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Getting ready for the arrival of Sentinel data

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The European Union (EU) and the European Space Agency (ESA) have developed the Global Monitoring for Environment and Security (GMES), being renamed to Copernicus, programme as Europe's answer to the vital need for joined-up data about our climate, environment and security. Through a unique combination of satellite, atmospheric and Earth-based monitoring systems, the initiative will provide new insight into the state of the land, sea and air, providing policymakers, scientists, businesses and the public with accurate and timely information.

GMES capabilities include monitoring and forecasting of climatic change, flood risks, soil and coastal erosion, crop and fish resources, air pollution, greenhouse gases, iceberg distribution and snow cover, among others.

To accomplish this, GMES has been divided into three main components: Space, In-situ and Services.

The Space Component, led by ESA, comprises five types of new dedicated satellites called Sentinels. These missions carry a range of technologies, such as radar and multi-spectral imaging instruments for land, ocean and atmospheric monitoring.

While the Sentinel satellites are currently being developed by ESA specifically to meet the needs of GMES, the Contributing Missions, operated by national agencies or commercial entities, are already providing a wealth of data for GMES services, and will continue to deliver complementary data after the Sentinels are in orbit.

An integrated Ground Segment ensures access to Sentinels and Contributing Missions data.

Access to Sentinel data is governed by the Sentinel data policy, which is part of a wider GMES data and information access policy. The Sentinel data policy envisages free and open access, subject to restrictions only if security or other European interests need to be preserved.

As regards the Contributing Missions, the data policy of the mission owners will be respected for the purpose of providing data to GMES service users.

The first in the fleet of dedicated satellites to be launched at the end of 2013 is Sentinel-1. This is a radar mission and will be engaged in wide range of land and ocean surveillance tasks, such as oil-spill monitoring and earthquake hazard assessment. It will be followed early next year by Sentinel-2 and Sentinel-3, dedicated mainly to the mapping of the Earth's surface and to the monitoring of ocean temperature and colour. The arrival of the first Sentinel data will provide systematic continuity of data already widely used within the science and application communities. It will also ensure long-term operational commitment and data consistency.

The in-situ component, under the coordination of the European Environment Agency (EEA), is composed of atmospheric and Earth based monitoring systems, and based on established networks and programmes at European and international levels.

The European Commission is in charge of implementing the services component of GMES and of leading GMES overall. GMES services, fed with data from the Space and In-situ components, will provide essential information in five main domains, atmosphere, ocean and land monitoring as well as emergency response and security. Climate change has been added as a new GMES service and cross-cuts all these domains.

This session aims at informing users about the current programme's overall status and its potential for users in the services and scientific fields, in particular, in view of the upcoming launch of the first in the fleet of Sentinel satellites.