UNITED NATIONS
Office for Outer Space Affairs

INFORMATION NOTE

United Nations/ Iran Workshop on "Space Technology Applications for Dust Storm and Drought Monitoring"

Organised jointly by
The United Nations Office for Outer Space Affairs **and**
The Islamic Republic of Iran
Hosted by
Ministry of I.C.T. (The Iranian Space Agency)
Co-sponsored by
The Inter-Islamic Network on Space Science and Technology (ISNET)

26-30 September 2015, Tehran, Iran

1. Introduction

Climate Change and its numerous consequences such as frequent drought conditions have also led to a steady increase in frequency and intensity of dust and sand storms in many parts of the World. The severity of such storms is anticipated to continue to increase over the coming years.
Dust- and sand storms, which present environmental risks and can affect the regional climate, have worsened also in the Middle East region over the last years. Monitoring such storms and related drought conditions from space using satellite remote sensing (RS) technologies and geospatial data has therefore become more important recently. It is also important that development policies of areas affected by such conditions are environmentally, socially and economically sustainable, and space technologies play an important role in defining such policies as well.

In light of the above, and in response to an offer to host a dedicated workshop addressing these topics, the United Nations Office for Outer Space Affairs (OOSA) and the Government of Iran are jointly organizing the above-titled Workshop to raise awareness and promote the use of space technologies related to dust storm and drought monitoring for the benefits of the host country, for the Middle East region and in general for developing countries globally.

The Workshop will be held in Tehran, Iran, from 26 to 30 September 2015, hosted by the Iranian Space Agency (ISA) on behalf of the Government of Iran and cosponsored by the Inter-Islamic Network on Space Science and Technology (ISNET).

The Workshop will explore how current space technologies help to identify and monitor the effects of a changing climate – including the onset of drought and dust or sand storms in particular - on vulnerable regions on an international and regional scale. It will therefore also address the context of the Rio+20 Summit Declaration and to the evolving United Nations Post-2015 Development Agenda and related Sustainable Development Goals (SDGs).

2. Background and objectives

Sustainable development requires optimal management in the environmental, economic and social dimensions. The efficient use of critical resources in depends upon the availability of reliable and up-todate information generated at the national, regional, and international levels. Remotely sensed data provide a view of the Earth for many studies that require synoptic or periodic observations such as inventory, surveying, and monitoring in agriculture, hydrology, geology, mineralogy, and environment. Remote Sensing is viewed as a discipline that is integrated with other disciplines such as photogrammetry, cartography, geodetic reference systems, global positioning systems, and geographic information systems (GIS) in providing better solutions and target-tracking in general for decision makers.

At the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), held from 19 to 30 July 1999 in Vienna, Austria, a fundamental requirement agreed upon was to assist States, especially developing countries, in applying the results of space research with a view to promoting sustainable development of all people. The resolution entitled "**Space Millennium: Vienna Declaration for Space and Human Development**" adopted by UNISPACE III, contains a strategy for enhancing the use of space science and technology to contribute to solutions for major global issues, including water security, climate change, drought and related phenomena.

Remote sensing satellites provide data on several key variables (for example rainfall, precipitations, water storage, soil moisture and evaporation, land use) using spatial and temporal scales that are appropriate for reliable assessment. A satellite-based approach to assessment and management of drought in particular is especially important in countries and regions of the world where adequate water resources are lacking. Such information is often crucial in helping authorities to also anticipate food shortage and famine, giving them enough lead time to take preventive action. The UN-SPIDER Regional Support Office (RSO) in Iran is hosted by the Iranian Space Agency (ISA) and was established in 2009 under a cooperation agreement between ISA and OOSA. It has implemented several projects in the field of disaster management and emergency response, especially in drought monitoring and forecasting and also forest fire detection.

Earth observation from space, complemented with other applications, is clearly a cost-effective method for efficient management of natural resources, for monitoring natural phenomena and for providing essential data to decision-makers to formulate policy and implement programmes at the national, regional and international levels, including those of the United Nations system entities.
While the potential benefits of space science and technology and its applications for developing countries are generally well-recognised, experience has shown that successful implementation and operational use of this technology is subject to the resolution of some major issues, including the continuous development of human resources at all levels, training of end-users, development of appropriate infrastructure and policy regulations, allocation of necessary budgetary resources.

This Workshop will therefore discuss how space technologies, applications, information and services can contribute into sustainable economic and social development by supporting efficient monitoring of drought conditions and related hazardous phenomena, primarily in developing countries, with the following primary objectives:

- To enhance capabilities of countries in the use of space-related technologies, applications, services and information for dust storm and drought monitoring
- To examine low-cost space-related technologies and information resources available for addressing such monitoring needs in developing countries
- To strengthen international and regional cooperation in these domains by improving ssynergies among space agencies and specialized monitoring agencies

- To increase awareness among decision-makers and the research and academic community of space technology applications for addressing drought monitoring as well as dust or sand storms monitoring, primarily in developing countries
- To promote educational and public awareness initiatives in these domains, highlighting recent advances, as well as to contribute to capacity building efforts

3. Programme

The Workshop will include keynote addresses, plenary presentations, a series of technical presentations and will allow sufficient time for discussions on topics such as:

- Applications of space technologies that provide cost-effective solutions and essential information for planning and implementation of programmes or projects to better monitor drought conditions and dust storms
- Use of space-related technologies in mitigating drought or storm-related emergencies, and combating desertification
- Use of space technologies for early warning
- Capacity building in drought monitoring and dust/sand storms monitoring as well, including development of human resources, establishing technical infrastructures and possible legal or cooperative frameworks, access to financial resources if needed
- International, regional and national initiatives and international and inter-regional cooperation in the domain of drought and dust storms monitoring
- Review of specific conditions and information needs of the Middle East region and of the Caspian Sea region in this context, within the broader scope of environmental monitoring
- Case studies on successful applications of space technologies for drought or dust storm monitoring in developing countries

The Workshop's discussions will also consider ways of expanding the use of space technologies and information/data for better monitoring and decision making in the domains of focus, as well as identify priority areas where potential pilot projects could be launched, examining also possible partnerships that could be established.

All participants to the Workshop are encouraged to make presentations on any the topics suggested above, as well as to participate actively in all discussions and recommendations-setting.

4. Participation

The Workshop is being planned for a total of 120 - 140 decision-makers, technical experts, researchers and educators drawn from international, regional, national and local institutions, academic institutions, multi-lateral and bi-lateral development agencies, non-governmental organizations (NGOs) as well as from private industry. Experts and professionals from both space-related, drought monitoring or dust/sand storm monitoring related research institutions will be invited, providing an opportunity to exchange views and strengthen networks and partnerships that will contribute to the increased use of space technologybased solutions for drought and dust storm monitoring.

5. Participation requirements

Applicants must have a university degree and well-established professional working experience in a field related to the theme of the Workshop. Applicants should be in managerial, decision-making, technical or academic positions within government agencies, international, regional and national institutions, universities, NGOs or private industry with responsibilities for carrying out programmes or projects in the areas related to

the themes of the Workshop. Applicants who can clearly demonstrate that the Workshop is central to their professional activities or responsibilities will be selected on a priority basis.
Applications from qualified female participants are particularly encouraged.

6. Language of the Workshop and presentations by participants

Applicants must have a good knowledge of ENGLISH, the ONLY working language of the Workshop.

Selected participants who are funded by the cosponsors will be required to deliver a presentation of approximately 15 to 20 minutes on topics relevant to the Workshop objectives and the programme. Presentations on actual on-going projects will be of particular interest to the organizers.
It is also expected that selected participants will submit for online publication their full papers/presentations to organizers by the end of August 2015.

7. Financial support

Within the limited financial resources available, a small number of selected participants will be offered financial support to attend the Workshop. Such financial support might defray the cost of travel (a round trip air ticket - **most economic fare** - between the airport of international departure in their home country and Tehran, Iran) and/or room and board expenses for the duration of the Workshop.
Due to limited availability of financial support, not all applicants can be offered travel support. In this respect, applicants and their nominating organizations are strongly encouraged to find additional resources to allow a wider and global participation in the Workshop.

Funded participants will receive detailed information upon notification of their selection.

8. Deadline for submission of applications

The completed application, properly endorsed by the applicant's government/institution, should be **submitted online** to the UN Office for Outer Space Affairs **no later than Wednesday, 10 June 2015.** Applications received after the deadline might still be considered, but applicants will not be eligible for financial support. The online application can be accessed through the following Internet link: http://www.oosa.unvienna.org/oosa/en/SAP/act2015/iran2015/index.html

Note: only complete applications, with all the requested information and signatures, will be considered for financial support.

9. Life and health insurance

Life/major health insurance for each of the selected participants is necessary and is the responsibility of the candidate or his/her institution or government. The co-sponsors will not assume any responsibility for life and major health insurance, nor for expenses related to medical treatment or accidental events.

10. Points of contact

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