

Global Monitoring for Environment and Security

Building an Institutional Network

Background

In December 1999, EU Council asked the Commission to proceed to prepare a coherent European strategy for space, together with the European Space Agency. An important issue is the integration of space-based information for applications and services in the information society.

At the same time in a wider context, a debate is taking place on the overarching topic of Environment and Security^{1,2}. Recognising this, the European Parliament called for a European strategy on the subject of Environment and Security³. More recently, the EP Committee on Industry, External Trade, Research and Energy has adopted a resolution⁴ calling for a policy addressing the effective use of space-based systems for monitoring of the environment and for security.

There are various proposed space-based observation projects in Europe, but no mechanism dedicated to defining the overall needs from a European perspective. Hence, last year, elaborating on the ideas expressed in the Baveno Manifesto⁵, the Commission's Space Advisory Group endorsed the view that a debate should be organised on the subject of Global Monitoring for Environment and Security⁶ (GMES). Recently, discussions have confirmed that Member States and the European Parliament expect GMES to develop into a new initiative following from the European strategy for space.

The debate with public and private organisations dealing with the collection and processing of observation data on GMES has started. The recent Commission initiative "Towards a European Research Area" offers an appropriate context to launch further action on GMES at the institutional level.

¹ Pacific Northwest National Laboratory established the Centre for Environmental. Sponsored by the U.S. Department of Energy's Office of National Security Policy Analysis

² Environment and Security in an International Context; NATO Final Report 232.

³ Resolution on the Environment, Security and Foreign Affairs; Official Journal C128/92, May 1999

⁴ European Parliament Committee on Industry, External Trade, Research and Energy: Report on the Commission Document, "Towards a Coherent Approach for Space" with a motion for a resolution, to be adopted 15 May 2000.

⁵ Baveno Manifesto: Statement from space agencies at Baveno in May, 1998

⁶ Global Monitoring for Environment and Security; Commission non-paper prepared for the Space Advisory Group, SAG/99/3, July 99.

The Issue of Environment and Security

The issue of “environment and security” introduces a concept that embraces a wide spectrum of political concerns. To analyse the links within the policy framework and to help understand the role of global monitoring for “environment and security”, the continuum of concerns is captured in three discrete themes:

- ?? Global change and its impacts on the living environment. The main political response is through international environmental treaties and the obligations placed upon signatories. A specific example is the Kyoto protocol to the Framework Convention on Climate Change and its provisions for carbon trading. In Europe, environmental concerns are reflected through specific provisions introduced into other policies.
- ?? Environmental stress caused by resource scarcity and resource degradation possibly exacerbated by population pressures is addressed extensively in the NATO report². The objective of the political response is to reduce or prevent the possibility of conflict, for example, through Development Policy, and increasingly the Common Foreign and Security Policy (CFSP).
- ?? Environmental disasters either natural or man-induced, possibly causing environmental stress and possibly exacerbated by elements of global change. The political response is civil protection (largely at national level) and, in an international setting, through Humanitarian Aid and Development policies.

Whilst the main policy instruments are as identified above, concerns of environment and security fit within a framework of policies. For example, the links between, environment, security and foreign affairs will need to be examined also from a perspective of external relations. In this respect, the process to integrate the WEU into the Commission is significant.

Furthermore, international environmental treaties also have importance to economic policies and the use of environment policy as a source of competitive advantage has long been recognised by the US. In a report on the economic dimension to environmental security⁷ the European Commission notes the importance of maintaining access to external resources.

However, *Europe is lacking any organised information gathering structure with the ability to perform an integrated analysis on the relationship between environment, political stability and economic security and to communicate with policy makers in a timely manner*⁶. A debate to answer the specific questions, possibly organised according to the three themes, can also address wider concerns of information gathering systems and infrastructure of which one essential element is global monitoring.

⁷ Environmental Security: Just another green fashion? 1999 Study Report from EC

The Debate on GMES

The Commission is animating a debate on the three aspects of Global Monitoring for Environment and Security:

The **political aspects** driven by environment, security, humanitarian aid and research policies. In this respect, the Commission's Space Co-ordination Group with the JRC, has commissioned a study⁸ to elaborate the key issues and to help articulate the political arguments for an initiative on GMES. In addition, there is the possibility to develop broad political support and to elaborate and implement an action plan for example, under the forthcoming French, Swedish and Belgian EU presidencies.

The **technical aspects** to seek a common orientation on technological issues. A group of technical experts has been working around the GMES-Office of the JRC since July 1999, to seek to define products that a system for global monitoring could offer to support policy makers concerned with issues related to environment and security. One working group, in co-operation with DG-Environment, has examined several information products that can be used to support the EU negotiations on the Kyoto Protocol to the Framework Convention on Climate Change.

The **institutional aspects** to examine the relationships between the players in Europe and in the international arena involved in the process of gathering and processing data from observation satellites.

Ideas for new observation systems and services are being developed by several institutions in Europe. However, there is no overall planning within which the various potential services can find their specific role at a European level. At the same time, those organisations with some responsibility to supply information services to the policy maker need to be fully engaged in the process of defining what will be necessary. A new institutional structure could become a broker of information services by helping to organise the supply side whilst federating demand.

An e-Agency for Europe

The Commission could facilitate the organisation of an institutional network (under the umbrella of a European research area). If successful, this could finally take the form of an e-Agency, with the objective to develop effective, operational information services for global monitoring for environment and security.

Such a structure could enhance and focus communication amongst concerned organisations and include or communicate with those concerned with issues of environment and security:

⁸ Study into *Environment and Security; The role for Global Monitoring*. Reporting in July 2000.

?? Organisations that own or operate satellite systems in Europe and which can offer data as well as interpretation skills.

?? Organisations that have specific expertise in the processing and interpretation of satellite observation data for the purposes of monitoring for environment and security

?? Organisations that have responsibility for gathering or assembling data - including maps - using observation satellites, for national or European administrations,

The institutional network should prepare European resources in readiness to respond to questions from the political levels. Three questions that should be discussed are:

?? Which institutional activities provide the kind of information that could be applicable in the domain of environment and security - considering the three themes; global change, environmental stress and disasters?

?? What is the international context? What relationships exist between European, other national (Japan, Russia, US) and other international organisations (UN, CEOS) and how do these affect the potential roles that Europe can play?

?? What is Europe's appropriate place in the international research effort?

A suitable structure for the *e*-Agency could build upon the GMES-links already in place, taking advantage of the open character of the MoU's between the JRC and CNES and DLR respectively.

A first discussion, at Stresa in May 00, amongst those institutions ready to participate in an *e*-Agency should elaborate these questions and identify others. Other organisations invited to discuss this idea for the "network" are Eumetsat, ESA, ASI, BNSC and the WEU Satellite Centre in Torrejon.