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*United Nations Platform for Space-based Information for
Disaster Management and Emergency Response*

Climate Change and Disaster Risk Reduction : Space Technology Initiatives, Challenges and Opportunities

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TOPICS

1. Climate Change, Disaster Risk Reduction and space based information
2. Overview of the conference
3. UN-SPIDER Support and Services



Climate related disaster risks – Global and Regional issue – Calls for International Cooperation



Trans-boundary rivers
Shared coastline
Linkage with Himalaya

Example: South Asia



The Intergovernmental Panel on Climate Change - Fourth Assessment Report - Asia

- Glacier melting in the Himalayas - increase flooding and affect water resources
- Compound the pressures on natural resources and the environment
- Crop yields could decrease up to 30% by the mid-21st century
- Mortality due to diarrhoea primarily associated with floods and droughts will rise
- Sea-level rise will exacerbate inundation, storm surge, erosion and other coastal hazards.



Himalaya receding glaciers



**Maldives: At great risk of
submergence**



Africa - one of the most vulnerable continents to climate variability and change because of multiple stresses and low adaptive capacity.

- Sahelian region - Warmer and drier, detrimental effects on crops.
- Southern Africa - longer dry seasons and more uncertain rainfall
- Floods: Many millions more people projected to be flooded due to sea-level rise by the 2080s.
- Tropical storms and local coastal subsidence: Low-lying areas especially vulnerable.
- By 2020, between 75 and 250 million people are projected to be exposed to an increase of water stress
- Agricultural production, including access to food, is projected to be severely compromised.



The numbers affected will be largest in the mega-deltas of Asia and Africa

- Decreased water availability
- Increased risk of floods and droughts in many regions
- Increased incidence of waterborne diseases such as malaria, dengue, and cholera
- Increased damages and deaths caused by extreme weather events
- Decreased agricultural productivity
- Adverse impacts on fisheries
- Adverse effects on many ecological systems



Climate Change and Disaster Risk Reduction

Disaster Risk

Tropical Cyclones

Natural Hazards

Floods

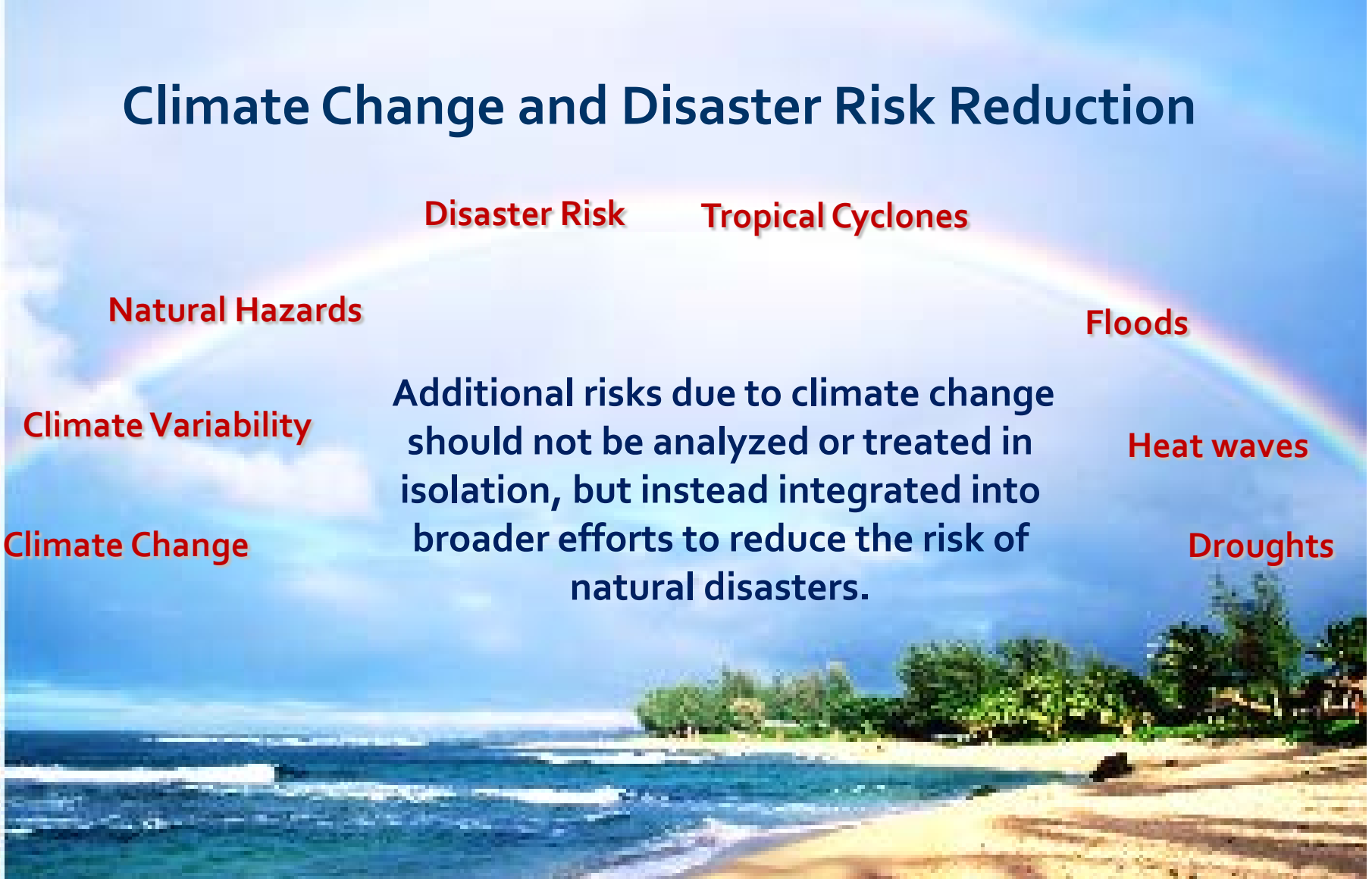
Climate Variability

**Additional risks due to climate change
should not be analyzed or treated in
isolation, but instead integrated into
broader efforts to reduce the risk of
natural disasters.**

Heat waves

Climate Change

Droughts



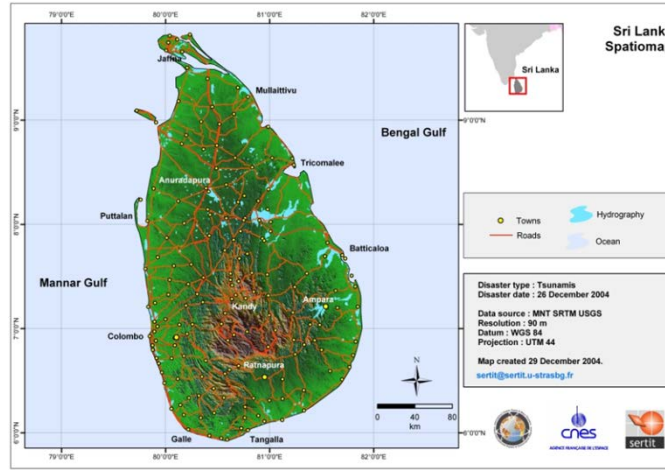


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Priorities Tools/Supplies/Infrastructure Vs. Information





Images from earth observing satellites help assess the damage caused by disasters and assess vulnerability to hazards.



Satellite communications help warn people who are at risk, especially in remote areas. They help connect a disaster zone to the outside world

Global navigation satellite systems enable us to obtain positional information on events that have to be mapped





Geospatial information for Disaster Risk Management

Normal Situation

Hazard mapping

Vulnerability mapping

Risk mapping

Developmental planning

Climate Change Adaptation

Disaster situation

Rapid mapping

Monitoring

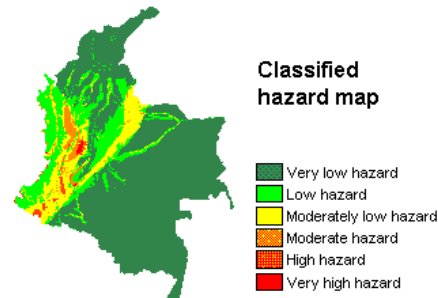
Impact assessment



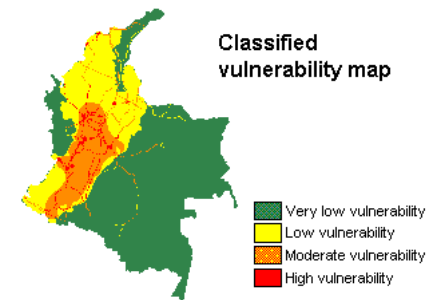
Information preparedness

- Know vulnerability and risk to prioritize preparedness actions
- Improve risk assessment using space based information
- Availability and access to collateral geospatial data
- Use of map products/ information by decision makers

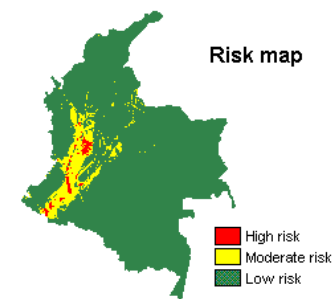
Hazard

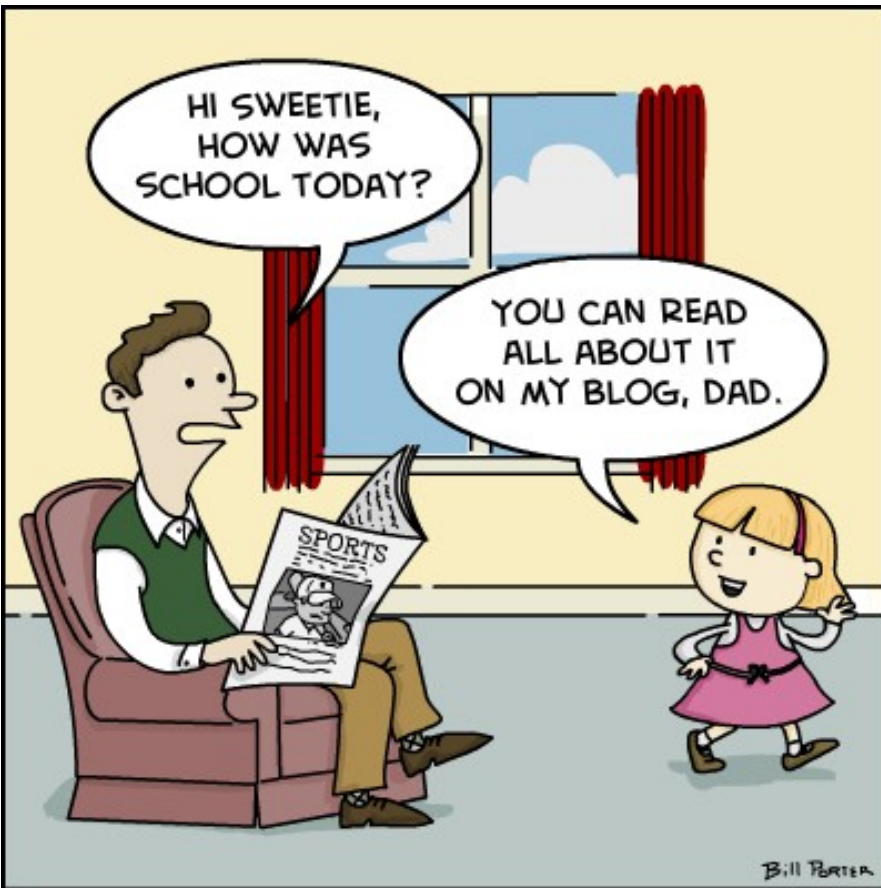


Vulnerability



Risk





**Disaster managers/ End
Users**



Missing link

**Providers of geo-
information**



Bridging the gap

Purpose of the Conference

- Sensitise disaster managers
- Provide advance knowledge on technology and best practices
- Share experiences
- Address policy level issues
- Reflect on challenges, constraints
- Provide ideas/plans to strengthen DRM using space technology
- Provide opportunities (capacity building, emergency response etc.)



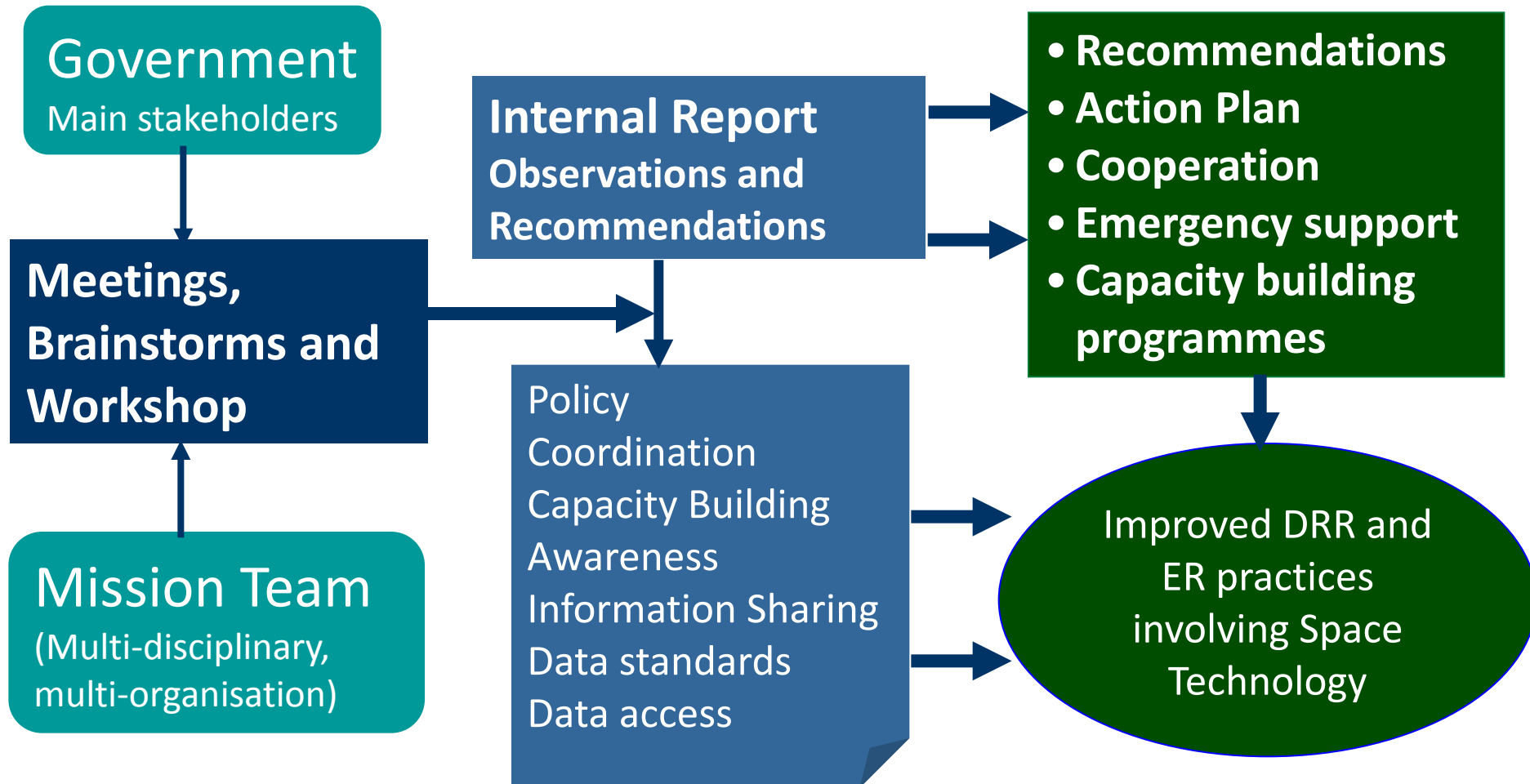


Overview of the Conference

	Wednesday 7 November	Thursday 8 November	Friday 9 November
Morning	08:30 Registration 09:30 Opening Session 11:00 Plenary Session 1 Climate Change and Disaster Risk	09:00 Plenary Session 4 & 5 Risk Assessment and Mapping	09:00 – 09:40 Summary from Special Sessions and discussions 09:40 Plenary Session 6 Network Building
Lunch	12:40-14:00	12:40-14:00	12:40-14:00
Afternoon	14:00 Plenary Session 2 Information Resources for Disaster Risk Assessment 16:00 Plenary Session 3 Space based information applications	14:00 Special Sessions 14:00-15:30 Special Session 1A Drought monitoring – Cooperation and partnership with China 14:00-15:30 Special Session 1B Strengthen UN-SPIDER Technical Advisory Support and follow up activities 16:00-17:30 Special Session 2 Rapid Mapping service during emergency	14:00 Closing Session 15:00 Visit NDRCC
Evening	18:00 Icebreaker by the Ministry of Civil Affairs, P.R.C (Venue: 2 nd Floor, <u>Zhongmin Plaza</u>)	18:00 Reception by UN-SPIDER Beijing Office (Venue: 2 nd Floor, <u>Zhongmin Plaza</u>)	



UN-SPDIER Technical Advisory Missions





Technical Advisory Support



Mozambique



Sri Lanka

ASIA

- Afghanistan
- Bangladesh
- India
- Maldives
- Sri Lanka
- Philippines
- Myanmar

Pacific

- Fiji
- Samoa
- Solomon Islands

Africa

- Burkina Faso
- Cameroon
- Ghana
- Kenya
- Madagascar
- Malawi
- Mozambique
- Namibia
- Nigeria
- Sudan
- Togo

Latin America and Caribbean

- Chile
- Colombia
- Dominican Republic
- Ecuador
- Guatemala
- Haiti

We are planning activities for 2013



Sudan



Bangladesh



Solomon Islands

The UN-SPIDER Programme

- UN-SPIDER Team
- Network of Regional Support Offices (RSOs) (13 + 4)
- National Focal Points (45)



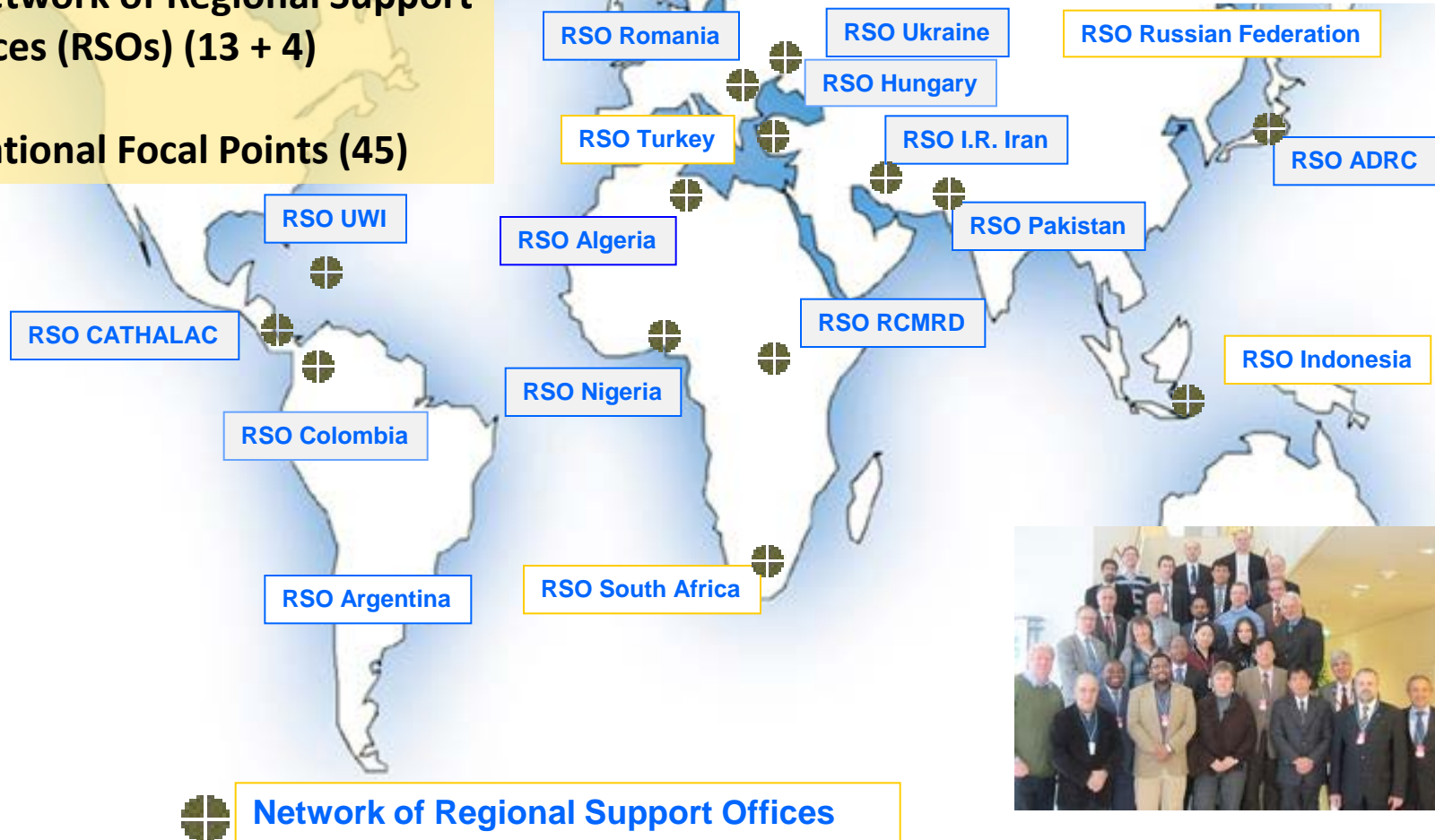
UN-SPIDER
in Vienna



UN-SPIDER
Beijing Office



UN-SPIDER
Bonn Office





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Emergency Support Mechanisms



SERVIR

Space Applications Initiatives

UN-SPIDER

**UN Affiliated Regional
Centres**

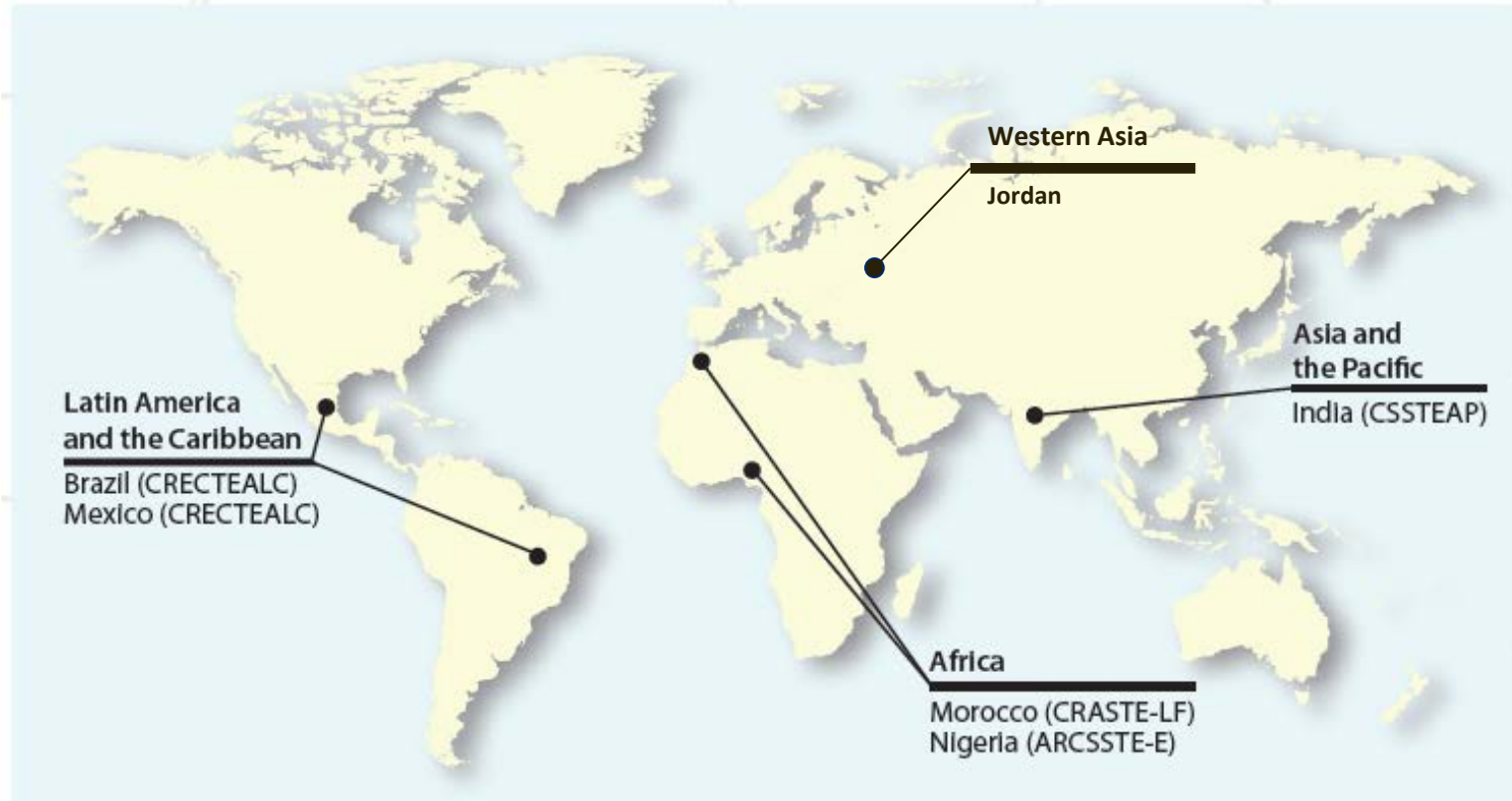
Asia, Africa, Latin America

**Regional Support
Offices & Partner
Organisations**

Capacity Building, outreach, technical support



UN Affiliated Regional Centres for Space Science Technology Education





United Nations Education Curricula



Education curricula for

- Remote Sensing and Geographical Information Systems
- Satellite Communications
- Satellite Meteorology and Global Climate
- Space and Atmospheric Sciences and data management

Several Curricula/Modules under development

<http://www.unoosa.org/oosa/en/SAP/centres/education-curriculum.html>



Training Programme



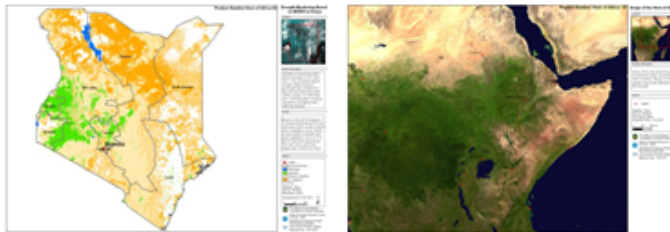
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Capacity Building Programme

11-16 November 2012

Space Technology for Drought Monitoring in Africa and Asia



Jointly organised by
UN-SPIDER (UN Office for Outer Space Affairs) and
National Disaster Reduction Center of China (NDRCC)

With support from
Capital Normal University of China

Space Technology for Drought Monitoring in Africa and Asia

11-16 November 2012

Beijing



Announcement

Crowdsource Mapping Expert Meeting

Crowdsource Mapping Expert Meeting Vienna

3 – 5 Dec 2012

United Nations International Expert Meeting on
Crowdsource Mapping for Disaster Risk Management
and Emergency Response

UN-SPIDER Expert Meeting on Crowdsource Mapping: Now open for applications



The UN-SPIDER hosted "Expert Meeting on Crowdsource Mapping for Disaster Risk Management and Emergency Response" taking place in Vienna on 17 - 19 July is now open for applications. This Expert Meeting will bring together leading experts representing crowd-sourcing communities, space agencies, disaster management and civil protection agencies, NGOs, private companies, and regional and international organizations. If you are an expert currently working in any of the relevant areas (disasters, crowd-source mapping, space-based information) **feel free to apply until 8 June 2012 on the Knowledge Portal**. Please note that attendance will be strictly limited to 70 experts. We are looking forward to your application!

Read more: [Knowledge Portal](#)

<http://www.un-spider.org>



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Wish you successful conference

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