

**INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
of UNESCO**

**STATEMENT
of Professor Gunnar Kullenberg, Executive Secretary IOC
to the Third Conference of Parties of the UN Framework
Convention on Climate Change
(Kyoto, 1-10 December, 1997)**

Mr. Chairman, distinguished Ministers, Head of Delegations,

Ladies and gentleman,

The Assembly of the IOC has as one focus oceans and climate. The oceans are recognized by the IPCC as playing a fundamental role in operating the climate system. Because of the way they transport heat around the globe, their influence on the amount of Green house gases in the atmosphere and their long memory, they play a key part in determining the rate and sizes of seasonal, interannual and decadal climate variation. The oceans are the primary source of atmospheric water vapor and an important sink for CO₂.

The IOC as the competent body in the United Nations system dealing with ocean science and services, calls for long term sustain national and international support for global ocean science and observation programmes. These programmes are critically needed for the application of science in confirming climate change and in finding answers on issues of green house gases, sources and sinks over the three quarters of the planet, covered by water. Global scale ocean observing and research programmes are necessary for climate change detection, prediction and amelioration. The decision of the COP-3 regarding the development of observational net works of a climate system is extremely welcome. The scientific community under this sponsorship of the IOC, WMO and ICSU has developed several well focused global research programmes of unprecedented scale within the framework of the World Climate Research Programme. Of these the tropical ocean Global Atmosphere Experiment has provided us with ability to forecast the El-Niño, on basis of ocean observations and modelling.

These programmes have also done much to draw together national efforts in ocean climate research and observation. However for future a more comprehensive system of oceanic observations is needed, to be maintained on a continuously sustained "operational" basis, also called for in Agenda 21. In response to this need the IOC together with WMO, ICSU and UNEP are developing the Global Ocean Observing System (GOOS). This is designed to coordinate, enhance and promote the national and regional observation efforts for all purposes, one primary purpose being climate assessment and prediction. Through its global

extent and its integration, the system gains value to nations well beyond their individual contribution. The system will also greatly assist the smaller and less developed nations in developing their own assessment and prediction capabilities. The climate module of GOOS is the ocean module of GCOS.

The incremental effort and investment required to achieve this system is well within our technical capability during the coming decade. Implementation is largely through nationally funded operational programmes, with a relatively small cost of international scientific coordination and integration of these national efforts. It is expected that the decision of COP-3 on Observing Systems will stimulate required coordination and capacity building at national level.

The 1998 International Year of the Ocean provides for a specific opportunity to help increase the commitments to address the ocean issues and the public awareness of this need.

I wish to recall that the IOC has implemented some reviews on oceans and climate through consultations of scientific and technical experts, who have aimed to identifying what we know, how we are able to use this knowledge and what the gaps are. As part of the 1998 programmes we intend continue this review process and we are inviting the IPCC to cooperate in specifying particular questions which need urgent attention. The work of the IOC will focus on regional implications, certainties and gaps.

Finally, I wish to recall that IOC together with four major science programmes of UNESCO in a Joint Statement to the UNESCO General Conference, stated "As the current public and intergovernmental debate on climate changes so vividly demonstrates, many of the complex problem linked to the environment and development are characterized by inherent uncertainties and gaps in knowledge; yet this uncertainties and our limited long-term predictive capacity in no way justify delaying the implementations "no regrets" policies and measures to prevent possible irreversible environmental damage. Scientist must share with policy-makers the responsibility for scientifically sound risk assessment and management environmental, technological and socio-economic transformation. If emerging serious problems are to be dealt with at an early stage and sustainable development is to be given a chance, then there has to be a shift in emphasis from a situation of crisis management to pro-active, adaptive management regime.

Thank you, Mr. Chairman.