust REgional Atmospheric Model, Nickovic et al. 2001) is a verified model for atmospheric dust transport modeling using MODIS data products to identify source regions and quantities of dust. We are modifying the DREAM model to incorporate pollen transport. Pollen release will be estimated based on MODIS derived phenology of *Juniperus spp*. communities. Ground based observational records of pollen release timing and quantities will be used as verification. This information will be used to support the Centers for Disease Control and Prevention's National Environmental Public Health Tracking Program and the State of New Mexico environmental public health decision support for asthma and allergies alerts.

Keywords: Pollen, Phenology, MODIS, Allergies, *Juniperus*