



# **OBJECTIVES OF THE WORKSHOP: Plan of Work of UN/OOSA in Supporting GNSS Activities**

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&  
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**UN/USA International Workshop on the Use and Applications of GNSS  
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## BACKGROUND

- × **Plan of Action, following UNISPACE III**
  - × Training module on capacity-building in the use of global positioning and navigation systems in various areas of applications
  
- × **2001-2002: Series of UN/USA Regional Workshops and International Meeting of Experts on the Use and Applications of GNSS**
  - × August 2001, Kuala Lumpur, Malaysia, for Asia and the Pacific;
  - × November 2001, Vienna, Austria, for Central and Eastern Europe;
  - × April 2002, Santiago de Chile, for Latin America and the Caribbean;
  - × July 2002, Lusaka, Zambia, for Africa and Western Asia;
  - × November 2002, Vienna, Austria, International Meeting
  
- × **Contributions to the work of the Action Team on GNSS**
  
- × **Requests for support to follow-up initiatives/activities**



# SURVEY ON GNSS FOLLOW-UP INITIATIVES

- × **Global survey conducted among 300 experts from developing countries who participated in the UN/USA Regional Workshops and International Meeting on GNSS in 2001-2002**
  
- × **2001-2002: Questions asked:**
  - × Initiatives/follow-up actions undertaken
  - × Difficulties encountered
  - × Recommendations to overcome those difficulties in undertaking initiatives and follow-up actions
  
- × **Thematic areas addressed in the survey:**
  - × Surveying, mapping and Earth sciences
  - × Agriculture and management of natural resources
  - × Management of environment and natural disasters
  - × Transportation
  - × Education, training and awareness increase



# SURVEY ON GNSS FOLLOW-UP INITIATIVES (continued)

- × **Results compiled and analyzed by a group of selected experts**
  - × **Surveying and mapping: Lead: I. Fejes (Hungary)**
    - × Collaborators: R. Moyo (Zambia), R. Neilan (IGS, United States), Chee Hua Teng (Malaysia), W. Martinez Dias (Colombia)
  - × **Agriculture and management of natural resources: Lead: C. Vettorazzi (Brazil)**
    - × Collaborators: T. Ahmed-Rufai (Nigeria), J. P. Molin (Brazil)
  - × **Management of environment and natural disasters: Lead: W. Nyakwada (Kenya)**
    - × Collaborator: M. D. Subari (Malaysia)
  - × **Transportation: Lead: T. Ahmed-Rufai (Nigeria)**
    - × Collaborators: T. Hlásny (Slovakia), S. Pal (India), H. J. Matamoros R. (Colombia)
  - × **Training: Lead F. Walter (Brazil)**
    - × Collaborators: C. Vettorazzi (Brazil), C. Merry (South Africa), E. Böth (Hungary)
- × **Replies and reports available from the web site:**  
<http://www.oosa.unvienna.org/SAP/gnss/joint2003.html>



# PROGRAMME OF WORK: UN PROGRAMME ON SPACE APPLICATIONS

## × **Activities under the Programme**

- × Organization of Workshops, training courses, expert meetings and symposia
- × Support to the Regional Centres for Space Science and Technology Education, affiliated to the UN (5 campuses at this point)
- × Administration of long-term fellowship (5 fellowships at ESA centres)
- × Technical advisory services: pilot/demonstration projects and follow-up initiatives

## × **Resources available**

- × **7 professionals and 2 assistants**
- × **Fellowships/grants:**
  - × 1/3 by regular budget (about US \$ 260-270 K per year)
  - × 1/3 by Trust Fund (on average US \$ 250 K per year)
  - × 1/3 by host countries



## **PROGRAMME OF WORK FOR 2004: Workshops, training courses and symposia**

- 1. Activities UN/USA Training Course on Satellite-Aided Search and Rescue (2-6 February 2004, Miami Beach, Florida, U.S.A.)**
- 2. UN / Sudan Workshop on the Use of Space Technology for Natural Resources Management, Environmental Monitoring and Disaster Management (4 – 8 April 2004, Khartoum, Sudan)**
- 3. UN/Islamic Republic of Iran Workshop on the Use of Space Technology for Environmental Security, Disaster Rehabilitation and Sustainable Development (8 – 12 May 2004, Tehran, Iran)**
- 4. 12th UN/ESA Workshop on Basic Space Science (24 - 28 May 2004, Beijing, P.R. China)**
- 5. 14th UN/Sweden International Training Course on Remote Sensing Education for Educators (3 May – 11 June 2004, Stockholm and Kiruna, Sweden)**
- 6. UN/SUPARCO Regional Workshop on Monitoring and Protection of the Natural Environment: Educational Needs and Experience Gained from UN/Sweden Training Courses on Remote Sensing Education for Educators (30 August – 4 September 2004, Islamabad, Pakistan)**





## **PROGRAMME OF WORK FOR 2004: Workshops, training courses and symposia**

- 7. UN/Austria/ESA Symposium on “Water for the World: Space Solutions for Water Management” (13 – 16 September 2004, Graz, Austria)**
- 8. UN/IAF Workshop on the Use the Use of Space Technology for the Benefit of Developing Countries (September 2004, Vancouver, Canada)**
- 9. 5th UN/IAA Workshop on Small Satellites (1– 2 October 2004, Vancouver, Canada)**
- 10. UN/ESA/Austria/Switzerland Workshop on Remote Sensing in the Service of Sustainable Development in Mountain Areas (18 – 22 October 2004, Kathmandu, Nepal)**
- 11. UN Workshop on the Use of Space Technology for Disaster Management (November 2004, Germany)**
- 12. UN/Saudi Arabia Regional Workshop on the Use of Space Technology for Disaster Management for Western Asia (September 2004, Riyadh, Saudi Arabia)**
- 13. UN International Meeting on the Use and Applications of Global Navigation Satellite Systems (Date to be determined, [Vienne, Austria])**
- 14. UN Workshop on Space Law (November 2004, Venue to be announced)**



## PROGRAMME OF WORK FOR 2004: Regional Centres for Space Science and Technology Education

- × **CSSTE-AP (located in India, for Asia and the Pacific)**
  - × 8th post graduate course in RS & GIS (Oct. 03 – Jun. 04)
  - × 4th post graduate course in satellite communication (Aug. 03 – Apr. 04)
  
- × **CRASTE-LF (located in Morocco, for French-speaking African countries)**
  - × 3rd post graduate course in RS & GIS (Dec.03 – Oct. 04)
  - × 2nd post graduate course in satellite meteorology (Mar – Dec. 04)
  
- × **ARCESSTE-E (located in Nigeria, for English-speaking African countries)**
  - × 2nd post graduate course in satellite communications (Nov. 03- Jul. 04)
  - × 2nd post graduate course in satellite meteorology (Nov. 03 – Jul. 04)
  - × 3rd post graduate course in RS & GIS (Nov. 03 – Jul. 04)
  
- × **CRECTEALC (located in Brazil/Mexico for Latin America and Caribbean)**
  - × 2nd post graduate course in RS & GIS (Mar.-Nov. 04) at Brazil campus
  - × 1st post graduate course in RS & GIS (Sept. 04-May 04) at Mexico campus







## **PROGRAMME OF WORK FOR 2004: Follow-up initiatives, pilot/demonstration projects**

- x Real-time demonstration of the telemedicine via satellite**
- x Technical Advice to Asia-Pacific Satellite Communications Council (APSCC)**
- x Technical Advice to CTBTO: future development of the Global Communications Infrastructure.**
- x International Charter Space and Major Disasters**
- x Follow-up to UN/Sweden training courses: evaluation missions to ESCAP and ECLAC**
- x Expert meeting tele medicine at Luxembourg**
- x World Space Week 2004 – Space & Sustainable Development: in Austria and Africa**
- x Follow-up to series of UN/ESA Workshops on Basic Space Science**
  - x Japanese telescope donation programme**



## **PROGRAMME OF WORK FOR 2004: Follow-up initiatives, pilot/demonstration projects (continued)**

- x **COSPAR/IAU Regional Workshop for Africa (Durban, South Africa, 28 June – 9 July 2004)**
- x **Follow-up to the regional workshops on the use of space technology for disaster management: in LAC, Africa, Asia, Europe**
- x **Landsat Expert Meeting in Eastern and Southern Africa**
- x **UNGIWG**
- x **5th AARSE**
- x **Support to the pro tempore secretariat of the Fourth Space Conference of the Americas**
- x **CEOS Working Group on Education**
- x **Participation in GEO (Group on Earth Observation) and its sub-group on capacity building**



## SUPPORT TO GNSS ACTIVITIES

- × **Organization of an international meeting**
- × **Support to the work of Action Team on GNSS, possible implementation of some of the recommendations**
- × **Promotion of integration of lectures and field work on GNSS in the education curriculum and activities of the regional centres**
  - × **Model education curriculum on RS and GIS (ST/SPACE/18) already includes lectures and field work on GNSS such as:**
    - × **Lectures:**
      - × **Fundamental concepts of GPS**
      - × **Types of GPS, GPS satellites, constellation of GPS satellites**
      - × **Applications of GPS in resource surveys, mapping and navigation**
    - × **Field work**
      - × **Checking of existing mp coordinates using single GPS**
      - × **Survey of a small area with the help of GPS receivers**
- × **Support to a selected, few priority follow-up initiatives and projects**