

Proposed projects on the management of environment and natural disasters

By

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Working documents

- Survey reports
- guidelines for working groups
- UNISPACE III Action team on global navigation satellite systems.
- Programme on space applications:Activities schedule 2004
- Objective of the workshop:Plan of work of UN/OOSA in supporting GNSS activities
- FAO Statement to UNISPACE III
- SoumINet:A real-time GPS network for atmospheric research and education

The areas addressed in the survey reports

- Policy -awareness, accessibility of technology and developing linkages with partners interested in the management of environment and natural disasters.
- Projects being implemented or looking for funding in the areas of:
 - Estimation of precipitable water vapour
 - flood forecasting, tropical cyclone monitoring
 - wildlife monitoring(bio-diversity conservation and early warning)

The areas addressed in the survey reports(cont'd)

- Human resource development in the applications of the GNSS to the management of environment and natural disasters.
- Infrastructure
- Financing

The GNSS potentials driving applications in the management of environment and natural disasters

- The positioning
- signal delay
- signal reflection

Proposed project concept format

- Project area
- Justification
- Project formulation and implementation strategy
- Potential partners
- Strategies for sourcing funding

Proposed project Areas and Justifications

- GPS-Meteorology
- Disaster management
- Climate change
- Mapping water resources
- Human resource development and awareness raising
- Environmental Information System (taking advantage of existing structures(e.g. FAO, WMO, IGS.....))

GPS-Meteorology

- Water vapour estimation and monitoring ocean processes ocean to:
 - Demonstrate operational value for weather prediction;
 - Investigate detailed global moisture distribution ;
 - Monitor tropopause, and lower stratosphere temperature profiles with high resolution;
 - Model and predict of severe terrestrial and space weather, etc.
 - understand global ocean circulation processes
 - monitor and detect climate change

Disaster management

- Contribution of IPWV, electron density and ocean signal reflections to early warnings systems
- Contribution of wildlife and domestic animal behaviours to early warning systems and biodiversity conservation
- Contribution of GNSS in monitoring vessels to reduce oil spills caused by marine accidents.
- The contribution of the GNSS in mapping natural disaster risk zones (floods, droughts, marine, inland lakes, rivers and disease prone areas e.g. malaria, rift valley fever etc) in support of the habitats and sustainable development.

Climate change

- Application of the GNSS to the monitoring of snow levels and cover
- The contribution water vapour estimations, ocean signal reflection and electron densities to climate change monitoring and detection
- Contribution of GNSS to the monitoring of desertification and the migration of rainfall belts.

Mapping ground water resources

- The contribution of GNSS to the mapping of water resources and improving hydrologic cycle models.

Human resource development and awareness raising

- Hands on training workshops on applications.
- Advanced training in remote sensing with emphasis on the application of GNSS to the management of the environment and natural disasters.
- Awareness raising and
- Pilot demonstration projects

Environmental information System

- It is proposed that a system be developed with the responsibility to establish networks of institutions involved in the management of environment, natural resources and disasters (taking advantage of existing mechanisms such as FAO, IGS, WMO, e.t.c.) with particular attention to the GNSS applications.

Project formulation and implementation strategy

- Traditional and non-traditional methods should be employed taking into considerations the needs for political will and ownership.
- Options
 - UN/OOSA identifies a specific project area which can be addressed.
 - All proposed areas are addressed in one project as activities.

Potential partners

- National Governments, sub-regional/ regional economic groups
- UNEP, UNDP, ISDR, GCOS, GTOS, WMO, FAO, Sub-Regional/ regional climate and environment centres, Habitat, etc.

Strategies for sourcing funding

- Through UN/OOSA collaboration with relevant UN agencies
- By facilitating UN/OOSA to have contacts with sub-regional/ regional institutions and governments.
- By supporting missions for sourcing funding

Summary of project activities

- Project formulation
 - Drafting the project.
 - Circulation of the project to experts for input.
 - Presentation of the draft project proposal at meetings relevant to the thematic area for further input and promote ownership
 - Presentation of the project proposal to sub-regional and regional government authorities to establish political will
 - Sourcing finances

Summary of project activities (cont'd)

- Core activities

- Procurement and installation of the essential infrastructure
- Hands on training workshops for experts with background in remote sensing.
- Demonstration pilot application projects.
- Advanced training in remote sensing with special attention to the application of GNSS to the monitoring of environment and disaster management.
- Awareness raising workshops and outreach activities

End

Thank you