Geophysical Research Abstracts,
Vol. 11, EGU2009-11558-2, 2009
EGU General Assembly 2009

A prototype informatics system integrating weather and health data to manage meningitis

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This presentation will describe progress in developing the informatics system that will support a newly funded project designed to integrate health and environmental data for health-related decision-making in Africa. This infromatics system supports a project in which the University Corporation for Atmospheric Research (UCAR), the International Research Institute for Climate and Society, and North Carolina State University in the United States, and the Navrongo Health Research Centre in Ghana will build and implement a prototype decision-support system that integrates two- to 14-day weather forecasts and epidemiological data to provide actionable information that can be used to contain the spread of meningitis epidemics in Ghana. By applying a preliminary economic evaluation of this decision support system, we will also assess the potential benefit of using environmental data to improve public health outcomes, help prioritize continuing investment in meningitis management in Ghana and throughout the Meningitis Belt, and determine the appropriateness of extending the prototype to other diseases, nations, and continents.

This effort is a small piece of an overall Google.org effort to develop an Earth-gauging System that will integrate environmental, health and development data into products that stakeholders and researchers can use to monitor variables, analyze trends and identify relationships among different variables. The Earth-gauging System will support the prediction of emerging threats, and provide the basis for an robust early-warning system that will improve health, food security, and development and conservation outcomes.

For the informatics session, our presentation will focus on the projects' leveraging of current UCAR Unidata data management software to create and populate an archive of meteorological and epidemiological data. We will also describe strategies to extend the Unidata network for data distribution – which currently provides real-time access to over 2.6 GB/hr of meteorological data to 160 Universities in North and South America - to support the development and dissemination of weather and health information in Ghana. Finally, we will describe how Unidata tools will provide a vehicle for delivering meningitis decision support to stakeholders and decision makers in Ghana, via GoogleEarth and other mechanisms.