



United Nations Programme on Space Applications



UNITED NATIONS




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The United Nations Programme on Space Applications was established in 1971 on the recommendation of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE) that was held in 1968. Since then, the Programme has been carrying out activities designed to promote the practical uses of space technology for sustainable development, in particular in developing countries.

Many countries still lack the human, technical and financial resources that are required to utilize the benefits of space technology (in such areas as meteorology, communications, natural resources management, environmental monitoring, and disaster management).



The Programme provides support in capacity building, education, research and development, as well as technical advisory services. The Programme also aims at strengthening international cooperation in the field of space technology. Since 1971, the Programme has conducted more than 170 training courses, workshops, seminars and conferences on space applications with around 8,000 participants from developing countries. The Programme also organizes fellowship programmes for in-depth training of specialists in space technologies and raises awareness of the benefits of space technology and how it can contribute to sustainable development.



Regional Centres for Space Science and Technology Education

Through the Programme, Regional Centres for Space Science and Technology Education have been established for Asia and Pacific (India), Latin America and the Caribbean (Brazil and Mexico), and Africa (Morocco and Nigeria). The Centres are affiliated to the United Nations and are aimed at developing national capacities for research and applications in the core disciplines of Remote Sensing and Geographical Information Systems; Satellite Communications; Satellite Meteorology and Global Climate; and Space and Atmospheric Sciences. The Programme on Space Applications, with the support of prominent educators, has developed a set of standard curricula which were adopted by the Centres for each of the core disciplines.



Basic space science

Since 1991, the Programme and the European Space Agency have been organizing a series of regional workshops on basic space science. The workshops have covered the topics of: fundamental physics; astronomy and astrophysics; solar-terrestrial interaction and its influence on terrestrial climate; planetary and atmospheric studies; and the origin of life and exobiology. Using an implementation model developed at the workshops, small astronomical telescope facilities in Colombia, Egypt, Honduras, Jordan, Morocco, Paraguay, Peru, the Philippines, Sri Lanka and Uruguay have been established and continue to be in operation. Building upon the results of the workshops, the Government of Japan, in cooperation with the Office for Outer Space Affairs, is continuing the establishment of planetaria and astronomical telescope facilities at universities in developing countries.

The Programme will assist scientists and engineers from all over the world in participating in the preparations for the International Heliophysical Year (IHY) 2007; "heliophysical" is an extension of the term "geophysical," extending the connections from the Earth to the Sun and interplanetary space. IHY will provide a unique opportunity to coordinate observations from the current fleet of international space missions with data from ground-based observatories. Unprecedented, simultaneous observations with broad coverage of all associated solar, heliospheric, geospheric, geospace and atmospheric phenomena will be obtained. The resulting data will allow global studies of the complete heliophysical system. For further information please visit <http://ihy2007.org>.



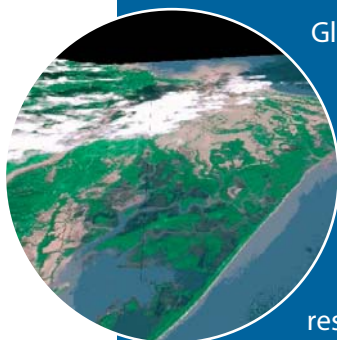


World Space Week

World Space Week, declared by the United Nations General Assembly in 1999, is held every year from 4 to 10 October. The purpose of World Space Week is to celebrate annually, at the international level, the contribution that space science and technology can make to the betterment of the human condition. The Programme works in cooperation with other organizations around the world to hold events that celebrate World Space Week. You can find out more about what is happening from Spaceweek International Association, a non-government organization, at <http://www.spaceweek.org>.



Global Navigation Satellite Systems



Global Navigation Satellite Systems (GNSS) provide precise location information on the ground for use with Earth observation images and ancillary information in geographical information systems, as well as for a range of other applications such as monitoring of the environment, precision agriculture, surveying and mapping, resource conservation, and disaster management. The



Programme and the Government of the United States of America have been conducting a series of workshops on the use of GNSS and their application in furthering global environment objectives and sustainable development programmes, especially in developing countries. In addition, The United Nations and the Government of Italy have been offering a long-term fellowship programme on GNSS and related applications for relevant professionals from developing countries.





Natural Resources Management and Environmental Monitoring

The Programme organizes workshops and meetings to help developing countries to use space-based solutions, in particular remote sensing data, for environmental monitoring and in solving natural resources management issues. Training is provided through the series of United Nations/Sweden International Training Courses on Remote Sensing Education for Educators.

The Programme is providing to African Institutions the 1975, 1990 and 2000 global Landsat data sets that were donated by the Government of the United States of America. This data represents critical information about the environment and can support activities in the areas of natural resources management, environmental monitoring, disaster management and sustainable development.



Satellite-aided search and rescue

The Programme has been conducting a series of training courses on the Cospas-Sarsat Satellite Search and Rescue System, which is designed to assist rescue operations at sea, in the air or on the land. The system comprises emergency beacons, which send distress alert signals and location information to satellites, which then transmit the information to search and rescue teams. The system is available to any country and is free of charge for the end-user. Cospas-Sarsat has been in place since 1982 and has helped in saving more than 18,000 people in over 5,000 distress situations.

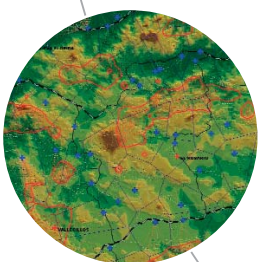


Space technology and disaster management

Space technologies have been proven useful in the risk assessment, mitigation, preparedness and response phases of disaster management.

The Programme organizes regional workshops, coordinates a Global Network for space technology and disaster management, and supports a number of projects aimed at using space technology for disaster management activities.

Since July 2003 the Programme has been operating a 24/7 hotline through which United Nations agencies can request space data free of charge from the International Charter "Space and Major Disasters" to respond to emergency situations.





Tele-health and Landscape Epidemiology

Tele-health and telemedicine use satellite communications technologies to bring medical experts into contact with patients and health practitioners in remote and rural areas and in disaster situations, where terrestrial communications may be non-existent or damaged. Tele-health facilities enable diagnosis and medical treatment, as well as activity coordination.

Advances in satellite remote sensing, global navigation satellite systems and geographic information systems, as well as in computer processing, now make it easier to integrate ecological, environmental and other data for the purpose of developing predictive models that can be used in the surveillance and control of diseases such as malaria and dengue fever.

The Programme on Space Applications organizes workshops and supports pilot projects which aim to improve capacity in developing countries to use space technology for health applications.

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