

# Global Monitoring for Environmental Security

## A Manifesto for a New European Initiative



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## The Baveno Manifesto

### SUMMARY

The *Baveno Manifesto* is an initiative by a group of Institutions involved in the development of space activities in Europe.

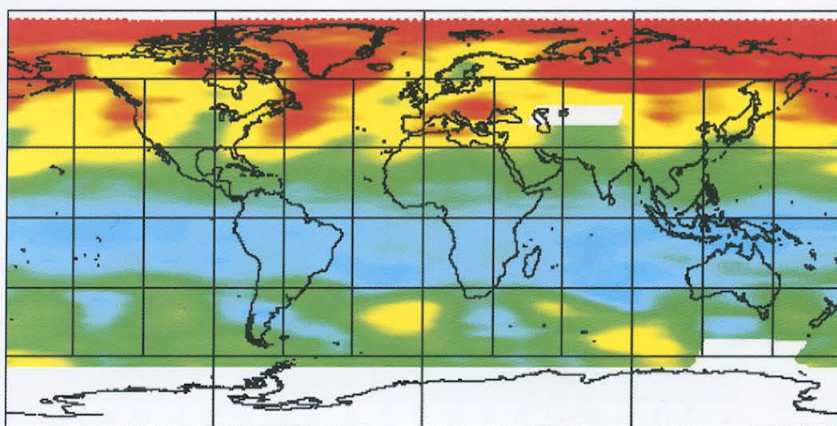
The *Manifesto* calls for renewed attention in political and policy making circles to global environmental changes. The document emphasises the strategic importance for Europe to develop global monitoring capabilities that can inform on a regular basis on the conditions of the environment around the world. Such a system is, among others, needed in the context of implementing international conventions like the Kyoto Protocol on Climate.

Environmental security worldwide is also of growing concern to Europe; decisions regarding prevention, mitigation and management of natural and man-induced risks and hazards must rely on continuous and reliable information. Developing 'environmental intelligence' functions using advanced information technologies is presented in the *Manifesto* as a community action that will profit Europe in terms of technological and industrial competitiveness.

The *Baveno Manifesto* further proposes a broad-based examination of the desirability of developing Europe's independence in the provision of critical information on the world's environment.

This initiative foresees an extensive consultation with interested parties at the European level to institute a political consensus and a plan of action.

*Ispra (Italy), October 1998*



Total column Ozone for 16 May 1998 as measured from the GOME instrument.

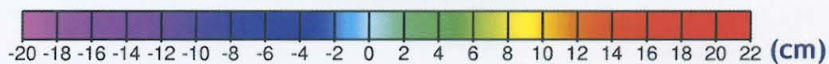
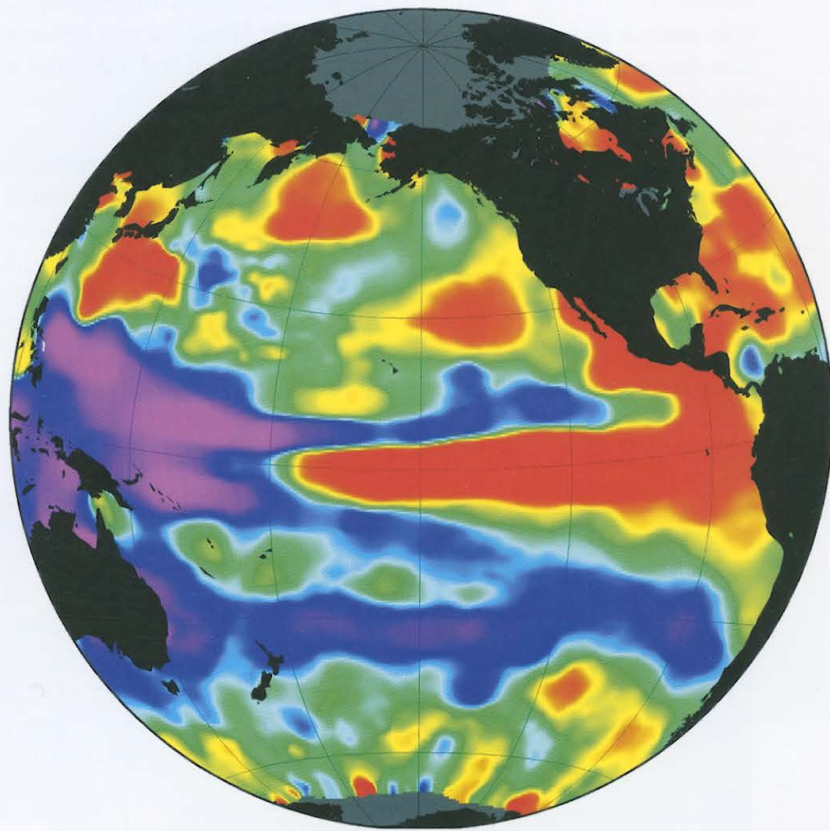
## Global Monitoring for Environmental Security

### A Manifesto for a New European Course of Action

Changes in the global environment, such as those related to global warming, reduction in biodiversity, desertification and others are of direct concern to Europe and will influence a growing range of Community policies. As a result the Community actively participates in the setting up of international conventions on the protection of the environment and on the sustainable use of natural resources.

The importance of those issues has also been explicitly recognised by a group of agencies and organisations involved in the development of space technologies for earth observation. On May 19, 1998—during the annual User Seminar of the Space Applications Institute of the Joint Research Centre in Baveno, Italy—a number of agencies and organisations involved in space activities\* reaffirmed their will to contribute to a com-

\* ASI, BNSC, CNES, DLR, EARSC, ESA, EUMETSAT and European Commission.



*The 1997 El Niño event seen by the TOPEX-POSEIDON mission.*



Global vegetation patterns derived from the VEGETATION instrument on SPOT4.

mon European vision and strategy towards global environment monitoring. They recognised the importance of contributing to the goals set up by a series of international conventions and agreed on the need for Europe to act if it wants to maintain a leading position in the development of monitoring techniques for a better understanding of environmental changes, resource depletion and environmental risks at a global scale.

The present *Manifesto* draws the attention of policy makers in the European Union to the importance of extending European interests to global environmental security issues. A key point emphasised by the *Manifesto* is the fact that the establishment of global environment 'intelligence', supported by an independent and internationally recognised information gathering system, has acquired even greater importance in the context of the Convention on Climate Change. More specifically, the *Manifesto* proposes that supporting the commitments made by the Community in the context of the 1997 Kyoto Protocol on the reduction of greenhouse gases represents a priority of to-day.

The *Manifesto* calls for an examination of the issues associated with the elaboration of a common agenda towards global monitoring of the environment. Such an initiative will serve as a reference framework against which specific actions—at the Union

level and in Member countries—can be evaluated in terms of their contribution to the common objectives.

#### The context

Global environmental information will increasingly be at the core of the decision making process of political entities wishing to play a role in world affairs. Access to relevant and timely information provides an economic advantage in a wide range of situations related to industrial competitiveness, access to markets, treaty negotiations, development aid, crisis intervention prevention measures and disaster mitigation. The strategic value of guaranteeing access to independent sources of information on environmental security issues is thus increasingly recognised. This is certainly the case in the USA and Japan and Europe has to decide whether it wants to increase its independence in such domain.

The European Union has played an active role in forging the international agreement reached during the Kyoto negotiations and it will continue to do so by putting together packages of policies and measures towards the protocol objectives. These are set out in the *Communication of the EC—Climate Change. Towards an EU post-Kyoto Strategy* (published in June 98). The Kyoto Protocol calls, *inter alia*, for monitoring global progress associated with measures towards re-

ducing greenhouse gas emissions and enhancing carbon sinks. It also requires that the implementation of various international arrangements be properly verified.

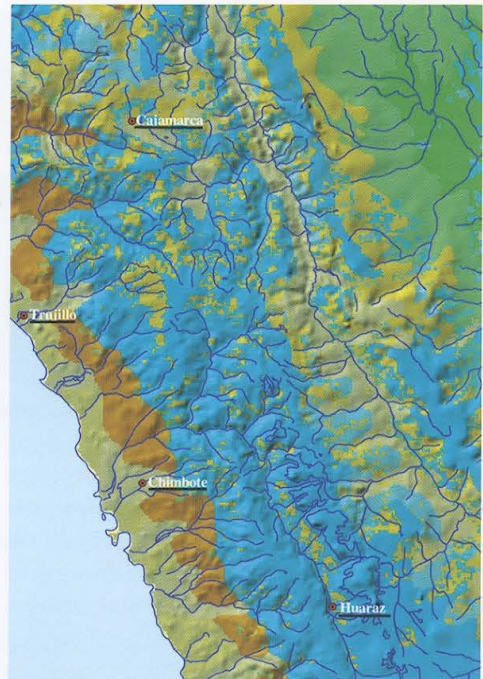
The present *Manifesto* proposes the idea that a global environment information service would represent a **significant European contribution to the implementation of the Kyoto Protocol**. In this context the term 'environmental security' has been adopted to indicate that a global monitoring system also has a strategic dimension linked to the identification, prevention or mitigation of undesirable environment effects that may threaten the stability of our society.

#### **The role of earth observation systems**

Earth observation satellites represent a key source of information on global environmental conditions. Progress made in Europe and abroad has shown that no global surveillance can proceed without resorting to the use of satellite observing systems. Furthermore, technological advances in information gathering and distribution and the computing power available to individual operators will generate tremendous progress in the potential for environmental information from satellites. Space is and will increasingly be a prime site for data collection and information exchange. As demonstrated by the meteorological community **space-based operational weather monitoring services can be provided reliably and efficiently.**

This *Manifesto* calls for a similar long-term commitment to the development of space-based environmental monitoring services, focussing initially on needs associated with some aspects of the Kyoto Protocol and taking advantage of skills and technologies resident in Europe.

The partners in the present initiative hold the view that the convergence between the needs associated with the stewardship of our global environment and the capabilities of



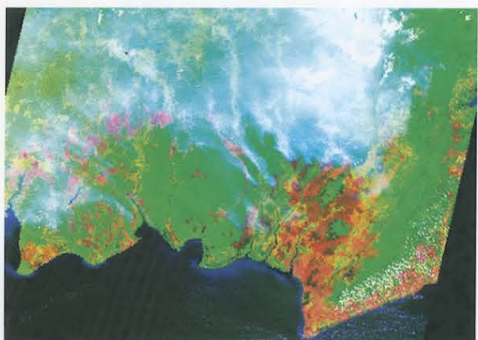
*Part of a vegetation map of tropical south America derived from AVHRR imagery. Lowland dense moist forest in green and mountain vegetation communities, Cuzco, Peru.*

satellite observing systems should become a key element of the European 'space' agenda. Environment agencies, scientific organisations, policy-making bodies and the purveyors of technology will find here a **common framework to develop a consensus on the issues**. All the European players must now develop and confirm a common vision on the future role of Europe in the global monitoring arena. By profiting the technologically advanced industry this will also add to the competitiveness of the European know-how.

#### **The partners**

At the European level a convergence of interests and identification where collective efforts can best be applied must be secured.

**Political support must be generated** to reflect the view that developing global environment 'intelligence' capabilities serves the



Along Track Scanning Radiometer image showing extreme fire events in the forests of Kalimantan, September 1997.

Community. Environmental agencies or executive bodies in the field of the environment should agree to an examination of the issue in the context of current and future programmes. The desirability of ensuring Europe's independence of access and analysis of global environment data needs to be addressed across the political spectrum. This debate must be conducted in full knowledge of the implications in terms of resources, technological options and information sharing policies.

In parallel there is a need for Europe to support a demonstration by space agencies, scientific programmes and industry that the requirements imposed by an operational monitoring service can be met by the technology in terms of reliability, efficiency, sustainability and cost. Guarantees must be given that data and information will be made readily available to all layers of the concerned community. Relevant items of the national and European space programmes should be brought to light in order to identify gaps and guide the common efforts.

### Towards a common agenda

The next step is to secure the commitments of the various partners towards the development of a global environment information service. The various players need to agree on broad roles. An agenda for action will be elaborated through a debate organised at various levels of the concerned communities such as political institutions (Parliaments), executive bodies (Commission and National Departments), specialised agencies (environment, research and space), concerned pressure groups and industry.

At present, the Agenda foresees:

- a detailed examination of the requirements for environmental monitoring associated with the Kyoto Protocol of the Climate change convention,
- a broad consultation with interested parties on the basic ideas expressed in the present *Manifesto*,
- the preparation of a discussion paper which addresses the strategic, technical, scientific and programmatic elements of the initiative,
- the organisation of a series of Workshops to identify the specific components of the European contribution through a close interaction with operational environmental services in Europe,
- the preparation of a Green Paper on 'Europe and global environmental monitoring'.

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