



Office for Outer Space Affairs
United Nations Office at Vienna



**United Nations / Islamic Republic of Iran Regional Workshop on the
Use of Space Technology for Environmental Security,
Disaster Rehabilitation and Sustainable Development**

The Use of Space-based Technologies

The Role of the United Nations Office for Outer Space Affairs

David Stevens
UNOOSA





**United Nations / Islamic Republic of Iran Regional Workshop on the
Use of Space Technology for Environmental Security,
Disaster Rehabilitation and Sustainable Development**

What we do ...

Sputnik ... the beginning

Priorities of the UN Programme of Space Applications

Accomplishments ...

The International Charter Space and Major Disasters

Building a Strategy

UNOOSA's Role





WHAT WE DO ...





What we do ...

Main functions:

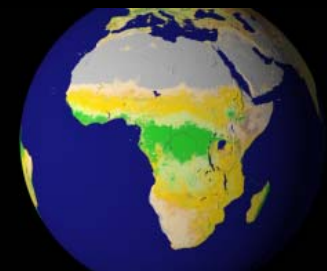
- ◆ **Secretariat for Committee on the Peaceful Uses of Outer Space (COPUOS) and its two Subcommittees (Scientific and Technical Subcommittee and Legal Subcommittee)**
- ◆ **Implement the United Nations Programme on Space Applications**
- ◆ **Secretariat for the Inter-Agency Meeting**





SPUTNIK

THE BEGINNING





UN Involvement With Space

Launch of Sputnik-1 by the U.S.S.R. on 4 October 1957 - the start of the space age!

- ◆ Establishment of a U.N. Committee on the Peaceful Uses of Outer Space (COPUOS) in 1958
- ◆ COPUOS reports to the General Assembly
- ◆ Membership has gradually increased to 65 countries, maintaining approximate regional balance



Photo credit: NASA

Algeria
Albania
Argentina
Australia
Austria
Belgium
Benin
Brazil
Bulgaria
Burkina Faso
Cameroon
Canada
Chad
Chile
China
Colombia
Cuba
Czech Republic
Ecuador
Egypt
France
Germany
Greece

Hungary
India
Indonesia
Iran (Islamic Republic of)
Iraq
Italy
Japan
Kazakhstan
Kenya
Lebanon
Malaysia
Mexico
Mongolia
Morocco
Netherlands
Nicaragua
Niger
Nigeria
Pakistan
Peru
Philippines
Poland

Portugal
Republic of Korea
Romania
Russian Federation
Saudi Arabia
Senegal
Sierra Leone
Slovakia
South Africa
Spain
Sudan
Sweden
Syrian Arab Republic
Turkey
Ukraine
United Kingdom of Great Britain
and Northern Ireland
United States of America
Uruguay
Venezuela
Viet Nam





The most significant developments undertaken by the Committee with respect to legal questions have been the consideration, negotiation and conclusion of five international treaties:

Treaties and 'Soft Laws'

- ◆ ***Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, 1967*** [any objects carrying nuclear weapons or any other kinds of weapons of mass destruction not to be placed in orbit around the Earth; the Moon and other celestial bodies exclusively for peaceful purposes; outer space, including Moon and other celestial bodies, is not subject to national appropriation by any means; astronauts are envoys of mankind]
- ◆ ***Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, 1968***; [assistance in search and rescue; safe and prompt return to representatives of launching authority]
- ◆ ***Convention on International Liability for Damage Caused by Space Objects, 1972***; [launching State absolutely liable to pay compensation for damage]
- ◆ ***Convention on Registration of Objects Launched into Outer Space, 1975***; [establishment of national registry + SG Register; retain jurisdiction and control over object while in outer space or on a celestial body...or return to the Earth]
- ◆ ***Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, 1970***; [freedom of scientific exploration; exploration and use of the Moon shall be the province of all mankind; the Moon and its natural resources are the common heritage of mankind]



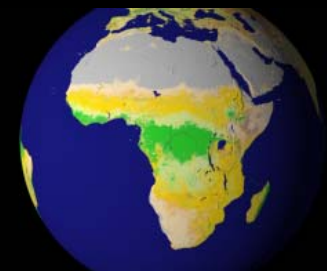
In addition, the General Assembly has adopted five sets of legal principles concerning space activities:

Treaties and 'Soft Laws'

- ◆ *Declaration of Legal Principles Governing the Activities of States in the Exploration and Uses of Outer Space (1963);*
- ◆ *Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting (1982);*
- ◆ *Principles Relating to Remote Sensing of the Earth from Outer Space (1986);*
- ◆ *Principles Relevant to the Use of Nuclear Power Sources in Outer Space (1992);*
- ◆ *Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interests of All States, Taking into Particular Account the Needs of Developing Countries (1996).*



PRIORITIES OF THE UN PROGRAMME OF SPACE APPLICATIONS

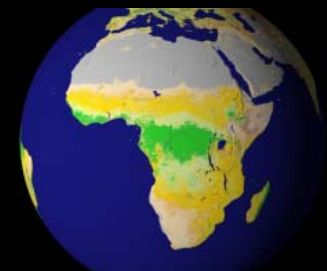


Priorities of the UN Programme of Space Applications

- ➔ **Space Technology and Disaster Management**
- ➔ **Natural Resources Management and Environmental Monitoring**
- ➔ **Satellite communications for e-health, e-learning, and disaster management**
- ➔ **Applications of Global Navigation Satellite Systems**
- ➔ **Education and research areas in basic space sciences**
- ➔ **Regional Centres for Space Science and Technology**



ACCOMPLISHMENTS





Establishment of Regional Centres for Space Science and Technology Education (Affiliated to the United Nations): India (*operational since 1996*); Morocco (1999), Nigeria (2000); Mexico and Brazil (2003); Jordan (*being established*)

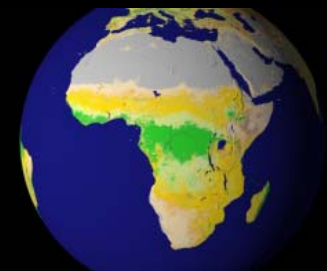
Since the inception of the Programme in 1971 nearly 200 training courses, workshops, expert meetings and conferences have been organised and attended by nearly 10000 participants.

Technical assistance programme supporting selected developmental projects





INTERNATIONAL CHARTER SPACE AND MAJOR DISASTERS



The International Charter Space and Major Disasters



**International Charter
Space and
Major Disasters**

Space Agencies
together support
humanitarian
relief efforts
around the world.

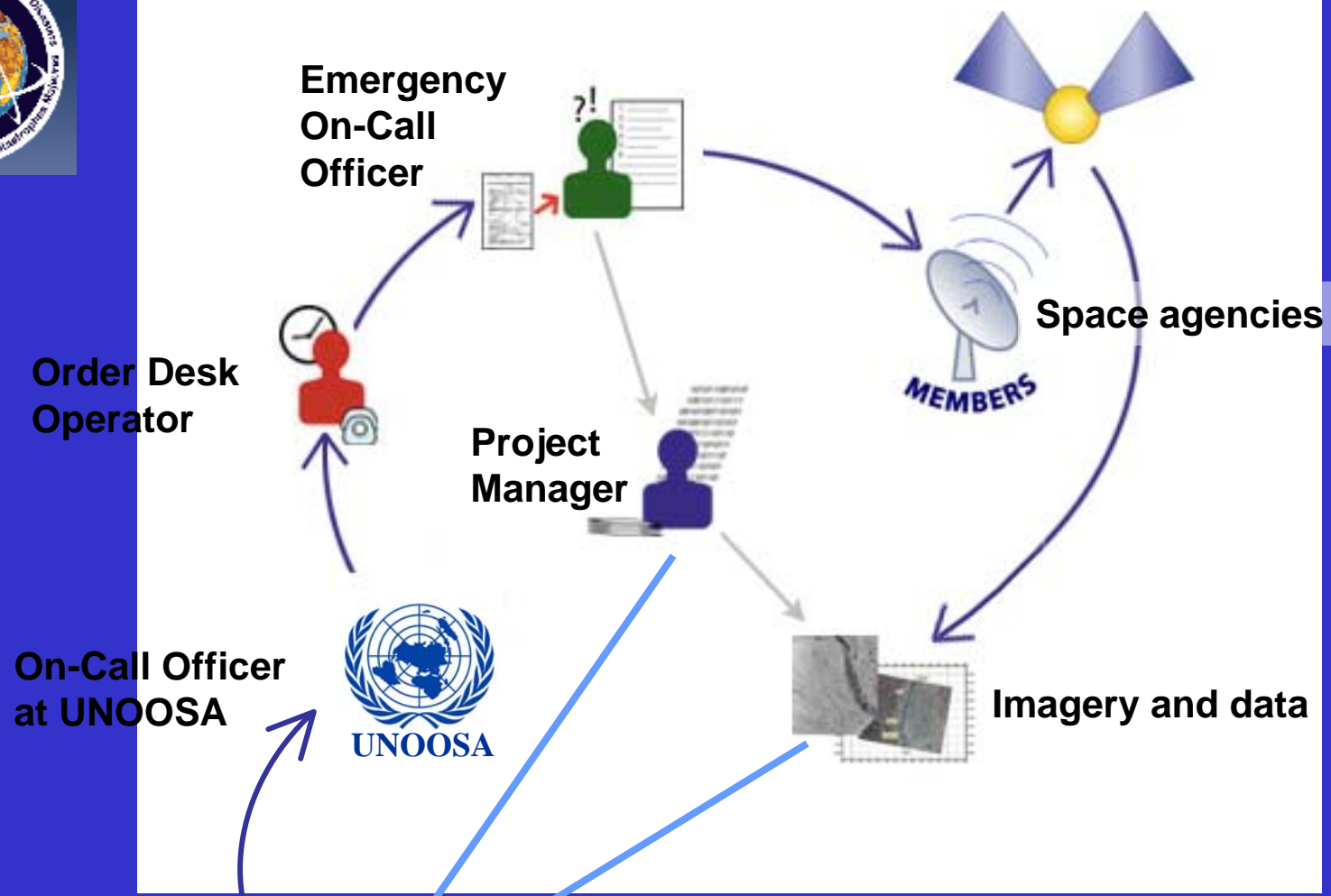


- European Space Agency (ESA)
- Centre National d'Etudes Spatiales (CNES)
- Canadian Space Agency (CSA)
- Indian Space Research Organisation (ISRO)
- National Oceanic and Atmospheric Administration (NOAA)
- Comisión Nacional de Actividades Espaciales (CONAE)





UN Activation of Charter



**Authorized user
(all UN agencies)**

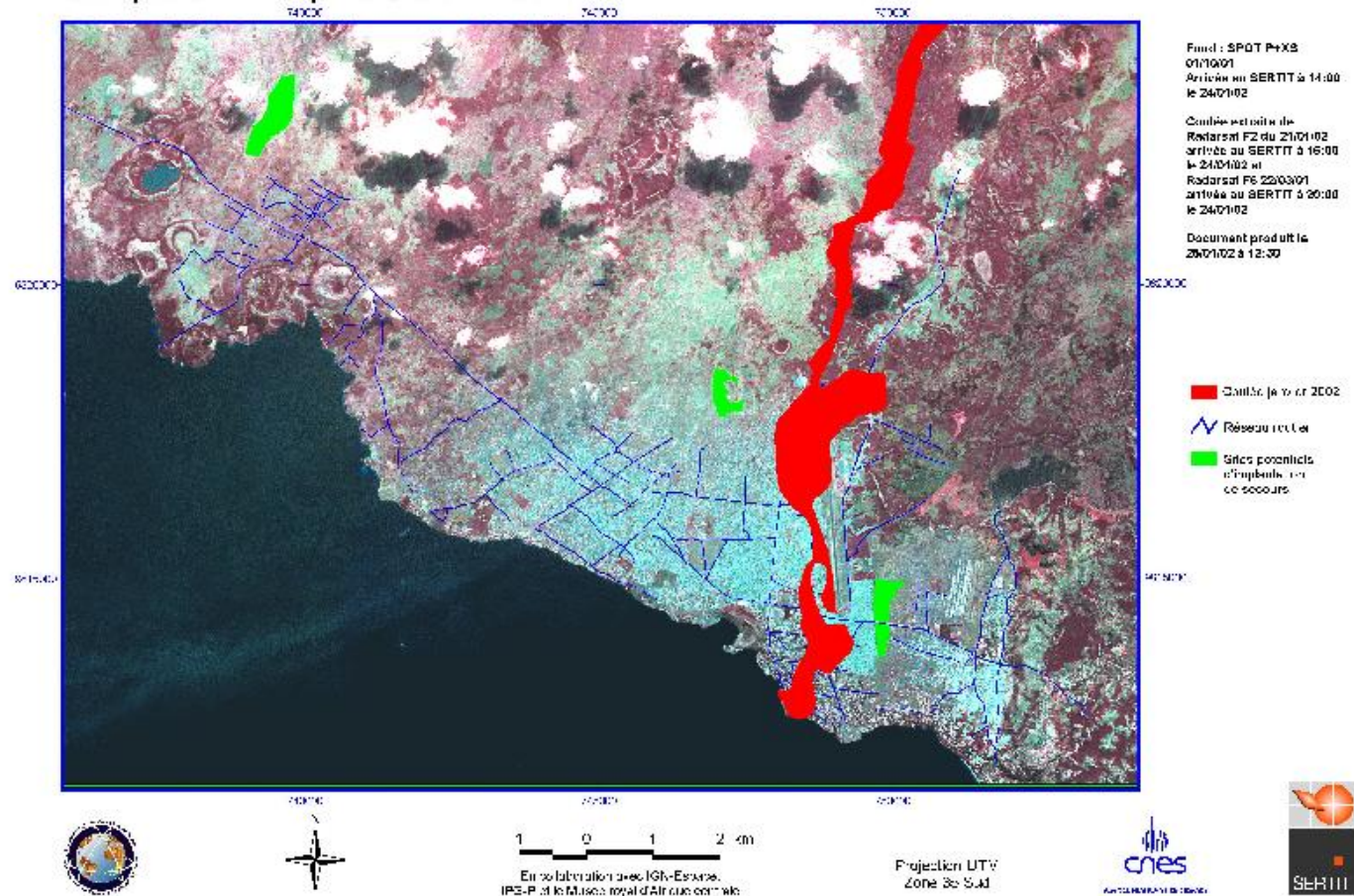


→ All UN agencies

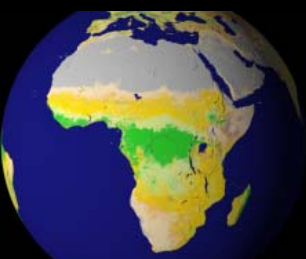


Nyiragongo Volcano (DR Congo) 17 January 2002

Cartographie de la coulée de lave sur la ville de Goma, RDC - janvier 2002
Sites potentiels d'implantation de secours

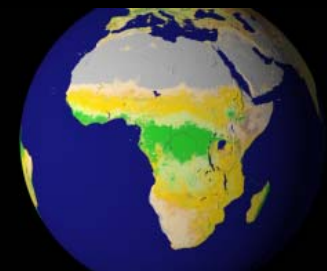


Courtesy CNES



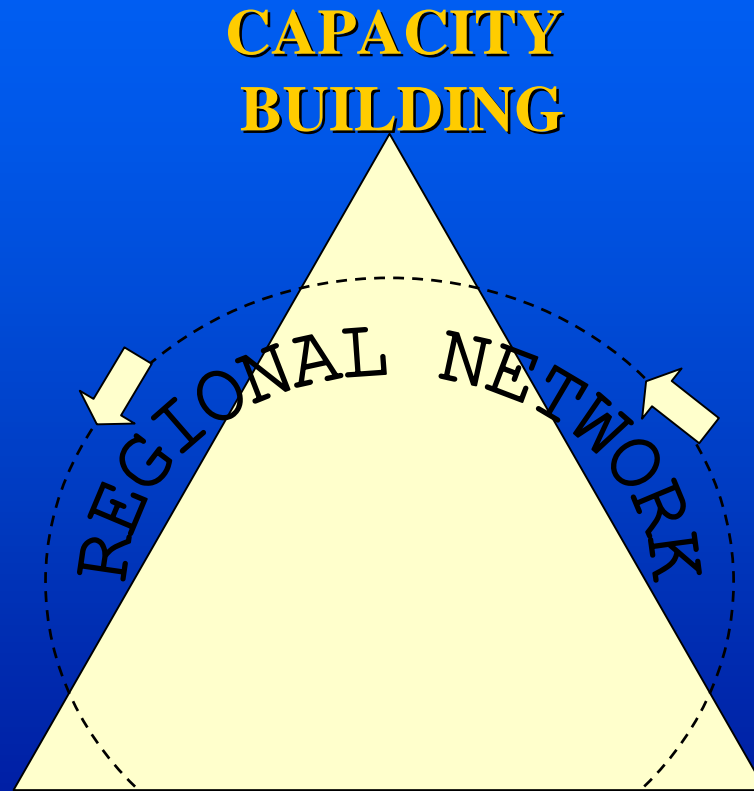


BUILDING A STRATEGY





Building a Successful Strategy



INFORMATION AND
TECHNOLOGY AVAILABILITY

INSTITUTIONAL
ENVIRONMENT





Information and Technology Availability

Base map data. Options of free or low-cost data

Archived data >> catalogue existing data and make widely available. Increase data sharing. Regional database.

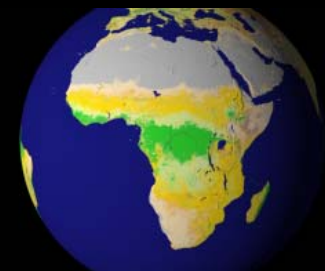
National Spatial Data Infrastructures >> clearinghouse ... metadata

Slow internet connections

Information is only useful if it reaches the end user

Take advantage of existing initiatives:

**International Charter Space and Major Disasters
Disaster Management Constellation**





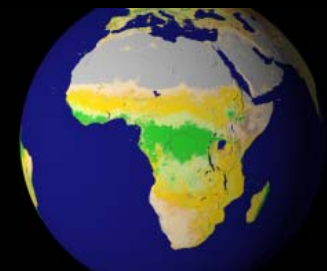
Institutional Environment

Not all countries are competent in space-based technologies

Successful regional coordination leads to improvement in access to satellite data and cost reductions

Build upon existing regional networks

Continuous need to demonstrate the cost-benefit to decision makers





Capacity Building

Training channeled through existing training centres such as the UNOOSA-affiliated Centres in India and existing Centres of Excellence

Methodological approaches should also incorporate local traditional knowledge. Involve communities

Build systems that can be used by many such as the proposal for Wide Area Monitoring Information Systems

Develop partnerships across institutions to maximize the benefits of implementation

Funding is still an issue: be structured and the funding will come





COMMON VISION

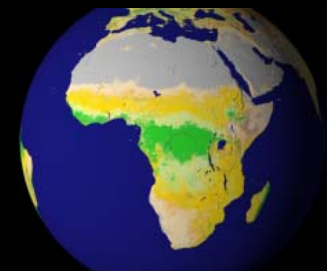
- ◆ **Success stories - Opportunities**
- ◆ **Constraints – Obstacles**

- ◆ **Three Working Groups**
 - ◆ **Regional Task Force – Partnerships**
 - ◆ **Regional Database**
 - ◆ **Tehran Vision (Common Vision, Common Strategy, Plan Forward)**





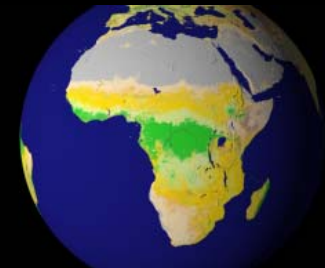
UNOOSA'S ROLE





OOSA's Role

- ◆ **Help maintain a Regional Task Force**
- ◆ **Bring into this initiative Space Agencies and Development Agencies**
- ◆ **Make available UNOOSA's web site and the discussion list to share and distribute information on space technology to this Task Force**
- ◆ **Contribute to Capacity Building: UN-affiliated Regional Training Centres, Sweden Course (Remote Sensing Training for Educators) and Short Training Courses (at UN-affiliated Centres and also other Centres of Excellence)**
- ◆ **Support specific regional pilot projects >> discuss further with decision-makers. Together with ESCAP and other UN Agencies.**





Office for Outer Space Affairs
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Thank-you !

**United Nations Office for Outer Space Affairs
Vienna International Centre, P.O. Box 500, A-1400 Vienna,
Austria**

Tel: (+43 1) 26060-5831

Fax: (+43 1) 26060-5830

E-mail: david.stevens@unvienna.org

www.oosa.unvienna.org

