

## Report on Commission VIII Working Group 2 Symposium

### *Advances in Geospatial Technologies for Health*

The two-day international symposium on *Advances in Geospatial Technologies for Health* was held in Santa Fe, New Mexico USA on 12 and 13 September 2011. Co-located with NASA's annual program review for health projects, it was organized by a committee of eight people who assembled eight sessions on key topics that bridged the Earth observing and health communities of practice. Seventy (70) attendees from eleven countries (Belgium, Canada, Ethiopia, France, India, Italy, Japan, Nicaragua, Switzerland, Thailand, and the US) participated in the event. The Symposium was supported by nine sponsors: NASA, CNES, JAXA, ASPRS, Esri, JRCies, NMGIC, Bohannon-Huston, and EDAC. ISPRS Council was represented by Treasurer Mike Renslow.



*Seventy attendees focus on presentations integrating geospatial technologies and health.*



*Symposium sponsors.*

As a new working group in Commission VIII, the focus is on applications of remote sensing and other Earth observing technologies to understand how the natural environment contributes to environmental and infectious/zoonotic diseases. The objective is to integrate these technologies with enhanced predictive modeling capabilities for early warning and surveillance of environmental impacts on human health in cooperation with other international, national, and regional organizations. This Symposium takes the first steps toward that end.

Many GEO-related tasks participated in this first symposium held by WG VIII/2. Lively discussions were stimulated by 43 presentations over the two-day period. The first day of the program was organized into four (4) technical sessions. Session 1 addressed *Advances in Environmental Monitoring for Health*, opening with a keynote address on the GEOSS Health SBA, co-authored by members of the GEO Health and Environment Community of Practice and the Air Quality CoP, and NASA's Public Health Applications Program. Session 2 focused on *New Geo-technologies for Health* including presentations on applications for Ebola outbreaks, online mapping for distribution data for mosquitos and ticks, detection of natural gas lines and leaks, and applications of remote sensing of animal feeding operations. Session 3 was a mixture of presenters representing the geospatial and medical communities with presentations on atmospheric particulates and how they impact human health, and the lead poisoning outbreak in Nigeria linked to artisanal gold processing. Session 4 turned attention to discussions on *Data Integration and Modeling* including data discovery and retrieval systems, bio-surveillance planning, and modeling and monitoring of public health risks.

The second day of the Symposium opened with Session 5 *Real Time and Early Warning Systems*, including presentations on predicting diseases in Brazil, tele-epidemiology applied to Rift Valley Fever in Senegal, and satellite-based real time and early warning systems for monitoring vector-borne diseases. *Emerging and Re-emerging Diseases* was the topic for Session 6. Discussions included global under-reporting of emerging infectious diseases, avian flu in Asia, new technologies for emerging diseases, control efforts of West Nile Virus, and prevention and control of meningococcal meningitis in the Sahel. In Session 7 *International Health Monitoring Programs* discussions included WMO's sand and dust storm warning advisory an assessment system, the National Center for Atmospheric Research Weather, Climate and Health Program, health and well-being in the changing urban environment, and integration of mobile technologies and geospatial decision support systems in public health. The Symposium closed with Session 8 *On and Just Beyond the Horizon*, designed to stimulate the audience in thinking about future opportunities, needs, and technologies that bring the geospatial and medical communities closer for addressing the ever increasing global problems surrounding the environment and human health. Stimulating presentations were given on medical geology, the intersection of healthcare and earth science technology/geospatial information systems, transcube modeling and tele-epidemiology, and Global Change Science Strategy – Implications and Opportunities for Health.

Following the symposium, the NASA Public Health Program review was held. Twenty five (25) projects reported their results on areas including infectious disease, environment and health, and water applications. GEO and CNES were invited to deliver presentations from international partners. The week in Santa Fe proved to be a fruitful and exciting event that promoted discussions and networking among the Health community.

Proceedings will be available in digital format.

Report submitted by:

Amelia Budge, Chair  
Richard Kiang, Co-chair  
Stanley Morain, Technical Secretary