

## National Seminar on Geospatial and Ecological Mapping of Biodiversity: Tools and Techniques

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A two-day National Seminar on 'Geospatial and Ecological Mapping of Biodiversity' was organized under the Institution of Excellence (IOE) by the Dept. of Studies in Earth Science, University of Mysore, Mysore during 30-31 May, 2012. Prof. S.M. Ramasamy, Vice-Chancellor, Gandhigram Rural University, Tamil Nadu in his inaugural address explained about the theory of plate tectonics, migration of river channels, how flora and fauna are different in upliftment areas when compared to subsidence areas, paleo-environments and paleo-climates etc. He felt that correlation between geodiversity and biodiversity is very much necessary and narrated the same with examples. Dr. V. Prakash, former Director, CFTRI, Mysore, the chief guest of the inaugural function, addressed the impacts of climate change on food production, economy of the country, health and living condition of the people especially village and tribal people. He also stressed upon the social responsibility of scientists. Prof. V.G. Talawar, Vice-Chancellor,

University of Mysore who presided over the function mentioned about the activities of the IOE and utilisation of grant sanctioned by MHRD-UGC, New Delhi to the University of Mysore under IOE program. Dr. P. Madesh, Convener of the Seminar explained about the seminar theme. Prof. B. Basavalingu, Chairman, Dept. of Earth Science welcomed the gathering and Dr. Niranjana, Co-ordinator, IOE proposed vote of thanks.

The major themes of the seminar were: (1) suitability of satellite products for biodiversity analysis, (2) biodiversity characterization using remote sensing in mountainous terrain, (3) leaf area index in biodiversity mapping, (4) identification of herbal resources in densely forested regions, (5) floral species classification using remote sensing data, (6) land use/land cover mapping, (7) analysis of fragmentation and anthropogenic disturbances in the Western Ghats using remote sensing and GIS, and (8) application of hyper spectral image, interpretation in mapping of medicinal and

other plant resources. Three invited talks and about twenty research papers were presented in the seminar. An invited talk on medicinal plants of Western Ghats and their importance was delivered by Prof. V. Krishna, Dept. of Biotechnology, Kuvempu University. Dr. B.K. Ranganath, Scientist, ISRO, Bangalore, highlighted the Geoinformatics applications for biodiversity, forestry and environment. Remote Sensing applications in forestry and agriculture are addressed by Dr. H. Gangadhara Bhat of Mangalore University. The other research papers exposed the suitability of satellite products for biodiversity analysis, biodiversity characterization, identification of herbal resources in densely forested regions, land use/land cover changes and analysis of fragmentation and anthropogenic disturbances in the Western Ghats. About 100 participants including teaching faculty, research scholars and students from various universities, institutions/organizations across the state attended the seminar.

## Linking Petrology and Seismology at an Active Volcano by Kate Saunders, Jon Blundy, Ralf Dohmen and Kathy Cashman

The above paper published in *Science*, 25 May 2012, v.336, pp.1023-1027, may be of interest to readers of the Journal.

Many active volcanoes exhibit changes in seismicity, ground deformation, and gas emissions, which in some instances arise from magma movement in the crust before eruption. An enduring challenge in volcano monitoring is interpreting signs of unrest

in terms of the causal subterranean magmatic processes. The authors examined over 300 zoned orthopyroxene crystals from the 1980–1986 eruption of Mount St. Helens that record pulsatory intrusions of new magma and volatiles into an existing larger reservoir before the eruption occurred. Diffusion chronometry applied to orthopyroxene crystal rims shows that

episodes of magma intrusion correlate temporally with recorded seismicity, providing evidence that some seismic events are related to magma intrusion. These time scales are commensurate with monitoring signals at restless volcanoes, thus improving our ability to forecast volcanic eruptions by using petrology.

## Undersea Mining: Gold Rush in the Abyss

It's the next frontier in mining, expected to ring in a sea-change in fortunes. Fresh finds of craggy deposits rich in gold and silver, copper and cobalt, lead and zinc deep in the sea bed is fuelling a gold rush as nations, companies and entrepreneurs race

to stake claims to the sulfide-rich areas, which dot the volcanic springs of the frigid seabed. The prospectors – motivated by dwindling resources on land as well as record prices for gold and other metals – are busy hauling up samples and assessing

deposits valued at trillions of dollars. The US, Russia, China, Japan and South Korea lead this race to the bottom, and India is nowhere as yet – *The Economic Times*