Office for Outer Space Affairs
United Nations Office at Vienna

United Nations Regional Workshop on the Use of Space Technology for Disaster Management for Western Asia

Riyadh, 2-6 October 2004

SPACE TECHNOLOGY AND DISASTER MANAGEMENT

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United Nations Office at Vienna

United Nations Regional Workshop on the Use of Space Technology for Disaster Management for Western Asia

- What we do …
- Priorities of the UN Programme of Space Applications
- Space Technology and Disaster Management
- The Outcome of the Regional Workshops
- COPUOS – Action Team 7
- The International Charter Space and Major Disasters

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**

Priorities of the UN Programme of Space Applications

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

Space Technology and Disaster Management – Work plan 2004/2005

DMISCO

Ad Hoc Expert Group

Charter

Focal Point for UN Agencies

Institutional Support

Partnerships
Networks
Exchange of Experts
Projects - Activities
Satellite Data

Capacity Building

Regional Centres and other Centres of Excellence

The Outcome of the Regional Workshops

- Understanding of how space technology is contributing to disaster management within each region.
- Definition of common hazards
- Consolidation of regional networks of interested institutions
- OOSA to help strengthen these networks and to facilitate appropriate coordination with Action Team 7 and the Charter
- Projects and other activities: best-effort basis, building upon existing initiatives, defining partnerships
- Expert meetings to define terms of reference of potential joint activities
- Space technology can be used in every phase of the disaster cycle but, during a response phase ‘on-demand’ type system is needed, the inter-crisis phase a ‘always-on’ type system is the system needed. Whereas during a crisis high-resolution imagery is usually needed the ‘always-on’ system would probably be designed around lower cost or freely available imagery.

Definition of Hazard Areas

Africa

Coastal and marine systems (coastal erosion)
Cyclones
Desertification and deforestation
Earthquakes/Tsunamis
Epidemiological and entomological risks
Fires
Floods
Drought
Food security
Land degradation
Landslides
Oil spills
Plagues
Pollution
Refugee flows
Transportation accidents
Volcanoes
Windstorms and other extreme climate conditions

Latin America and the Caribbean

Avalanches and mud flows
Cyclones
Desertification and deforestation
Drought
Earthquakes/tsunamis
Epidemiological and entomological risk
Extreme temperatures
Floods
Forest and grassland fires
Impact to marine and coastal systems
Landslides
Oil spills
Plagues
Snow storms
Technological risks
Volcanic eruptions

Asia and the Pacific

Coastal management and erosion
Crop pests
Cyclones/Storm Surges
Deforestation
Drought
Earthquakes/Tsunamis
Epidemiological
Fire
Floods
Haze/Fog
Land degradation
Land mines
Landslides/Mudslides/Flash Floods
Mangrove/Coral reef degradation
Oil spills
Pollution/Industrial Catastrophe
Sand and Dust storms
Sea level rise
Snow storms/Avalanches/Glacier hazards.
Volcanoes

Europe

Avalanches
Drought
Floods
Thunderstorms, Snowstorms, Windstorms, Lightning
Earthquakes
Landslides
Subsidence
Volcanoes
Climate change and Sea Level Changes
Coastal erosion
Oil and Industrial Pollution
Technological and Nuclear Risks
Transportation Accidents
Water pollution
Land mines
Plagues
Refugee flows
Deforestation
Forest Fires
Soil Erosion

Space and IT Systems and Solutions

Support Capacity Building

Hazard Areas (26 + 2)

- Avalanches, Landslides, Flash floods and Mudflows
- Climate change and sea level changes
- Coastal management, marine systems (including mangroves and coral reefs) and coastal erosion
- Crop pests and plagues
- Cyclones, Tsunamis and Storm Surges
- Deforestation
- Desertification
- Drought
- Earthquakes
- Epidemiological and entomological risks
- Extreme weather conditions (temperatures, thunderstorms, snowstorms, windstorms, and lightning)
- Fires – Forest and grassland
- Floods
- Food security
- Glaciers
- Haze and Fog
- Land degradation and soil erosion
- Land mines
- Oil spills
- Refugee flows
- Sand and Dust storms
- Subsidence
- Technological, industrial and nuclear risks
- Transportation accidents
- Volcanoes
- Water pollution

- Capacity building
- Development of IT and space technology systems and solutions

COPUOS – Action Team 7

UNISPACE III Action Team on Disaster Management (Action Team 7) is one of the Action Teams created to follow-up on the UNISPACE III recommendations. Specifically, Action Team 7 was tasked to investigate the implementation of an integrated, global disaster management system with a 3 year work plan 2001/2002/2003.

The mandate of Action Team 7 related to the “implementation of an integrated, global system, especially through international cooperation, to manage natural disaster mitigation, relief and prevention efforts through Earth observation, communications and other space-related services, making maximum use of existing capabilities and filling gaps in worldwide coverage.”

COPUOS – Action Team 7 - Relevant Conclusions

A coordinated response to disaster by means of a single point access to global space assets is required.

Disasters do not respect boundaries. The approach has to be global.

Spatial data is needed for the full cycle of the disaster.

COPUOS – Action Team 7 - Recommendations

- Establishment of an international space coordination body for disaster management, nominally identified as the “Disaster Management International Space Coordination Organization” (DMISCO).
- Establishment of a sustainable resource fund to be used in applying space technology in support of disaster management and for building the capacity of national and international civil protection and rescue authorities to use space technology. The primary contributors to this fund should be development and relief organizations and those who would be the main beneficiaries of disaster reduction, such as insurance companies, lending institutions, resource companies and end users.
- Member States should be strongly encouraged to allocate a portion of their disaster management resources/funds to using space technologies and to identify single points of contact for their respective nations, in order to render their internal disaster management activities more focused and to liase with external efforts.

COPUOS – Action Team 7 – Moving Forward

COPUOS agreed that a study should be conducted to see the possibility of creating a coordinating mechanism (DMISCO)

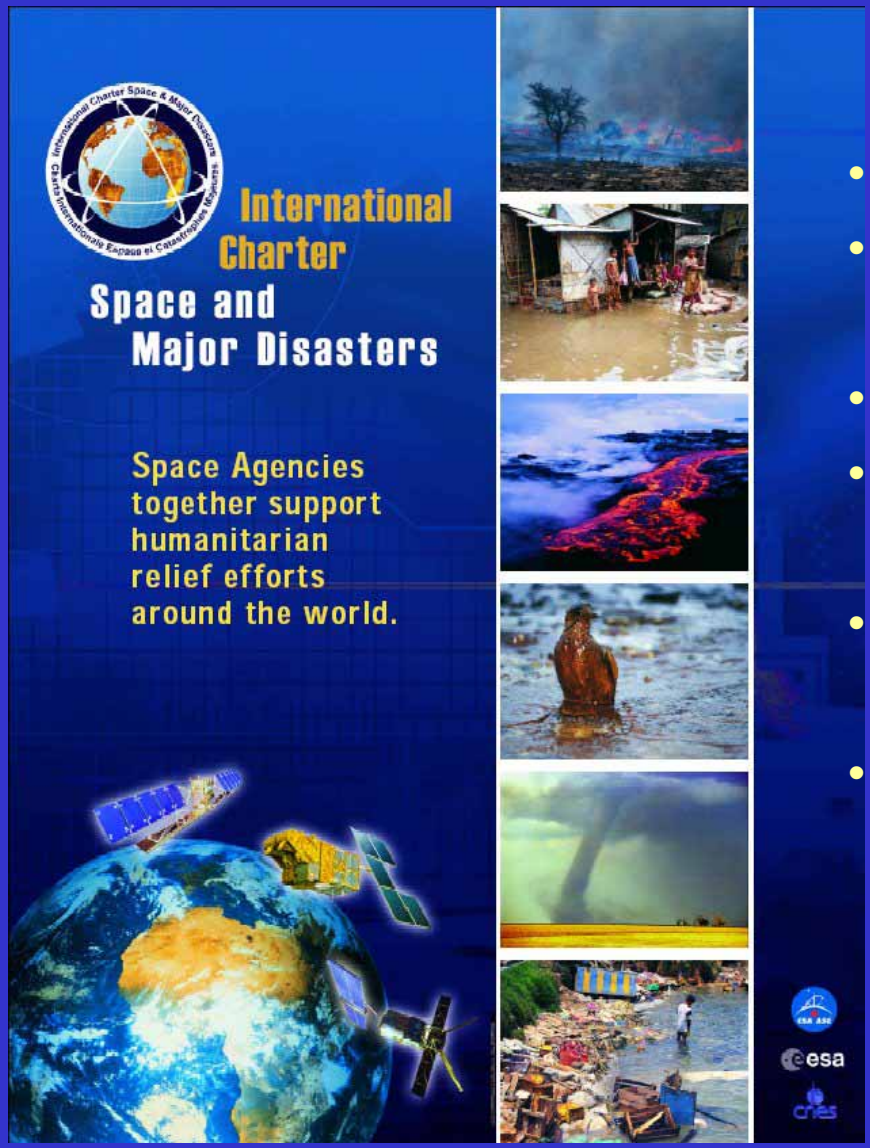
Study to be prepared by an Ad Hoc Expert Group (by June 2005)

OOSA to coordinate the organisation of the work involved in preparing the study

Member States have to indicate how they are going to contribute to this study: in-kind, cash, expertise

General Assembly will be reviewing this proposal during the current session.

The International Charter Space and Major Disasters



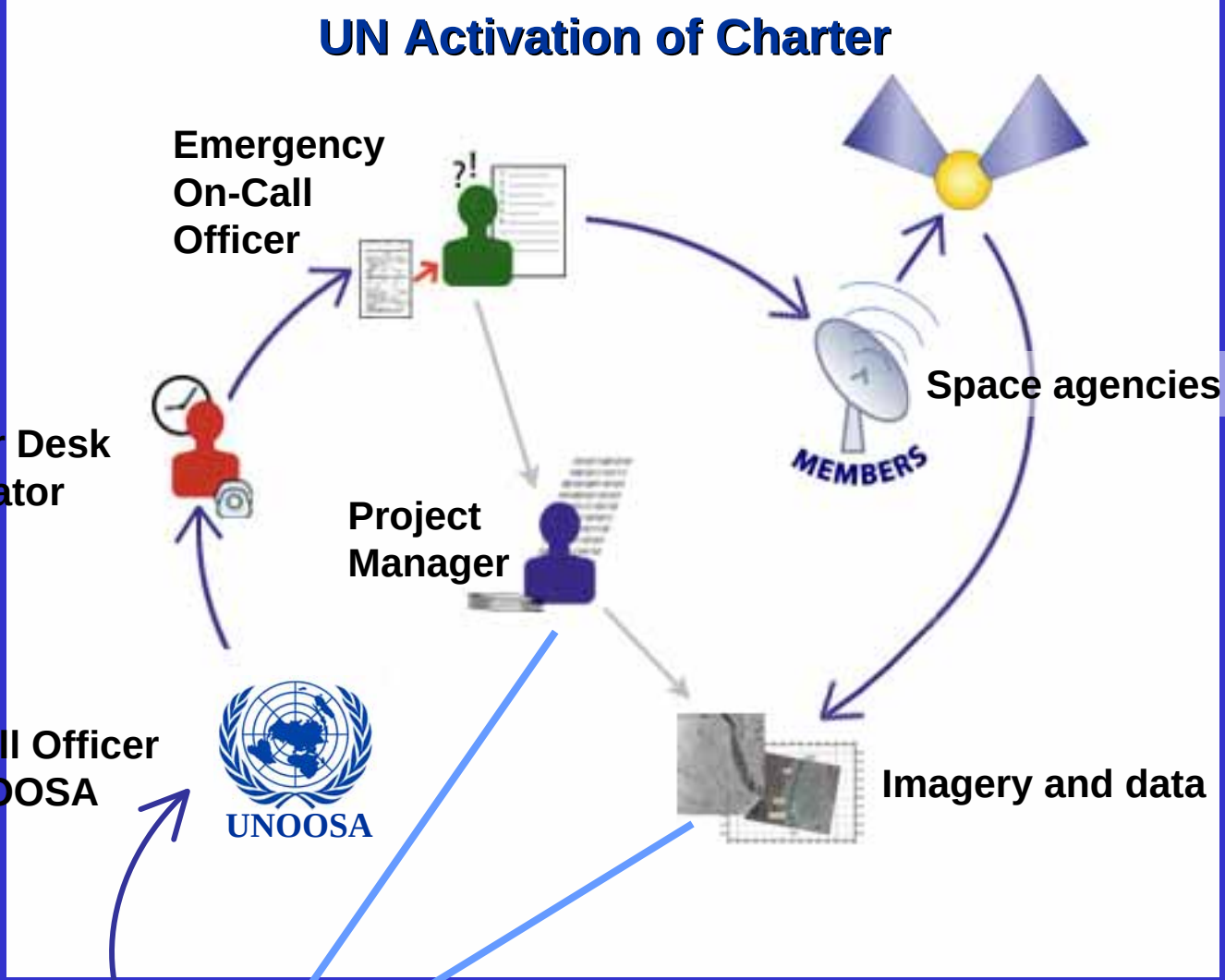
- European Space Agency (ESA)
- Centre National d'Etudes Spatiales (CNES)
- Canadian Space Agency (CSA)
- Indian Space Research Organisation (ISRO)
- National Oceanic and Atmospheric Administration (NOAA)
- Comisión Nacional de Actividades Espaciales (CONAE)

The International Charter Space and Major Disasters

•In March 2003 UNOOSA was accepted as a Cooperating Body to the Charter, a mechanism through which the UN system can access the Charter.

- Beginning 1 July 2003 UNOOSA set up a 24/7 hotline. UN Focal Points can fax in requests for imagery to support disaster response. This request is subsequently resent to the Charter.
- Since then, the Charter has been activated through OOSA 11 times, most recently including: Hurricane Jeanne in Haiti, Hurricane Ivan in Grenada, floods in Dominican Republic and Haiti, train crash in North Korea and earthquake in Afghanistan.
- The Charter is committed to delivering Level 2A products. In exceptional cases the Charter can also provide value added products.

UN Activation of Charter



Authorized user
(all UN agencies)

Start
Here

UNOSAT
satellite imagery for all

All UN agencies

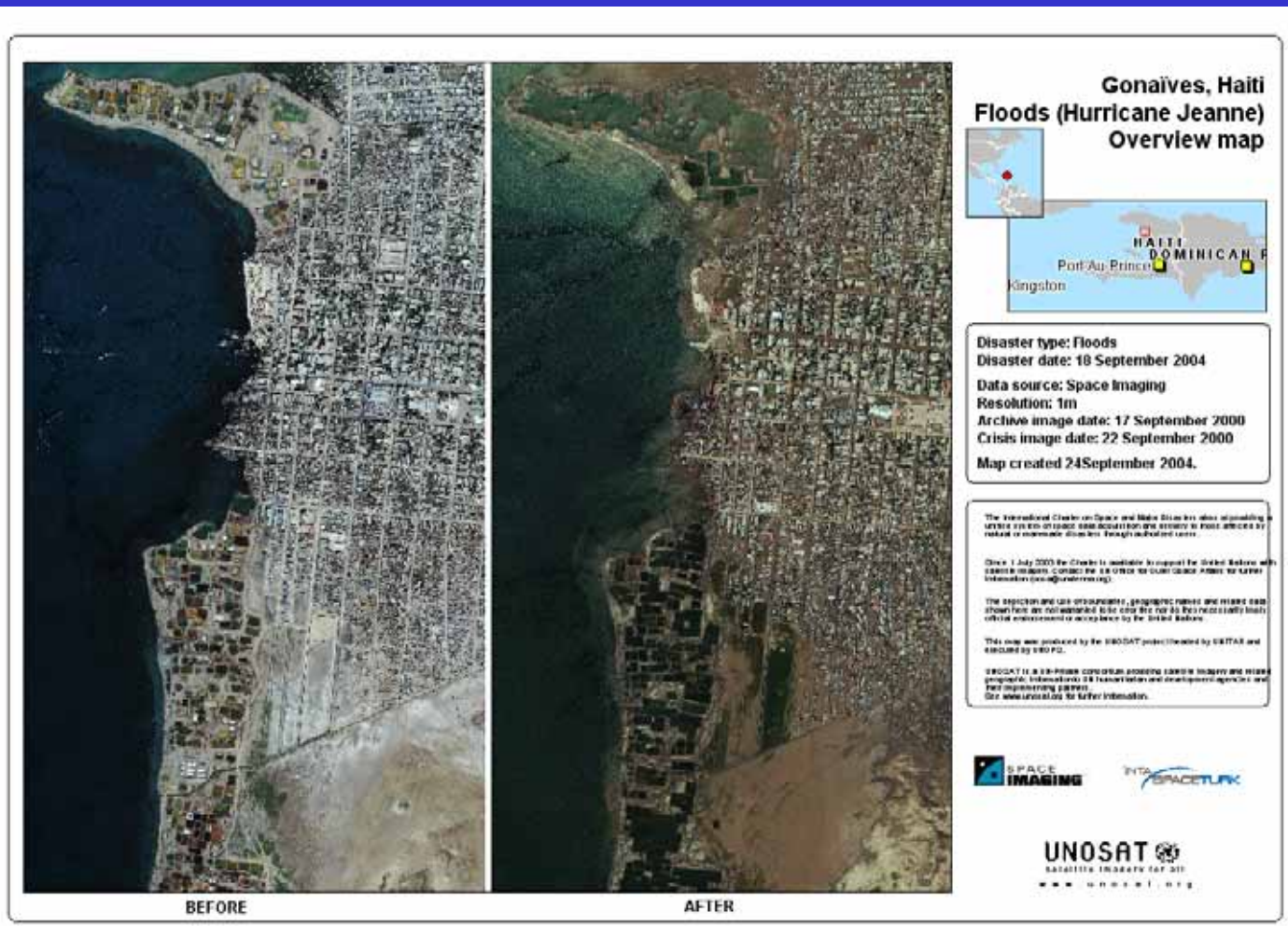
GIST

GIST members

The International Charter Space and Major Disasters

Details of the products delivered so far can be found on UNOSAT's website:

http://unosat.web.cern.ch/unosat/asp/default.asp



Plan for the week .....

- Learn how space technology is being used in the region and also of the needs of the user community

- Discuss further the types of information and communications required to manage specific disasters and the extent to which these requirements could be met by space technologies

- Develop a regional plan of action together with the definition of possible common activities which will contribute to the incorporation of space-technology tools in disaster management and define the structure of a regional network to support the use of space technology in disaster management activities.

Who will you be talking with during the next tea break?

Thank-you!

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