

**The POGO Biology Meeting**  
**Dartington, 28-30 June, 2001**

The meeting was held in Dartington, Devon, England from 28-30 June 2001. Some seventeen scientific experts attended the meeting. They were invited for their leadership and active involvement in various international projects, as well as for their experience and expertise in techniques of biological observations in the ocean.

Members of the group were actively involved in programmes such as The Census of Marine Life (CoML), Surface Ocean – Lower Atmosphere Studies (SOLAS), Global Ocean Ecosystem Dynamics (GLOBEC) and Joint Global Ocean Flux Study (JGOFS). Some members of the Ocean Futures Committee set up by IGBP and SCOR to look at the future of ocean biogeochemical studies were also present at the table. Furthermore, operational programmes such as the Global Ocean Observation System (GOOS) and its Coastal Ocean Observation Panel (COOP) were also represented, as was the SCOR panel on Emerging Technologies. There were also representatives of POGO and the International Ocean Colour Co-ordinating Group (IOCCG).

During the three days of the meeting, the participants discussed what POGO could contribute towards meeting the requirements and goals of biological programmes. Traditional and conventional observational techniques, as well as new and promising methods were discussed. The philosophy followed was that the proposed observations must serve the scientific and societal needs for large-scale ocean observations.

The observational requirements were discussed in the context of the vast size spectrum of marine organisms, which ranges from microbial organisms to fish and mammals were discussed. The need to record marine biodiversity and the functional diversity in marine organisms was examined. Various types of sensors designed for biological observations, and observation platforms ranging from satellites, research vessels, autonomous underwater vehicles, drifting and moored buoys and underwater observatories were discussed. Methods that are ready for immediate implementation, and those that merit further development towards implementation in the short to medium term were also treated. Methods that provide low-cost measurements at large scales were given high priority in the discussions.

The need to have data management and distribution systems that are suitable to address the requirements of biological observations was also dealt with. In view of the POGO commitment to enhancing observations in the Southern Hemisphere, the special issues and requirements pertaining to the Southern Hemisphere were also examined.

The group spent some time writing the first draft of a report on the findings of the meeting, and will continue to work on refining the report over the next couple of months. The completed report will be distributed to the POGO directors early this Fall. The recommendations that emerged will be tabled at the next plenary meeting of POGO in November 2001 in Canada. The first action plans are to be formalised at this meeting, based on recommendations from the workshop and feedback from the POGO member institutions.

## **Participants at the POGO Biology Meeting**

Prof. John Field (Chair, S. Africa)

Dr. Jim Aiken (IOCCG)

Dr. Peter Burkill (UK)

Dr. Fred Grassle (CoML)

Dr. Tony Knap (Bermuda)

Dr. Julie Laroche (Germany)

Dr. Gregg Mitchell (USA)

Dr. Satsuki Matsumura (Japan)

Dr. Doug Wallace (Germany)

Dr. Manuel Barange (GLOBEC)

Dr. Elgar Desa (India)

Dr. Julie Hall (New Zealand)

Dr. Richard Lampitt (UK)

Dr. Ron O'Dor (CoML)

Dr. Howard Roe (UK)

Dr. Shubha Sathyendranath (POGO)

## **Outline of the POGO Biology Report**

### **1. Introduction**

Background

Major Issues in Biological Oceanography

Terms of Reference for the Meeting

Expertise at the Meeting

Approach Adopted

### **2. Why should POGO take an active interest in this area?**

Need for long-term (multi-decadal) data

Need for global scale data

Collective, co-ordinated, standardised effort required

### **3. Scientific and Societal Concerns**

Conservation and Biodiversity

Sustainable Management of Marine Living Resources

The response of Oceanic Biota to Climate Change

Bio-invasion

Ocean Fertilisation

Threatened Habitats (eg. Coral Reefs)

### **4. Scientific Issues**

Global Change and Carbon Cycle

Constraints on Primary Production and Remineralisation

Biodiversity

Ecological Function

### **5. Identification of Key Variables**

### **6. Sensors and Platforms**

Moored Buoys  
Autonomous Underwater Vehicles  
Voluntary Observational Ships  
Floating Buoys  
Satellites  
Bio-probes  
Research Vessels

**7. Data Management and Distribution**

**8. Recommendations for Capacity Building**

**9. Summary and Conclusions**

**Appendix 1: Participants and Contributors**

**Appendix 2: Matrices of Variables**



\*\*provided courtesy of Dr. Satsuki Matsumura.

L-R, back row: Ron O'Dor, Fred Grassle, Doug Wallace, Richard Lampitt, Elgar Desa, Greg Mitchell, Peter Burkill, John Field, Satsuki Matsumura.

L-R, front row: Shubha Sathyendranath, Julie Hall, Jim Aiken, Julie LaRoche

Missing from photo: Howard Roe, Manuel Barange, Tony Knap.