

**SCOR AFFILIATED PROGRAMME - International Antarctic Zone (iAnZone)**  
**Report of Activities for 2003 - 2004**  
**37th Executive Committee Meeting of SCOR, Venice, September 2004**

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## **Introduction**

iAnZone was conceived in the early 1990s as a sequence of informal biennial meetings of Southern Ocean researchers, primarily physical oceanographers, interested in understanding the Southern Ocean and its role in climate. Accorded status as a SCOR Affiliated Programme in early 1997, iAnZone's goal is to advance our understanding of climate-relevant processes within that region of the Southern Ocean poleward of the Antarctic Circumpolar Current. iAnZone (1) provides for exchange of ideas, plans, results and data; (2) identifies, develops and coordinates research projects consistent with the latter goal; (3) facilitates coordination among Antarctic and global climate programmes, and among other Southern Ocean programmes; and (4) advises on the development of appropriate observing systems, datasets and modelling strategies needed to assess the scales and mechanisms of climate variability in the Antarctic Zone. Highly successful iAnZone projects completed in recent years include AnzFlux and DOVETAIL.

During 2003 there was some debate whether there was still a need for iAnZone as an international coordinating body. The remit of the newly formed CLIVAR/CliC Southern Ocean Panel included coordinating science of relevance to climate in the Southern Ocean. With some overlap of membership between iAnZone and the Southern Ocean Panel, it was felt that the community was suffering from meeting overload, and (to quote our Report to SCOR in June 2003), 'other programmes stand poised to take over some of the functions filled by iAnZone'. This was the prevailing view of iAnZone members going into the Southern Ocean Science Week at Bremerhaven in September 2003, where meetings of the iAnZone Steering Committee, and the Southern Ocean Panel, were held along with other science meetings.

However at the Southern Ocean Panel meeting directly preceding the iAnZone meeting, it quickly became apparent that the Panel is neither interested in, nor suited for, taking on the sort of coordination that has been carried out in the past by iAnZone. It was clear that the two bodies have a very complementary role: the Southern Ocean Panel will encourage and endorse activities, whereas iAnZone will be the tool through which the coordination of international efforts in the region can be achieved. CLIVAR felt that such a coordinating role was important and that iAnZone was a suitable organization to continue in this role. Furthermore, with the International Polar Year (IPY) coming up in 2007-8, it was felt that the need for iAnZone is all the stronger.

## **Current Scientific Activities**

### ***ANSLOPE***

Recognition of the importance of shelf and slope processes to deep water formation led to the fourth international iAnZone project: the Antarctic Slope project (ANSLOPE). This seeks to define the roles of the Antarctic slope front and continental slope morphology in the exchanges of mass, heat and freshwater between the shelf and oceanic regimes. Emphasis is on processes that control deep-reaching outflows of shelf water mixtures in the Ross Sea. Although primarily US-led, other participation includes the Italian CLIMA programme. The German BRIOS-2 coupled ice-ocean modelling programme provides a large-scale modelling capability to complement process-driven field studies.

### ***ISPOL-1***

The Ice Station Polarstern (ISPOL-1) field programme will take place during austral spring-summer of 2004-2005. This is the fifth international iAnZone project. It will use the concept of a manned drifting station to study spring to early summer ocean and sea ice conditions along the western Weddell Sea outer continental shelf and upper slope region.

## **Future Scientific Activities**

The meeting in Bremerhaven suggested that it would be timely for iAnZone to coordinate a major circumpolar study of the freshwater budgets and processes associated with the Antarctic Slope Front and coastal current. This will be the next (sixth) major project to be coordinated by iAnZone and is scheduled for 2007-2008. It is intended to contribute to the International Polar Year (IPY). Such a frontal study would link well with a corollary study of Arctic circumpolar frontal systems. Robin Muench, on iAnZone's behalf, prepared and submitted an outline to IPY in late 2003. This document is available on the iAnZone website. The first dedicated coordination workshop for this project, tentatively named AnzFront, will take place at the University of East Anglia (UEA) in Norwich, UK during August 2004.

## **Future Meetings**

The 9<sup>th</sup> iAnZone biennial coordination meeting is planned to take place in Venice during October 2005. This meeting will be collocated with an IPAB meeting, an ISPOL science coordination workshop and a major conference on work in the Ross Sea. It is hoped that this will provide a successful mechanism for coordination of ongoing Southern Ocean research in much the same fashion as the September 2003 Southern Ocean Science Week held at AWI.

## **Committee Membership**

Following the 8<sup>th</sup> iAnZone meeting in Bremerhaven in September 2003, a more-or-less complete overhaul of the Steering Committee membership was embarked upon since our intended 3-year rotations had been delayed in the light of uncertainties over the group's future. We are most grateful to all those who are rotating off and have given many years of excellent service to the committee:

Nathan Bindoff (Australia)  
Marc Garcia (Spain)  
Carlos Garcia (Brazil)  
Jouko Launiainen (Finland)  
Alberto Piola (Argentina)  
Masaaki Wakatsuchi (Japan)  
Peter Schlosser (USA)  
Giancarlo Spezie (Italy)

The new members are as follows:

Karen Heywood (UK) Chair  
Vicky Lyttle (Australia) Co-Chair  
Robin Muench (ex officio as previous Chair, USA)  
Hartmutt Hellmer (ex officio as previous Co-Chair, Germany)  
Alexander Klepikov (Russia)  
Shuki Ushio (Japan)  
Russell Frew (New Zealand)  
Zhanhai Zhang (China)  
Andrea Bergamasco (Italy)  
Mauricio Mata (Brazil)  
Mike Schroeder (Germany)  
Timo Vihma (Finland)

The iAnZone website, open to all, is available at <http://www.ldeo.columbia.edu/res/fac/physocean/ianzone/> and is used for exchange information regarding projects and opportunities in the Antarctic Zone. We are very grateful to Bruce Huber (LDEO) for maintaining the website on our behalf. He also maintains an iAnZone mailing list ([ianzone@ldeo.columbia.edu](mailto:ianzone@ldeo.columbia.edu)) to which anyone may subscribe, that greatly facilitates rapid exchange of information and project planning.