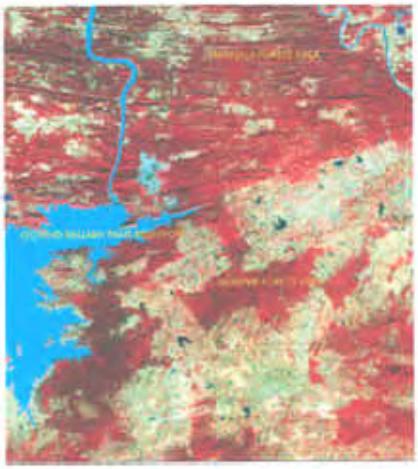
In this issue

Forest fragmentation and biodiversity loss

Forest fragmentation results in loss of forest area as well as isolation of these patches, thus making them vulnerable to further loss of diversity. Goparaju *et al.* (**page 1264**) address the quantification of the impacts of fragmentation on plant biodiversity. The impact of forest fragmentation has been studied along a gradient of anthropogenic pressure in terms of degree of forest fragmentation. The researchers have been able to classify and map the plant communities occurring in very small patches of forest using multi-season remotely sensed data in conjunction with the very limited ground inventory.



Different patch size classes of the plant communities identified in the GIS domain were analysed for biodiversity levels and it was found that the patch size classes were having significantly different biodiversity levels. The authors discuss the approaches for prioritization for the conservation of different patch size classes. This may prove very important for the forest managers and conservationists as the forest fragmentation has become a matter of reality.

Impact of tsunami

The 26 December 2004 Sumatra–Andaman earthquake caused a tsunami that traveled across the world's oceans and caused unprecedented damage in many Asian countries. This extraordinary event adds a new dimension to coastal hazard assessment and preparedness. One of the important observations is the variation in the tsunami run-up along both the east and west coasts, probably due to the influence of near-shore morphology, sensitivity to reflections from ocean ridges, etc. In a country like India, with its long and densely populated coast, coastal hazard assessment must be based on the vulnerability and socioeconomic setting. Preparation of inundation maps from tsunami or other storm surges is an important activity in coastal hazard assessment. Run-up heights and inundation observed from the recent event helps to make realistic assessment of similar events in future. Chadha *et al.* (**page 1297**) present results of surveys conducted along the coast of Tamil Nadu, east coast of India, after the December tsunami. Methodologies outlined in the paper provide useful guidelines to those who are involved in coastal hazard assessment, including tsunami run-up studies and inundation mapping.

The microbial factor in stalactites

Recently, it has become clear that the surface of earth is populated by far more species of microbes than there are types of minerals. Geomicrobiology, an interdisciplinary field of geology and microbiology, has added a new dimension to the questions of mineral formation, dissolution and distribution. A remarkable confluence of

interdisciplinary interest and techniques promises to exponentially increase our understanding of the timeless dance between the physical and the biological world in which we live. Advances in molecular biology have made it possible to study the microbial populations in natural environments. Baskar *et al.* (**page 1305**) have studied speleothems (cave deposits) in Sahastradhara, Dehradun using fluorescence *in situ* hybridization (FISH) techniques and DAPI staining to suggest that the microbial community is dominated by eubacteria, mainly sulfate-reducing bacteria but Archaea were also present. A significant fraction of these cells were found to be active (by FISH technique), indicating the high probability of their participation in biomineralization processes involved in the stalactite formation, which is at variance with the established classical model entirely based on inorganic processes associated with carbonate solubility.