

Southern African Data Centre
for Oceanography
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South Africa

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SADCO is sponsored by ...

- Department of Environmental Affairs & Tourism
- SA Navy
- CSIR
- SAEON
- Namibian Ministry for Fisheries & Marine Resources



New chairperson of SADCO Steering Committee

At the meeting of the SADCO Steering Committee in May 2009, Roy van Ballegooyen was elected as Chairperson, succeeding Raymond Roman (UCT). SADCO has been fortunate in the choice of Chairpersons over the years: each incumbent carried the torch for good oceanographic data management, and helped to guide SADCO's thoughts on the issue. SADCO welcomes the appointment of Roy as chairperson.

We are also grateful to Raymond for his service as chairperson for the past years. We hope that the interaction will

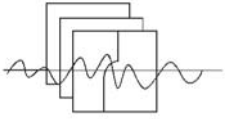
continue and expand as he builds his oceanographic career!

For interest: The Steering Committee is made up of representatives of the 5 sponsoring organisations, participating organisations, a person from the maritime industry and anybody else co-opted to represent specific sectors/programmes in the marine domain. It has also been suggested that members invite a secundus from their organisation to attend, to introduce such people into the data management and also ensure continuity in the attendance. The following people have been members of the Steering Committee during 2008/9:



Roy van Ballegooyen

MCM	Mr J Khanyile, Mr M Gulekana
SAEON	Dr J Hermes, Dr W Goschen, Mrs P Price, Mr K Naicker, Mr S Mashigo
CSIR	Mr R Van Ballegooyen
SADCO/CSIR	Dr M Gründlingh, Ms U von St Ange
UCT	Dr R Roman, Prof J Lutjeharms
SA Navy	Capt A Kampfer, Cdr T van Niekerk
IMT	Mr C Wainman, Ms S Gildenhuis
NATMIRC, Namibia	Ms A Van der Plas, Mr C Bartholomae
Benguela Current Commission	Mr Z Hutu
SA Weather Service	Mr J Stander, Prof T. Dube, Ms T Gill
GOOS	Prof G Brundrit
Census of Marine Life	Prof C Griffiths
Metocean Services / Lwandle	Mr S Bilsky, Ms V Stevens,
Angola	Mr M da Silva
ODINAFRICA	Dr M Odido



AfrOBIS: SAIAB fish data reloaded

It was reported previously that the fish data from SAIAB (South African Institute for Aquatic Biodiversity) had been loaded, even though it had not been finally checked by the data provider.

This data has now been reloaded, and we appreciate that SAIAB has made the upgraded data set available.

The attached Figures provide some insight into the geographic distribution of a subset of the data around Southern Africa (Fig. 1) as well as the metadata (Fig. 2) accompanying the data set.

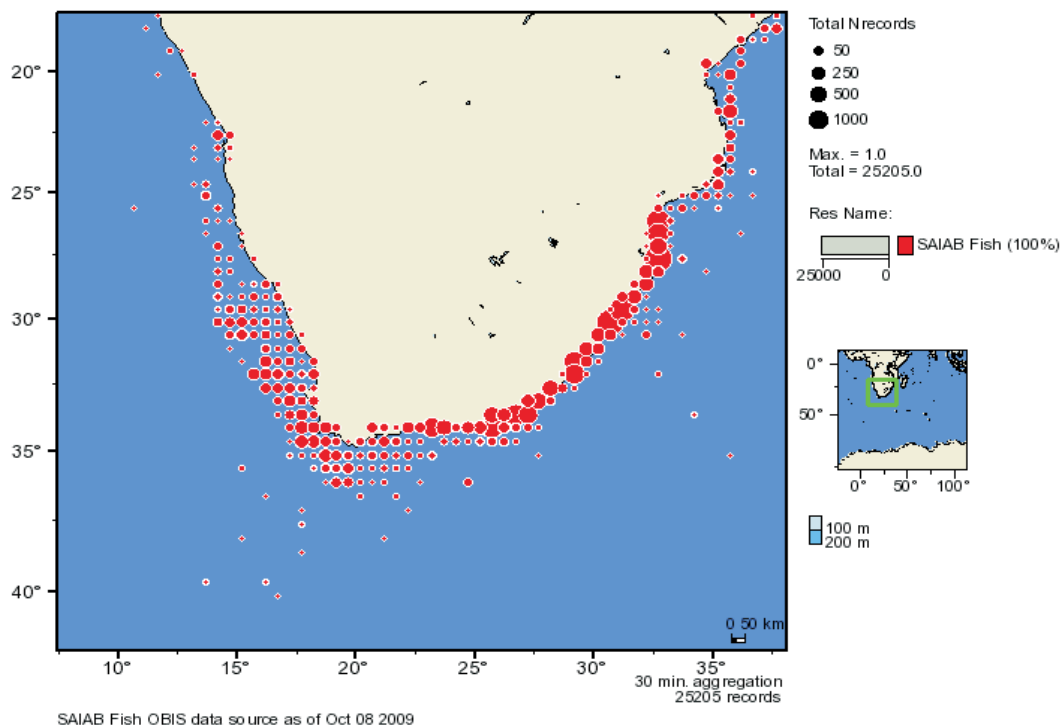


Fig. 1 Density of SAIAB marine fish data around southern Africa. The plot is produced on line from the OBIS site (afrobis.csir.co.za) and has very good zooming, aggregating and other options (if more data sets are plotted on the same chart the small dots will be seen to be pie charts!). The quality of the plot is such that it can be used in publications.

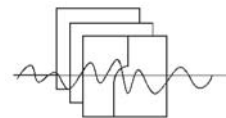
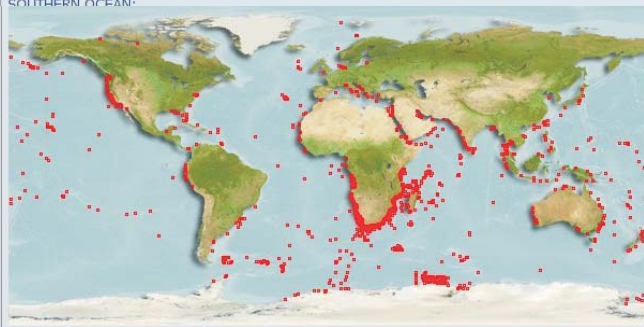
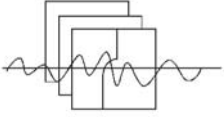


Fig. 2 Metadata table accompanying the data set provided by SAIAB. It includes a distribution chart of all the data.

		How to cite OBIS data
		Notes to users
		From Global Change Master Directory , last updated on 2009-09-09 ;
		* from Ocean Biogeographic Information System, last modified on 2009-10-13 .
1	Data Source Name	South African Institute for Aquatic Biodiversity - Fish Collection
2	Citation	South African Institute for Aquatic Biodiversity, South Africa <i>Fish Collection</i> . AfrOBIS, South Africa, Grahamstown, South Africa. Retrieved from http://www.jobis.org
3	Taxonomic coverage*	Animals/Invertebrates: Cephalochordata; Animals/Vertebrates: Agnatha, Chondrichthyes, Osteichthyes; More detail
4	Geographic Coverage*	Latitude: 77.98° S to 79.12° N; Longitude: 178.75° W to 179.37° E Latitude Resolution : 100 m Longitude Resolution : 100 m Horizontal Resolution Range : 30 meters - < 100 meters AFRICA: SOUTHERN AFRICA; SOUTH AFRICA; ATLANTIC OCEAN: NORTH ATLANTIC OCEAN: CARIBBEAN SEA; GULF OF MEXICO; MEDITERRANEAN SEA; SOUTH ATLANTIC OCEAN: PACIFIC OCEAN: NORTH PACIFIC OCEAN: BERING SEA; EASTERN PACIFIC OCEAN: WESTERN PACIFIC OCEAN: SOUTH CHINA SEA; INDIAN OCEAN: ARABIAN SEA; PERSIAN GULF; RED SEA; ARCTIC OCEAN: ANTARCTICA: POLAR; SOUTHERN OCEAN:
		
5	Temporal coverage*	1888/01/01 to 2009/06/04
7	Total Distribution Records*	44343
8	Total Number of Taxa*	4434
9	Collection Method	VISUAL OBSERVATIONS
10	Data Source	SHIPS
11	Abstract	The South African Institute for Aquatic Biodiversity (SAIAB) is a National Research Facility of the National Research Foundation (NRF). It was formerly known as the JLB Smith Institute of Ichthyology, the Scientific 'home' of the Coelacanth. Their National Fish Collection is the largest collection of southern African fish anywhere in the world. It is the largest fish collection in Africa and the second largest in the southern hemisphere, and is included in FISHBASE. It currently contains 42582 records of 319 families. This dataset has been updated in August 2009.
12	References	NA
13	Scientific Contact	ALAN WHITFIELD Email : A.Whitfield@saiab.ac.za
14	Technical Contact	WILLEM COETZER Email : W.Coetzer@saiab.ac.za URSULA VON ST ANGE Email : uvstanqe@csir.co.za
15	Website	GET DATA : OBIS Advanced Search Result 1888-2009 Total records: 41987 GET DATA : OBIS ACON MAP 1888-2009; Total records: 41987 VIEW PROJECT HOME PAGE : Sub-Saharan African OBIS (AfrOBIS) VIEW PROJECT HOME PAGE : South African Institute for Aquatic Biodiversity, South Africa
16	Use Constraints	Acknowledge the use of specific records from contributing databases in the form appearing in the 'Citation' field thereof (if any); and acknowledge the use of the OBIS facility. For information purposes, email to obissupport@marine.rutgers.edu the full citation of any publication made (printed or electronic) that cites OBIS or any constituent part. Recognize the limitations of data in OBIS.
		About this page



Nutrients in bays and bights

Two of the last oceanographic cruises executed by the RV Meiring Naudé (see Fig. 3) before she was sold by the CSIR, was to the Natal Bight and to False Bay. Both cruises produced benchmark data in terms of quality and spatial coverage.

Natal Bight

The physical (CTD) collected during the 80-station Natal Bight Cruise was delivered to SADCO and loaded many years ago. The track chart indicates the resolution of the hydrographic stations (see Fig. 4). It can be seen on the SADCO inventory (<http://sadcoinv.csir.co.za/sadco1/SadInvNew>, survey 1993/0014).

Interest has recently been expressed to model the dynamics of the shelf waters of the Bight, and use nutrient data to obtain insight into the nutrient fluxes and balances. The Natal Bight cruise would be a key source for such data.

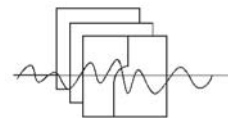
The CTD and nutrient data from the cruise was analysed and published (Lutjeharms, JRE, HR Valentine and RC van Ballegooyen, 2000, The hydrography and water masses of the Natal Bight, South Africa. *Continental Shelf Research* 20, 1907-1939).

Upon trying to extract the data SADCO discovered that the nutrients had never been delivered for loading! The reason for this can probably be traced to the separate roads that physical and nutrient data travel (processed by different groups) and while the physical data has a strong element of automation during the processing, the nutrient data needs more human intervention and checking. In the end, only the CTD data was delivered.

The nutrient data was scouted and located (Roy van Ballegooyen) in the oceanographic data store at UCT, and has now been loaded.

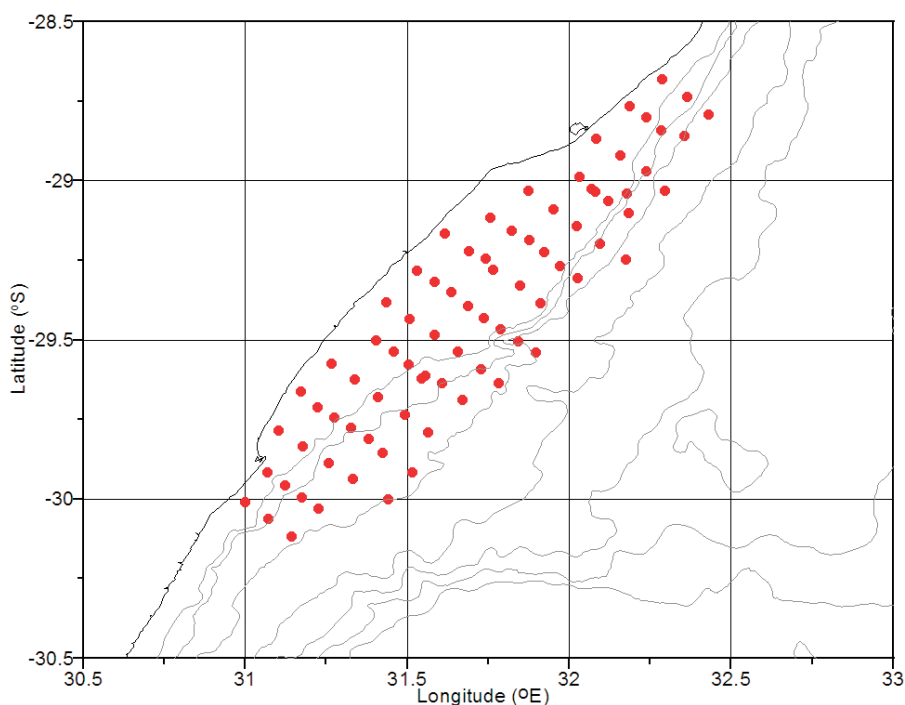


Fig. 3 CSIR's RV *Meiring Naudé* in Durban Bay



Nutrients in bays and bights

Fig. 4 Station distribution of the cruise of the *Meiring Naudé* in the KZN Bight in 1989.



False Bay

The cruise to False Bay was meant to provide a high-resolution oceanographic coverage of the Bay, with a full suite of parameters and a total of 141 stations were executed. It is recalled that there were veld fires raging along the coast at Rooi Els at the time, creating a vivid backdrop at night to the oceanographic data being collected.

The track chart of stations is indicated in Fig. 5. The physical data has been published (Gründlingh, M L, 1992, Quasi-synoptic survey of the thermo-haline properties of False Bay. *S A Journal of Science*, **88**, 325-334) as has the nutrient data (Taljaard, S, 1991, The origin and distribution of dissolved nutrients in False bay. *Transactions of the Royal Society of South Africa*, **47**, 483-493).

The nutrient data (same as the Natal Bight cruise) had never been delivered to SADC. It has now been located and loaded.

Both data sets represent valuable additions to SADC's data holdings.

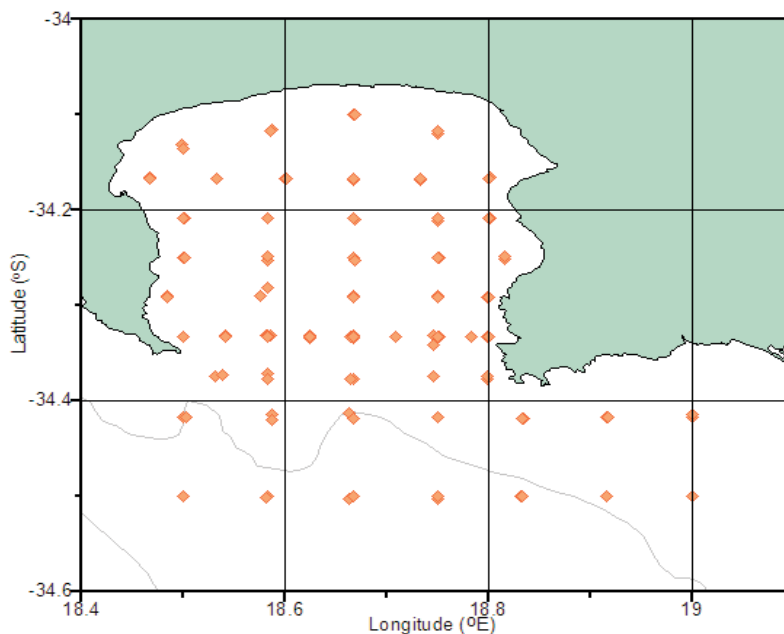
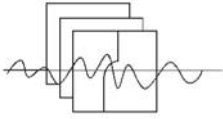


Fig. 5 Distribution of 141 stations of the *Meiring Naudé* in False Bay, 1989.

Note that the station grid was covered twice.



The repatriation of the Melville data, 2003

The CTD data collected on the *Melville* by Dr Lisa Beal (then of Scripps, presently of RSMAS) in 2003 represents a special case to demonstrate the challenges of repatriating data.

The cruise was conducted off the east coast of South African (see track chart in Fig. 6, see also <http://www.rsmas.miami.edu/personal/lbeal/current.html>), and therefore required the necessary permission from South African authorities (which was granted).

The granted permission required that a copy of the data be lodged with South Africa (which was done). The delivery was done via the US Embassy in Pretoria who transferred the data to the Department of Foreign Affairs.

This is where all further trace of the data is lost.

A copy was re-requested from Dr Beal, who kindly obliged. Upon delivery to SADC0 the data was reformatted and loaded.

This is not the first time that data has been “lost”. In fact, there has not been a single instance where delivered data eventually found its way to SADC0. It has either been sent to someplace else, or somewhere in the country there is a huge amount of valuable oceanographic data piling up.

This should be an issue of concern, not only for the scientific community, but also the fact that an internationally-recognised system of conducting oceanographic research and repatriating the data is not working. Not only is this creating a bad impression with our overseas colleagues who come into our waters, but all the energy to put the data set together and get it transmitted to South Africa, has been wasted. In addition, a fair degree of embarrassment is required to ask for the data again.

Some clarity and revision of this process is obviously called for.

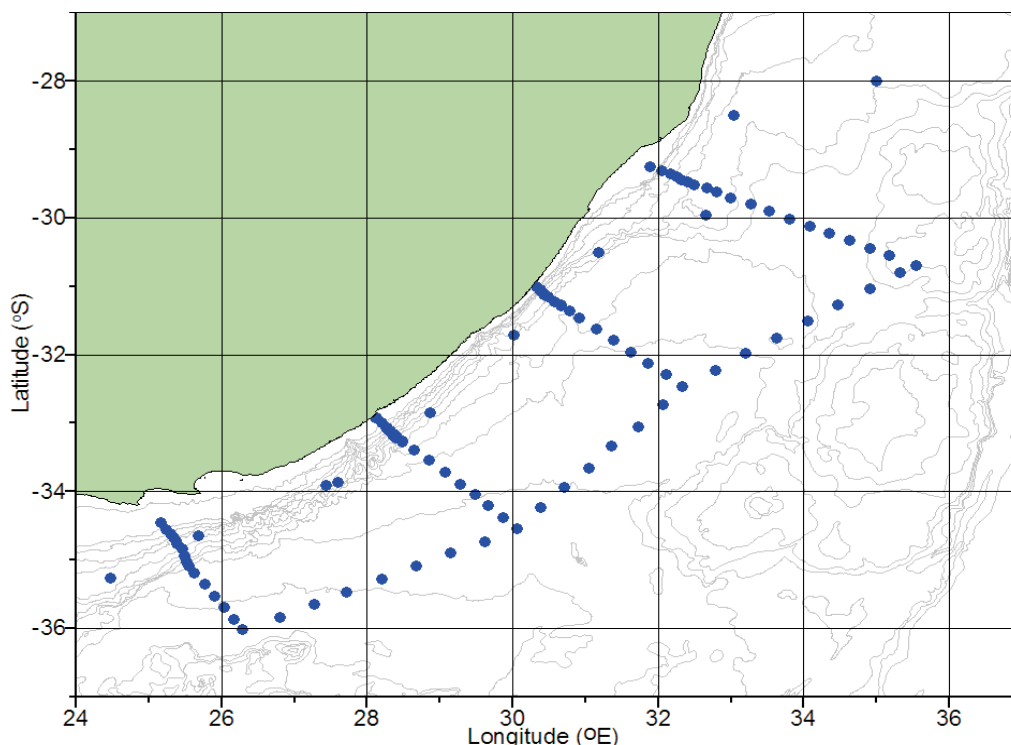
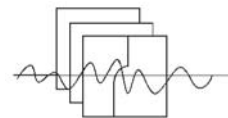


Fig. 6 Track chart of the *Melville* cruise off the South African southeast coast in 2003.



SADCO loads turbidity and fluorescence data

In a recent transfer of data provided by Marine and Coastal Management (MCM), SADCO loaded its first batch of fluorescence data (*Louise Watt* handled the loading).

The data loading encompassed a batch of 41 cruises executed between November 2002 and February 2008. This data, along with measurements of turbidity, was collected by sensors attached to the CTDs deployed from the *Africana* and the *Ellen Khuzwayo*. An example of the track chart of a Spawner Biomass cruise of the *Africana* (AFRI86) in October/November 2003 is shown in Figure 7.

Because of the scarcity of fluorescence and turbidity data in SADCO there is presently little baseline information against which such incoming data can be assessed, and, for the time being, these profiles will be flagged as a whole. However, we are confident that, as the data set grows, insight into the data quality will grow and that routine QC algorithms will be developed and applied.

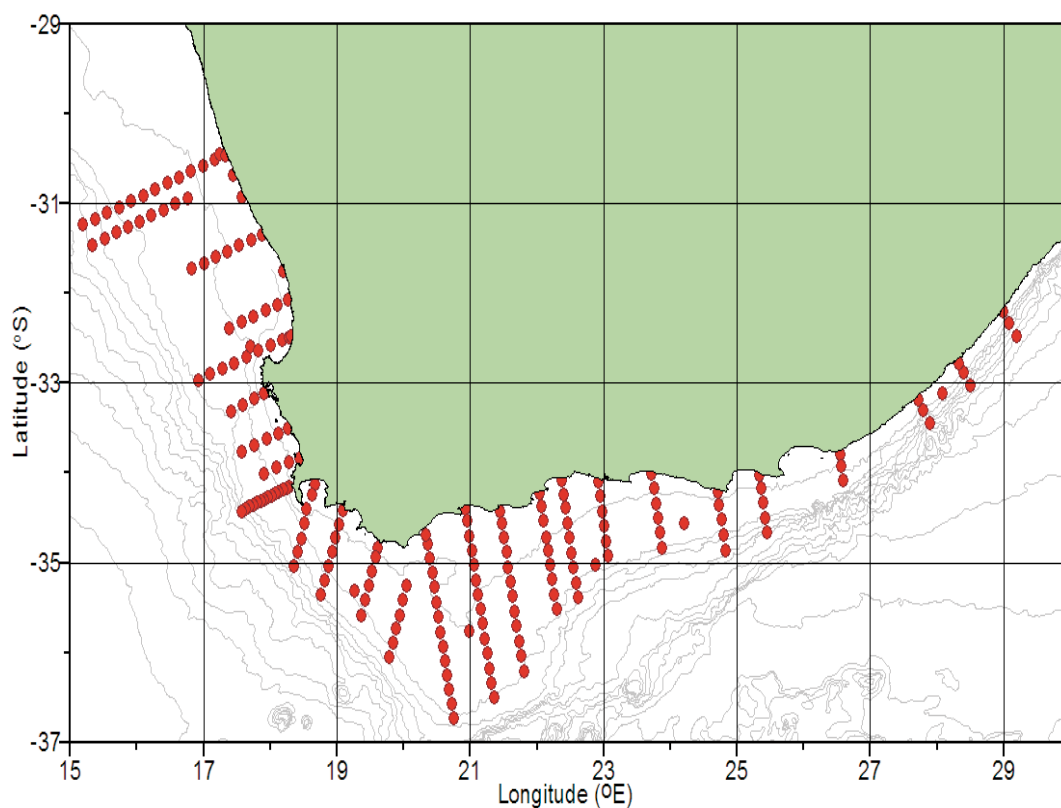
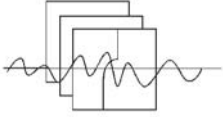


Fig. 7 Location of the 200 stations conducted by the *Africana* (October/November 2003) during which fluorescence and turbidity data was collected.



Highlights from the SADCO Annual Report, 2008/9

- SADCO's 5-year Strategy Plan was accepted by the Steering Committee in May 2008. Some modules of the implementation plan have been initiated (e.g. web site upgrade).
- **SADCO's web site was redesigned, and the content updated and expanded. This includes additional functionality for Inventory searches. The Inventory is undergoing further updating and modification over the next months.**
- A large amount of CTD data was provided by MCM, and this will be placed on the load list for next year.
- **About 250 000 VOS-like records from the CLIWOC project were loaded. This extends the VOS data set, previously going back to 1850, to 1750 with isolated records to 1660.**
- A first-level system for assessing the quality of time series data (currents, thermistors, waves) has been designed and applied to incoming data.
- The quality of phosphate data collected by the CSIR and stored in SADCO has been assessed and a number of new nutrient data sets identified and loaded.
- **Data from a large number of current meter moorings of the Alfred Wegener Institute and of SAPPI-SAICCOR was loaded.**
- **Wave buoy data from 3 stations has been loaded until 1990.**
- **Weather data submitted by the South African Weather Service at coastal ports has been updated until 2007.**
- **Moored ADCP data from MCM, as well as thermistor string and UTR data (Mike Roberts, MCM), has been loaded.**
- ARGO float delayed-mode (= checked) data has been readied for loading (about 22 000 profiles), largely replacing existing real-time profiles.
- **CTD data from NATMIRC was received and loaded.**
- The regular VOS updating has been done to March 2009.