

4TH INTERNATIONAL SYMPOSIUM, TOKYO

Digital Earth Facing Challenges

The 4th International Symposium on Digital Earth (ISDE) was held in Tokyo, Japan from 28th to 31st March 2005 with the theme "Digital Earth as Global Commons". The more than 1,200 participants from eighty countries were mainly academics and industrialists and special attention was given to ICT, GIS and cartography.

Digital Earth is envisioned as a computerised, multidimensional, multi-scale, multi-temporal and multi-layer information facility. The aim of ISDE-Japan, established in 2004, in organising the symposium was threefold. Firstly, to promote, plan and manage Digital Earth (DE) for network activity within Asia and to share the concepts; secondly, to support new application developments and tie-up with global projects such as the Global Spatial Data Infrastructure (GSDI) and Earth Map and Spatial Information Construction. Thirdly, it was hoped to develop and establishment a highly transparent network between industry, academia and local government to ease exploitation of spatial data and thus make DE realistic.

Concept and Role

More than 75 technical papers were presented on topics in the fields of Knowledge, Networks, Technology, Data-fusion, Economy, Society, Natural and Human Resources, Policy and Strategy. The keynote speeches analysed several current DE research frontiers and defined new vital topics on early warning, crisis management and disaster mitigation. There was a wonderful presentation by the Earth Simulator Center-Japan showing a simulation of the future of humanity and of the Earth. Presentations on new satellite systems such as KOMPSAT and TerraSAR attracted many participants. An early application of DE technology for communicating public risk was presented. Prototypes for internet mapping, visualisation tools, and several virtual DE representations of the Earth were displayed; the latter will enable people to explore and interact with vast amounts of natural and cultural information. One keynote speaker suggested that the DE pay attention to topics such as sustainable development (social, cultural and education), GI and data policy, and to its own development of an umbrella concept, role, and early warning and emerging problems. Efforts to build a test-bed for DE R&D were required in many applications. More than 26 exhibition stands demonstrated innovative GIS and remote-sensing products. There are now several virtual GIS systems for the viewing of Digital Earth in different fashions and at differing scales.

Open-door Policy

One of the most stringent issues discussed was access to information, without which the DE vision cannot be achieved. Several countries have developed vast amounts of geospatial data but this must be shared. More work is required in the field of common data format, ontological methods and open-door policy on information sharing. Keeping in mind the extremely heterogeneous and changing nature of governments of many parts of the world, DE concepts of building, sharing and visualisation of data, or taping available information in larger-scale format will be unrewarding without open-door policies. Fortunately, an attempt to break down barriers is now in sight, with the Digital Asia Network. Such a network will help to accomplish the goals of DE, but viewing all the systems displayed at the exhibition during the three-day ISDE-J might have led to the conclusion that development of a cost-effective DE would not be lucrative. On the side of optimism, advancements in computer hardware will make the DE available at low cost in every home; on the other hand, there might be doubt as to whether the original vision of the Digital Earth is still vivid today. The textbox carries the opinions of prominent experts.

Coming Events

Recognising the value of DE to the world community and desiring to continue under the Beijing Declaration to conduct International Digital Earth Meetings every two years, the US has enthusiastically offered to host the 5th ISDE in San Francisco in June 2007 under the theme "Bringing DE into Everyone's Home". A special DE-Summit on the Foundations for Sustainability will be held in 2006 in Auckland, New Zealand. This summit will bring together Geospatial Communities, intellectual leaders and international advocates for the understanding of DE.