Environmental Public Health Applications Using Remotely Sensed Data.

We describe a remote sensing and GIS-based study that has three objectives: (1) characterize fine particulate matter (PM2.5), insolation and land surface temperature using NASA satellite observations, EPA ground-level monitor data and North American Land Data Assimilation System (NLDAS) data products on a national scale; (2) link these data with public health data from the REasons for Geographic And Racial Differences in Stroke (REGARDS) national cohort study to determine whether these environmental risk factors are related to cognitive decline, stroke and other health outcomes; and (3) disseminate the environmental datasets and public health linkage analyses to end users for decision-making through the Centers for Disease Control and Prevention (CDC) Wide-ranging Online Data for Epidemiologic Research (WONDER) system. This study directly addresses a public health focus of the NASA Applied Sciences Program, utilization of Earth Sciences products, by addressing issues of environmental health to enhance public health decision-making.

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