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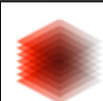
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THIRD UNITED NATIONS CONFERENCE ON THE EXPLORATION AND PEACEFUL USES OF OUTER SPACE

Vienna

19-30 July 1999

Committee II

Agenda item 8

Status and applications of space science and technology

Technical Forum

Conclusions and proposals of the Workshop on Resource

Mapping from Space

1. The conclusions and proposals below concern paragraphs 102-115 and 119-127 of the draft report of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III) (A/CONF.184/3 and Corr.1 and 2).

A. New global developments in technology

2. In the last 100 years, natural resource industries have developed from an economy based on access to land and labour into industries where capital (i.e. investment in equipment) dominates. Today, the most rapidly growing segment of the economy is "information": spatial information derived from remote sensing and geographic information systems can help natural resource managers, in both developed and developing countries, to improve food production and water management, decrease costs or reduce environmental degradation.

B. Resource issues

3. Agricultural statistics clearly show that the world food balance is becoming more and more fragile. Since the mid-1980s per capita food production at the global level has decreased steadily.
4. There will be a considerable shortage of water for drinking, for sanitation and, most importantly, for growing crops in the twenty-first century. Water as a scarce commodity needs to be properly managed.
5. The degradation of limited arable land by various processes, namely, soil erosion by water and wind, salinization and alkalization, waterlogging, shifting cultivation, mining and so on, resulting from over-exploitation has resulted in the significant decrease in per capita arable land.

C. Conclusions

6. Our ability to monitor changes in vegetation and land use in the major production regions of the world is important and remote sensing is the only technique offering such a capability.
7. New satellite remote sensing systems are being launched that will be of use at both local and regional levels for natural resource managers. Those systems offer improvements in spatial, spectral or temporal accuracy. As more satellites are placed in orbit, imagery over a geographical location will be accessible at shorter time periods.
8. Operational low-cost satellites, such as the advanced very high resolution radiometer of the National Oceanic and Atmospheric Administration of the United States of America (NOAA-AVHRR), create the possibility to monitor on a daily basis the status of land and water resources and crop performance.
9. With the advantage of providing synoptic coverage of large areas at regular intervals, coupled with the advances made in computer-aided digital analysis and data fusion, spaceborne multi-spectral measurements made by Earth observation satellites offer an immense potential for generating reliable, timely and cost-effective information on natural resources.
10. A judicious use of the full capabilities of Earth observation missions and data should lead to an increase in the quality of remote sensing products, in the information delivered to the customer and in decisions taken by the customer.
11. The continuous availability of free or low-cost data for resource mapping on a global scale (e.g. NOAA-AVHRR, and the Satellite pour l'observation de la Terre (SPOT) vegetation mapper) is an urgent priority for environmental monitoring.