

BIOSPHERIC SCIENCES BRANCH HIGHLIGHTS  
May – June 2008

- SCIENCE POLICY AND TEAM MEETINGS, WORKSHOPS

- \*\* Members of GIMMS group hold meeting with FAO**

Assaf Anyamba (GEST/UMBC 614.4), Jorge Pinzon and Ed Pak (both SSAI/614.4) held an all day meeting (June 24th) at GSFC with Dr. Stéphane de La Rocque (Food and Agricultural Organization of the United Nations [FAO]). The purpose of the meeting was to develop a framework for collaboration between the FAO-Animal Production and Health Division and the GIMMS Group. It is planned that the GIMMS group will provide R&D applications support to FAO using NASA Earth Science data to enhance the current Rift Valley Fever monitoring and prediction system. Dr de La Rocque is the head of a group within the FAO Animal Production and Health Division that is in charge of the World organization for animal health (OIE) -- World Health Organization (WHO)-FAO Global Early Warning (GLEWS) project.

- \*\* First International workshop on Supercomputing Applications in Climate Science and Remote Sensing, Cairo, Egypt**

Lahouari Bounoua (614.4) was invited to speak at an international workshop on supercomputing applications in climate science and remote sensing. The workshop sponsored by NSF and USDA was organized by the University of Connecticut in collaboration with the Egyptian National Authority for Remote Sensing and Space Sciences (NARSS) and was held in Cairo, Egypt May 13-16. The objective of the workshop was to bring together U.S, Egyptian and other Middle Eastern scientists and students with background in climate science, remote sensing and supercomputing to explore the synergies within the interaction of supercomputing, climate and remote sensing with reference to fostering collaborative research and educational opportunities between the different parties.

Lahouari presented a highlight of NASA's leading effort in providing high quality, well calibrated global coverage satellite data suitable for climate studies and illustrated their use through an interaction between the terrestrial vegetation and climate in elevated atmospheric CO<sub>2</sub> concentration modeling experiments. The title of the talk was "Combining Remote Sensing, Models and Supercomputers to study Climate: Radiative and Physiological Effects of CO<sub>2</sub>. How does this interaction affect Climate?"

- FUNDED RESEARCH

- \*\* Jack Xiong attends CEOS and MODIS workshops**

Jack Xiong (614.4) attended a workshop at the Canada Centre for Remote Sensing (CCRS), NRC, at Ottawa, Canada (June 4-5). This workshop is dedicated to the implementation of CEOS action CL-06-02\_1 "Measurement consistency for 1-5 km sensors (MODIS, ATSR, and AVHRR)". Participants included scientists from NASA GSFC and LaRC, NOAA, USGS, and CCRS.

Jack Xiong attended and gave presentations at the MODIS Calibration Workshop (May 13) and the VIRRS/MODIS Science Team Meeting (May 14-16) in Baltimore, MD.

- \*\* Spectral Bio-Indicators team conducts field measurement day at the Smithsonian Environmental Research Center**

The Spectral Bio-Indicators team conducted a field measurement day at the Smithsonian Environmental Research Center in Edgewater, MD on May 29. This involved the rental of a crane and basket system to acquire spectral measurements above and within the poplar forest and to obtain leaf samples at different levels within the canopy. The PI is Dr. Betsy Middleton (614.4) in collaboration with Dr. Geoffrey Parker (SERC). The project is exploring the role of illumination conditions on the retrieved remote sensing hyperspectral indices that indicate physiological stresses associated with reduced carbon uptake efficiency, for foliage whether under direct sunlight or shaded.

- SIGNIFICANT ACTIVITIES

**\*\* Integrated Geospatial Education and Technology Training (iGETT)**

Landsat E/PO staffers Jeannie Allen and Laura Rocchio, both Code 614.4/SSAI, with the assistance of Richard Irish and Eric Brown de Colstoun, also both Code 614.4/SSAI, and other partners on the "Integrated Geospatial Education and Technology Training (iGETT)" project, gave two Summer Institutes on remote sensing data analysis and applications for two groups of community college faculty from all over the country, June 14-27, at Del Mar College in Corpus Christi, TX.

The first group of participants was returning after a two-week Institute in 2007 for one week of learning about program development: grant writing, articulation with high schools and four-year institutions, student recruitment, and more. The second group of participants learned what the first group had learned in 2007: remote sensing basics, how to use ENVI professional image processing software, how to use a spectrometer and a handheld GPS, how to download federal remote sensing data (namely Landsat, MODIS, and ASTER), about remote sensing applications, and about field validation techniques. The two groups' Institutes overlapped so they could learn from each other and build their geospatial education community. The first group presented drafts of Learning Units they had developed for this project over the previous year, as well as Marketing Plans for the coming year; and the second group submitted Learning Unit proposals. All Institute training resources and participant Learning Units will be publicly available.

iGETT is funded by the National Science Foundation's Advanced Technological Education Program (NSF DUE-0703185).

**\*\* Aliou Dia, GIS Officer at UN West African Regional Office gives presentation**

Through a grant provided by the IHDP Global Change System for Analysis, Research and Training (START), Aliou Dia, the GIS Officer at the United Nations' West African Regional Office for Coordination for Humanitarian Affairs, visited the Biospheric Sciences Branch. He gave a talk on June 27, entitled 'Earth Observation for Disaster Management in West Africa: the case of Flooding in Saint Louis, Senegal'. Aliou and his host, Molly Brown, Code 614.4/SSAI also visited with the AGU Secretariat and the US State Department to discuss furthering the use of geospatial data for disaster management in West Africa.

**\*\* Molly Brown authors book on Famine Early Warning and Remote Sensing**

Book release: Famine Early Warning Systems and Remote Sensing Data  
Author: Molly E. Brown, Code 614.4/SSAI, 4-6616, [molly.e.brown@nasa.gov](mailto:molly.e.brown@nasa.gov)  
2008, XVIII, 313 p., 91 illus., Hardcover, ISBN: 978-3-540-75367-4

This book describes the interdisciplinary work of USAID's Famine Early Warning System (FEWS NET) and its influence on methodological and development policies in the US. FEWS NET operational needs have driven science in biophysical remote sensing applications through its collaboration with NASA, NOAA, USGS and USDA, and socio-economic methodologies through its involvement with USAID, UN WFP and numerous international non-governmental organizations such as Save the Children, Oxfam and others.

The book describes FEWS NET's systems and methods and presents several illustrative case studies that will demonstrate the integration of both physical and social science disciplines in its work.

[www.springer.com/978-3-540-75367-4](http://www.springer.com/978-3-540-75367-4)

<http://www.springer.com/978-3-540-75367-4>

### **\*\* Peter Griffith invited by National Park Service to be guest speaker**

Dr. Peter C. Griffith (SSAI/Code 614.4) was invited by the National Park Service to be a guest speaker at Glacier National Park, Montana, during annual orientation week for new and returning Park Rangers involved in "interpreting" the Park to the general public. Climate change is receiving special emphasis in Park programs for the public this year. On June 11th and 12th, Dr. Griffith gave lectures and led informal discussions around three themes: "The Carbon Sheet and Global Change", "Managing the Carbon Sheet: the Threat of Biofuels", and "OK, I believe you, what's next?".

### **\*\* Middleton travels to The Netherlands and Scotland**

Dr. Betsy Middleton, Code 614.4, traveled to The Netherlands to attend meetings at ESTEC in Noordwijk sponsored by the European Space Agency: 1) the mid-year report of the Dynamic Vegetation Modeling Working Group in support of photosynthesis and chlorophyll fluorescence modeling activities (May 5); and 2) the 6th meeting of the FLuorescence Explorer (FLEX) Mission Assessment Group (May 6-7).

Dr. Middleton then traveled by invitation to Scotland where she gave a lecture on " Remote Sensing of Photosynthetic Light Use Efficiency: In Situ and MODIS Results", and met with faculty and students (May 8-9).

### **\*\* Molly Brown's Letter published in Science elicits comments and response by Brown**

The comments and authors response to a recent letter to Science by Molly Brown can be found at Science 2 May 2008:

Vol. 320. no. 5876, pp. 611 - 612

DOI: 10.1126/science.320.5876.611

<http://www.sciencemag.org/cgi/content/full/sci;320/5876/611?maxtoshow==10=10==Molly+Brown=1=0=HWCIT>

<<http://www.sciencemag.org/cgi/content/full/sci;320/5876/611?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=Molly+Brown&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT>>