** Remote Sensing News for and About the Private Sector **
The Quarterly Newsletter of the IEEE Geoscience and Remote Sensing Society (GRSS) Private Sector Liaison Group

Editor: Bill Gail, Microsoft Corporation (+1.303.513.5474)
Visit the GRSS website and the GRSS Private Sector Liaison Group website

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** 1. AN INFORMATION-TO-KNOWLEDGE GAP? – brief editorial
The world's satellites collect Terabytes of geospatial information every day. Aerial and ground-based systems of all kinds collect far more. How much of this gets used? The answer is both a lot and very little. Unquestionable, remotely sensed data as a whole has proven its worth many times over, from public uses (such as advanced warnings of hurricanes) to consumer applications (for example, online and mobile mapping). To address many of today's pressing problems, including climate change and managed growth in developing nations, the data we collect simply is not enough. But we have also not begun to tap the wealth of the data we do have. Access to data is constrained by technological, institutional, and political barriers. Tools for analyzing, visualizing, comparing, and sharing the information are still poor. What can be done? The Group on Earth Observations (GEO) is a start – it represents the combined efforts of nearly 100 nations to improve access to the world's sources of Earth information. The private sector is also doing its share - investing heavily in democratization of Earth information through internet mapping tools such as Google Earth, Virtual Earth, Yahoo Maps, and MapQuest. Major policy studies such as the NRC Decadal Survey have emphasized the need to improve the use of Earth information for society's benefit, and several groups have noted the benefit of government organizational change (see Item 4) to make the acquisition and application of Earth information more efficient.

** 2. IGARSS 2009 IN CAPETOWN
IGARSS 2009 is being held July 13-17 in Capetown, South Africa. The theme this year is "Earth Observation: Origins to Applications". For those who have attended previously, you know that IGARSS is the premier remote sensing conference for bringing together government, academia, and industry. Historic attendance has been running about 1500. A variety of tutorial sessions are planned with interest to the private sector. For additional information on the conference and opportunities to exhibit, contact Bryan Stewart (bstewart@cmsworldwide.com). Future symposia include Honolulu (2010), Sendai (2011), TBD (2012), and Melbourne (2013).

** 3. CLIMATE MONITORING – special challenges for remote sensing
Monitoring climate is among the tougher challenges faced by remote sensing. It places severe constraints on the data being collected, from precision to continuity to the duration of datasets. An excellent description is contained in a 1995 paper in the journal Climatic Change (or see a blog summary) by Tom Karl (director of the NOAA National Climatic Data Center) and associates. Though we have extensive data sets from the world's satellite systems, most do not achieve the quality needed for monitoring climate. This gap has led to calls for a US national climate service, and we now have

pending legislation to establish that service within NOAA (S.2307 sponsored by Sen. Kerry (D-MA) and supported by the administration). The importance of remote sensing in supporting both mitigation and adaptation efforts is likely to be central to a major upcoming National Research Council (NRC) climate change study (to be accompanied by a high-profile international summit). Reliable climate data will ultimately have enormous political and commercial value. The private sector is gradually grasping the importance of these data for the increasingly lucrative carbon offset market and other uses.

** 4. A US EARTH INFORMATION AGENCY – restructuring the way we work

Is the US too stove-piped in its approach to Earth information? NASA and NSF lead Earth science activities, but monitoring is the responsibility of NOAA. Unless, of course, the monitoring regards land, which makes it the purview of USGS. But if crops grow on the land, then it is USDA. A group that includes prominent former leadership of NOAA, NASA, USGS, FDA, and OSTP aims to change this by instituting an Earth Systems Science Agency (ESSA) responsible for the nation's Earth science. This agency would be formed by combining NOAA and USGS, with NASA's Earth science efforts remaining separate so as to "capitalize on NASA space technology". Their July 4th proposal in the journal Science garnered considerable visibility. Another group (including this editor) made a similar suggestion to create a National Earth-Information Initiative that would propose a means for better integrating the nation's Earth information activities. Such ideas are likely to receive the attention of Congress during the coming administration given the interest of both candidates in climate issues.

** 5. VIRTUAL WORLDS – remote sensing meets avatars

The Buckminster Fuller vision of a digital Earth, re-invented by Vice President Al Gore in a 1998 speech at the California Science Center, is today coming to fruition. As the Vice President noted, "we have an unparalleled opportunity to turn a flood of raw data into understandable information about our society and our planet." A digital Earth is a geo-library, organizing the world's information geospatially, much the way our real-world lives are constructed around place and time. Remotely-sensed data provide the foundation for digital worlds, enabling visualization of the Earth from local to global scales and defining the geometric relationships between objects and information. But navigating these digital worlds is still awkward and inefficient. Many believe that extending digital Earths into true virtual worlds by adding human functionality and interaction will unlock access to Earth information and make new applications of the knowledge possible. The key is avatars - 3D computer representations of the computer's user, designed to reflect the user's desired actions and to enable social interaction with other online users. While use of avatars in virtual worlds has focused on gaming and social interaction, organizations such as NOAA are applying them (NOAA Islands in Second Life) to make possible experiences such as being hit by a tsunami or walking around in the caldera of an active volcano. These simulated events are highly educational, not the least because they are difficult or impossible to experience in real life. We are today only scratching the surface of the Fuller/Gore vision for what can be done with virtual worlds.

** 6. OTHER BUSINESS OPPORTUNITIES

A quick reminder of items mentioned in previous newsletters: A) the monthly GRS Newsletter publishes corporate profiles, B) theGRSS technical committees accept volunteers, and C) short contributions of news or other items for this newsletter will be accepted.

** 7. COMPANY NEWS - To advertise at no cost, please submit short requests to the editor

> First Base Solutions – (FBS) Toronto, Canada, announces that it has developed a service capability to mass-produce large scale high-resolution photo-realistic 3D models directly from its high resolution aerial imagery (3 cm – 15 cm). Each model is a discrete file to which other documents can be attached (blueprints, tax records, tenant contact information and website URLs, etc.). The models are optimized for rapid display in Microsoft Virtual Earth and Google Earth. A cityscape of 40,000 buildings can be built in 30 days. A cityscape includes every commercial and residential building plus all other man-made objects (water towers, bridges, etc.) with a footprint larger than 50 square meters; major architectural details of every building are visible including setbacks, plinths and rooftop objects greater than 2 cubic meters. For more information please visit the company's website at http://www.firstbasesolutions.com/3dbuildings.php or contact Christopher Seepe T: (905) 477-3600 ext. 222 E:cseepe@firstbasesolutions.com.

** 8. EVENTS

7-10 Oct	URISA Annual Conference - New Orleans, LA
27-30 Oct	GEOINT Symposium, Nashville, TN
27-31 Oct	Texas GIS Forum, Austin, TX
10-14 Nov	Asian Conf on Remote Sensing - Colombo, Sri Lanka
16-20 Nov	Pecora 17 – Future of Land Imaging, Denver, CO
17-19 Nov	American Astronautical Society, Pasadena, CA
17-21 Nov	SPIE Asia-Pacific Remote Sensing - Noumea, New Caledonia
18-20 Nov	Rocket City Geospatial Conference, Huntsville, AL
2- 4 Dec	Geo Expo China, Shanghai, China
15-19 Dec	American Geophysical Union Fall Mtg – San Francisco, CA
11-15 Jan	American Meteorological Society Annual Mtg, Phoenix, AZ
20-24 Jan	MAPPS Winter Conference, St. Thomas, US Virgin Islands
26-28 Jan	International LIDAR Mapping Forum, New Orleans, LA
10-13 Feb	Map World Forum, Hyderabad, India
9-13 Mar	ASPRS Annual Conference, Baltimore, MD
23-26 Mar	ESRI Developer Summit, Palm Springs, CA
30- 2 Mar/Apr	National Space Symposium, Colorado Springs, CO
19-22 Apr	GITA Geospatial Infrastructure, Tampa, FL
4- 8 May	Intl Sym on Rem Sens of Environ, Stresso, Italy
19-21 May	Where 2.0, San Jose, CA
24-27 May	American Geophysical Union Spring Mtg, Toronto, Canada
13-17 Jul	IGARSS 2009, Capetown, South Africa

** 9. PROFESSIONAL ORGANIZATIONS – see more orgs (public, private, academia)
Institute of Electrical and Electronic Engineers (IEEE)
Aerospace Industries Association (AIA)
American Astronautical Society (AAS)
American Geophysical Union (AGU)
American Institute of Aeronautics and Astronautics (AIAA)
American Meteorological Society (AMS)
American Society for Photogrammetry and Remote Sensing (ASPRS)
Geospatial Information and Technology Association (GITA)
International Society for Photogrammetry and Remote Sensing (ISPRS)
The International Society for Optical Engineering (SPIE)
Management Association for Private Photogrammetric Surveyors (MAPPS)
Space Foundation
United States Geospatial Intelligence Foundation (USGIF)
Urban and Regional Information Systems Association (URISA)
Women in Aerospace (WIA)

The IEEE Geoscience and Remote Sensing Society (GRSS) Private Sector Liaison Group was formed in 2002 to increase collaboration between the private sector, academia, and government in the remote sensing field. The readership of this newsletter now exceeds 1500 people from companies associated with remote sensing, as well as government agencies, international space agencies, professional organizations, non-government organizations, OMB, and Congressional staff. We in the private sector want to help keep our colleagues informed of the activities and capabilities of the private sector – and the role that GRSS plays in supporting and promoting these activities. Should you need further information about the Private Sector Group, require that contact information for you or your organization be updated, or request to be removed from the list, please contact Bill Gail (bgail@microsoft.com).