

SOUTH AFRICA ANNEX II. METADATA

2.4 Freshwater resources and drainage, including estuaries

Data type	Category	Format	Metadata record	Description
River inflow data http://www.dwaf.gov.za/	Physical data	TXT	Flow records of the river catchments in South Africa. http://www.saeon-ocean.co.za/geonet/work/srv/en/main.home?uuid=dd1cbaf4-cfa2-4bed-90c4-d9c4544f1719	DWA is the custodian of all the river inflow data in South Africa. Unfortunately less than 10% of the catchments are gauged near the head of an estuary.
River water quality data http://www.dwaf.gov.za/	Physical data	TXT	Water Quality records of the river in South Africa (data from stations closest to the head of estuaries are typically used to determine quality of freshwater inflows). http://www.saeon-ocean.co.za/geonet/work/srv/en/main.home?uuid=06c85584-344b-47fc-ba49-613b3bd70af7	DWA is the custodian of all the river quality data in South Africa. Unfortunately less than 10% of the catchments are monitored near the head of an estuary.
Water level data http://www.dwaf.gov.za/	Physical data	TXT	Continuous water level data http://www.saeon-ocean.co.za/geonet/work/srv/en/main.home?uuid=9e131d45-0df3-47ca-bfa2-1ecf9b7c41ae	DWA is the custodian. Less than 10% of the estuaries have a water Level recorder in them.
KZN Mouth Observations	Physical data	Excel	Weekly Mouth Observation data (> 10 years) http://www.saeon-ocean.co.za/geonet/work/srv/en/main.home?uuid=4881b	KZN Wildlife is the custodian. Weekly observations on estuary mouth state.

			edf-7f0e-45e4-8bff-466e19a369a5	
Topographical and Bathymetric data on Cape Estuaries - Warm and cool temperate systems	Physical data	Microsoft Access database	43 Estuaries (29 in ACLME) http://www.saeon-ocean.co.za/geonetwork/srv/en/main.home?uuid=1022b423-ce2e-41fa-8065-7f5cc7562b92	CSIR is the custodian. Collected for DEAT.
Harrison Fish Database	Fish data	Excel	232 Estuaries (186 in ACLME) http://www.saeon-ocean.co.za/geonetwork/srv/en/main.home?uuid=c13f38da-ce9d-4a40-9e42-f0ed9cbf441f	CSIR/SAIAB is the custodian. Collected for DEAT
Coordinated Waterbird Counts (CWAC)	Bird data	Electronic database	24 Estuaries (14 in ACLME) http://www.saeon-ocean.co.za/geonetwork/?uuid=3da8aa1a-03cd-4e2e-9ef3-9914fb00ad01	The objective is to monitor waterbird populations and the conditions of the wetlands. Since 1992 observations were made at regular six-monthly intervals.
Estuaries of KwaZulu Natal	Description of systems, some physical and species data		74 KZN estuaries http://www.saeon-ocean.co.za/geonetwork/srv/en/main.home?uuid=ba7d6934-ac7d-4821-9d27-f6f280750b3e	KZN Wildlife is the custodian of data base.
National Spatial Biodiversity Assessment: Estuaries http://bgis.sanbi.org/	Limited Spatial data	GIS data	280 estuaries (243 in ACLME) http://www.saeon-ocean.co.za/geonetwork/srv/en/main.home?uuid=9c691b65-994c-4f50-8aaa-12464c044e27	SANBI is the custodian of data base (SANBI 2004). To be updated in 2010.
Botanical Importance Rating Index	Vegetation	Microsoft Access database	Mostly warm and cool temperate systems	The Botanical Importance Rating Index for South

			http://www.saeon-ocean.co.za/geonetwork/srv/en/main.home?uuid=91a1fc21-74ec-438d-aa7e-8ab9df377c72	Africa's estuaries assigns values on the basis of percentage area cover, condition (degree of impact), functional importance and plant community richness (Coetzee <i>et al.</i> 1997; Colloty 1999; Colloty, Adams & Bate 1998).
Fish Importance Rating	Species presence	Hard copy catalogs	http://www.saeon-ocean.co.za/geonetwork/srv/en/main.home?uuid=e1cd3593-818a-4573-a274-dab0459cc554	Maree, Whitfield & Quinn (2003) developed a Fish Importance Rating for SA estuaries constructed from 7 weighted measures that are considered to reflect the importance of estuaries to estuarine-associated fish.
South African Estuarine Information Systems (SAEIS)	Document repository system		~280 estuaries (243 in ACLME) http://www.saeon-ocean.co.za/geonetwork/srv/en/main.home?uuid=64ba75dc-c996-4c12-a4b6-83f2f3d5a469	SAEON is the custodian of the data base. Phase II will also host data.
Biodiversity Importance Rating database *	Species data for all SA estuaries (vegetation, invertebrates, fish, birds)	Excel spreadsheet	~150 estuaries http://www.saeon-ocean.co.za/geonetwork/srv/en/main.home?uuid=57c5c557-e596-4c65-9487-44afbb263dd8	Owned by Jane Turpie. Data collated for DWA, WRC and CAPE.

*Data not freely available

2.5.1 Currents

A substantial amount of oceanographic data and information is available at the South African Data Centre of Oceanography (<http://sadco.csir.co.za>)

Data type	Theme	Format	Metadata record	Description
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Satellite data		netCDF,ascii, xcel	1981-Present http://www.saeonoocean.co.za/geonetnetwork/srv/en/main.home?uuid=17549a75-36d5-4902-89c1-8bbbc125c16	Modis, AVHRR, etc
Mooring data		Ascii, excel,	2005-present http://www.saeonoocean.co.za/geonetnetwork/srv/en/main.home?uuid=96a6f4c6-7f4e-4884-8e0c-b88f8e4320c0	
Cruises		Xcel, ascii, csv	1920-present http://www.saeonoocean.co.za/geonetnetwork/srv/en/main.home?uuid=8596192c-1907-4f21-a3a3-2de470676ec2	
Drifter data	Argo floats data	netCDF, tar	2001-present http://www.saeonoocean.co.za/geonetnetwork/srv/en/main.home?uuid=103717a5-91f2-4466-b0c4-d8bb2cdd1f96	
Drifter data	Surface drifter		http://www.saeonoocean.co.za/geonetnetwork/srv/en/main.home?uuid=cb1548a8-2dd3-4cc2-b91f-04e3479f3338	
Hydrological	T, S	Xcel, ascii, csv	1920-present http://www.saeonoocean.co.za/geonetnetwork/srv/en/main.home?uuid=06dca20b-9627-4dfb-b337-f57f0e138ad9	
Hydrological	UTR	Xcel, ascii, csv	1990-present http://www.saeonoocean.co.za/geonetnetwork/srv/en/main.home?uuid=2e7c5e71-2839-4d3b-b526-648d4d4d7ff0	
Current	Current meters, ADCPs and Thermistor strings	Xcel, ascii, csv	1971-Present http://www.saeonoocean.co.za/geonetnetwork/srv/en/main.home?uuid=e4550682-b033-4fa5-a3fe-7ea4b347b117	

2.5.2 Tides and extreme water levels

Data type	Category	Format	Metadata record	Description
SANaval Hydrographic Office	Sea level Tides	Electronic database on the web and in archives	Sea level observations at hourly intervals Tidal predictions at hourly intervals http://www.saeonoocean.co.za/geonetnetwork/srv/en/main.home?uuid=2438699b-ffac-478e-83a9-1dd51306769d	Database covers South African coastline at major

				harbours
Tsunami Early Warning System	Sea level	World Wide Web	Observations at ten minute intervals http://www.saeonocan.co.za/geonetwork/srv/en/main.home?uuid=89c6c02a-c862-4057-882a-de8bd3930ab7	Server covers Indian, Southern and South Atlantic Oceans
Wavenet	Offshore wind and waves	Archive and World wide web	Observations at half hourly intervals http://www.saeonocan.co.za/geonetwork/srv/en/main.home?uuid=481e502e-bddf-4f5e-88c4-a14214f0bc35	Database covers the South African coast
African Marine Atlas	Various categories	World Wide Web	Oceanographic, atmospheric, biological, geo-political and human socio-economic maps, images, data and information http://www.saeonocan.co.za/geonetwork/srv/en/main.home?uuid=6b34d08a-f4f0-4ca6-9470-71d9b3ccb5ac	Coastal countries of Africa

2.5.3 Sea level change

Data type	Category	Format	Metadata record	Description
SANaval Hydrographic Office	Sea level	Electronic database on the web and in archives	Sea level observations at hourly intervals http://www.saeonocan.co.za/geonetwork/srv/en/main.home?uuid=2438699b-ffac-478e-83a9-1dd51306769d	Database covers South African coastline at major harbours
African Marine Atlas	Various categories	World Wide Web	Oceanographic, atmospheric, biological, geo-political and human socio-economic maps, images, data and information http://www.saeonocan.co.za/geonetwork/srv/en/main.home?uuid=6b34d08a-f4f0-4ca6-9470-71d9b3ccb5ac	Coastal countries of Africa

2.5.4 Ocean temperature

DATA TYPE	Theme	Format	Metadata record	Description
Satellite	5-40°S, 5-40°E	650x650 byte arrays	Jan 1987- Jun 06 http://www.saeonocan.co.za/geonetwork/srv/en/main.home?uuid=48c8f166-f3a4-4649-bac5-c8fdd78dd1c9	Meteosat Sea surface temperature as 5-day and monthly averages

Satellite	global	8192x4096 unsigned integer arrays	Jan 85 - Apr 09 http://www.saeo.nocean.co.za/geonetwork/srv/en/main.home?uuiid=48c8f166-f3a4-4649-bac5-c8fdd78dd1c9	AVHRR Sea surface temperature as daily and monthly averages
Satellite	0-40°S, 2°W-29°E	775x1000 byte arrays	Jan 82- Dec 99 http://www.saeo.nocean.co.za/geonetwork/srv/en/main.home?uuiid=48c8f166-f3a4-4649-bac5-c8fdd78dd1c9	AVHRR Sea surface temperature images as weekly and monthly averages
UTR	Ystervarkpunt (west of Mossel Bay)	Excel spreadsheet	Nov 95-Mar 06 http://www.saeo.nocean.co.za/geonetwork/srv/en/main.home?uuiid=a18d269b-9170-4851-9d5f-f98372267010	Hourly near-surface temperature
UTR	Mossel Bay	Excel spreadsheet	Jul 91-Mar 06 http://www.saeo.nocean.co.za/geonetwork/srv/en/main.home?uuiid=a18d269b-9170-4851-9d5f-f98372267010	Hourly near-surface temperature
UTR	Plettenberg Bay	Excel spreadsheet	Jul 91-Mar 06 http://www.saeo.nocean.co.za/geonetwork/srv/en/main.home?uuiid=a18d269b-9170-4851-9d5f-f98372267010	Hourly near-surface temperature
UTR	Knysna	Excel spreadsheet	Jan 90-Mar 06 http://www.saeo.nocean.co.za/geonetwork/srv/en/main.home?uuiid=a18d269b-9170-4851-9d5f-f98372267010	Hourly near-surface temperature
UTR	Tsitsikamma	Excel spreadsheet	Jul 91-Mar 06 http://www.saeo.nocean.co.za/geonetwork/srv/en/main.home?uuiid=a18d269b-9170-4851-9d5f-f98372267010	Hourly near-surface temperature

			onetwork/srv/en/main.home?uuid=a18d269b-9170-4851-9d5f-f98372267010	
UTR	Mostert's Hoek (Cape St Francis)	Excel spreadsheet	Jan 92-Mar 06 http://www.saeo.nocean.co.za/geonetwork/srv/en/main.home?uuid=a18d269b-9170-4851-9d5f-f98372267010	Hourly near-surface temperature
UTR	Mangold's pool (Port Elizabeth)	Excel spreadsheet	Jan 92-Mar 06 http://www.saeo.nocean.co.za/geonetwork/srv/en/main.home?uuid=a18d269b-9170-4851-9d5f-f98372267010	Hourly near-surface temperature
UTR	Port Alfred	Excel spreadsheet	Nov 95-Mar 06 http://www.saeo.nocean.co.za/geonetwork/srv/en/main.home?uuid=a18d269b-9170-4851-9d5f-f98372267010	Hourly near-surface temperature
UTR	Aliwal Shoal (Durban)	Excel spreadsheet	Nov 01-Mar 06 http://www.saeo.nocean.co.za/geonetwork/srv/en/main.home?uuid=a18d269b-9170-4851-9d5f-f98372267010	Hourly near-surface temperature
UTR	Sodwana Bay	Excel spreadsheet	Mar 94-Mar 06 http://www.saeo.nocean.co.za/geonetwork/srv/en/main.home?uuid=a18d269b-9170-4851-9d5f-f98372267010	Hourly near-surface temperature
CTD	Research cruises on SA shelf	MCM Oceanographic Database	1985 - 2009 two or more cruises per year http://www.saeo.nocean.co.za/geonetwork/srv/en	In situ temperature profiles

			/main.home?uuid=8596192c-1907-4f21-a3a3-2de470676ec2	
CTD	Research cruises	SADCO	~ 30 years http://www.saeonocan.co.za/geonetwork/srv/en/main.home?uuid=8596192c-1907-4f21-a3a3-2de470676ec2	In situ temperature profiles

2.5.5 Salinity patterns

Data type	Theme	Format	Metadata record	Description
CTD	Research cruises on SA shelf	MCM Oceanographic Database	1985 - 2009 two or more cruises per year http://www.saeonocan.co.za/geonetwork/srv/en/main.home?uuid=8596192c-1907-4f21-a3a3-2de470676ec2	In situ salinity profiles
CTD	Research cruises	SADCO	~ 30 years http://www.saeonocan.co.za/geonetwork/srv/en/main.home?uuid=8596192c-1907-4f21-a3a3-2de470676ec2	In situ salinity profiles

2.5.6 Ocean-Atmosphere Interactions

Data type	Category	Format	Metadata record	Description
NCEP re-analysis	winds	Electronic database on the web and in archives	Daily wind regime 1979-2007 http://www.saeonocan.co.za/geonetwork/srv/en/main.home?uuid=9c13668e-0f9a-4265-9ae2-d0258430334b	Database covers ocean areas around South Africa
Coastal automatic weather stations	Winds	MCM database	Hourly measurements over extended period 1960-present http://www.saeonocan.co.za/geonetwork/srv/en/main.home?uuid=2cc3d0be-4150-46c2-a25b-37730f7122bb	South African coast
Satellite remote sensing	Sea surface temperature, Sea surface height and colour	World wide web Marine Remote Sensing Unit	Daily http://www.saeonocan.co.za/geonetwork/srv/en/main.home?uuid=f1ef43d7-aecc-4d00-9bb1-0e6dac8e8848	Ocean areas around South Africa
Observation	Sea surface	MCM data	Physical, and biogeochemical	Ocean areas

s from ship's cruises	temperature, nutrients and oxygen	base and SADCO	measurements http://www.saeonocan.co.za/geonetwork/srv/en/main.home?uuid=8596192c-1907-4f21-a3a3-2de470676ec2	around South Africa
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2.6.1 Nutrients

Nutrient samples are collected, frozen and taken to the laboratories of MCM, where they are analyzed on the 'Astoria' AutoAnalyser. Samples were collected to a depth of 200m only.

Storage of Data:

- Raw data – Archiving, Chemistry Section, MCM
- In-house Data Base – Oceanographic Data Base (ODB)
- National Data Base – South African Data Centre for Oceanography (SADCO)

Metadata

record:

<http://www.saeonocan.co.za/geonetwork/srv/en/main.home?uuid=8596192c-1907-4f21-a3a3-2de470676ec2>

Nutrient data is available from 1925 to July 2009 (only phosphates up to 1969).

2.6.2 Persistent organic and inorganic pollutants

Data from many coastal pollution surveys performed prior to the early 1990s are stored by the South African Data Centre for Oceanography (SADCO). Most of the data collected since the early 1990s are not stored in a central facility and are only accessible from survey reports. Data collected annually during surveys of ports and near deepwater marine outfalls are held by the commissioning organisations. <http://www.saeonocan.co.za/geonetwork/srv/en/main.home?uuid=10082911-66d2-42af-8990-ab076df22cb8>

2.6.4 Secondary production

Data Type	Category	Sampling Method	Description of Survey	Date	Geographic Range	Platform	Record
Ship-based sample collection	Settled volume, species composition	N70V (0-1500 m), N100H (0-5m), N100B (0-250m), continuous near-surface (4m) pump sampler	IIOE - International Indian Ocean Expedition	Jun/Jul 1961 (IIOE extended from 1959 to 1965)	South-West Indian Ocean: ~30-40°E, 20-38°S	RS Africana II	DI FI M
Ship-based sample collection	Settled volume, species composition	Continuous near-surface (4m) pump sampler (200 µm)	Return Voyage from IIOE cruise	July 1961	Cape Town to Durban	RS Africana II	DI FI M
Ship-based sample collection	Settled volume, species distribution	Continuous near-surface (4m) pump sampler (200 µm)	Various "deep-sea" cruises	1961-1968	10°W-60°E; 23-48°S	RS Africana II	DI FI M

Ship-based sample collection	Abundance & species composition	Oblique & horizontal N100/70, 230 µm mesh; vertical WP-2, 200 µm mesh	"Bathy" Cruises	Plankton collected on ~16 cruises between Nov 1972 and Mar 1976, out of 49 Bathy cruises between Oct 1968 and Mar 1976.	8 transects from PE to Moç. border (27-36°S; 25-35°E). Note that Carter (1977) looked at data from the St Lucia transect only.	RV Meiring Naudé	N Se Br M pl
Ship-based sample collection	Displacement volume, abundance & species composition	Vertical WP-2 tow (57 cm diam; 200 µm mesh) from 200-0m.	"Interface" Cruises	Plankton collected on 5 out of 10 cruises between Oct 1972 and Mar 1974	Transect off Durban	RV Meiring Naudé	N
Ship-based sample collection	Displacement volume, abundance & species composition	Vertical WP-2 tow (57 cm diam; 200 µm mesh) from 200-0m.	"Timevar" cruise	1 cruise in Apr 1973	Transect off Durban	RV Meiring Naudé	N
Ship-based sample collection	Displacement volume, abundance & species composition	Vertical WP-2 tow (57 cm diam; 200 µm mesh) from 200-0m.	"PortEd" Cruises	9 cruises from Apr 1974 to Feb 1975	Transect off Port Edward	RV Meiring Naudé	N
Ship-based sample collection	Species composition	WP-2 (200 µm), EES 52 (300 µm), N100H (940 µm)	SCUM - South Coast Upwelling Monitoring surveys	Monthly from Jan-Dec 1975	Cape Point to Danger Point	RS Benguela	SF
Ship-based sample collection	Abundance & species composition	Oblique bongo (300 & 500 µm) in upper 100m.	CELP - Cape Egg and Larva Programme	Monthly from Aug 1977 - Aug 1978	West Coast & western Agulhas Bank (~31°S to 22°E)	RS Africana	SF
Ship-based sample collection	Biomass & distribution	Various, including RMT (200 µm), vertical bongo (200 µm), Pump (200 µm)	Anchovy Spawner surveys	Nov 1983-1986	South Coast (18-27°E)	RS Africana	SF
Ship-based sample collection	Abundance, biomass, species composition, 2° production	Vertical Bongo, 200 µm mesh, upper 200m	Summer pelagic spawner biomass surveys (including MBML - Mossel Bay Monitoring Line)	Annual surveys, Oct-Dec, 1988+	Hondeklipbaai to PE	RS Africana, RS Algoa	M
Ship-based sample collection	Abundance, biomass, species composition, 2° production	Vertical Bongo, 200 µm mesh; some cruises <i>ad hoc</i> RMT (200 µm), upper 200m	Winter pelagic recruit biomass surveys	Annual surveys, May/June, 1988+	Orange River to Cape Agulhas	RS Africana, RS Algoa	M
Ship-based sample collection	Abundance & distribution of squid paralarvae and hake larvae, and stable	Oblique bongo (300 µm) - dusk & dawn hauls in upper 200m	Demersal surveys	Biannual surveys (autumn/winter & spring), 1985+	South Coast	RS Africana	M

	isotopes of zooplankton						
Ship-based sample collection	Abundance & species composition	Oblique bongo (500 µm) in upper 80m	East Coast Ichthyoplankton Surveys	3 cruises: May/Jun 1990, Oct 1990, Feb 1991	Algoa Bay (34°S) to Tugela (29°S)	RS Sardinops	M
Ship-based sample collection	Abundance, calculated biomass, species composition, 2° production	Vertical Bongo, 200 µm mesh, upper 200m	SARP 1 & 2: Sardine and Anchovy Recruitment Project	Monthly during spring/summer in 1993/1994 and 1994/1995	Olifants River (WC) to Cape Agulhas	RS Africana, RS Algoa	M
Ship-based sample collection	Abundance, species composition	RMT (200 µm), vertical bongo (200 µm)	ABBP - Agulhas Bank Boundary Processes Cruise	Jan 1992	Shelf-edge from Cape Point to Port St Johns	RS Africana	M
Ship-based sample collection	Abundance, biomass, species composition, grazing, DVM	RMT (200 µm), vertical bongo (200 µm)	Agulhas Ridge Cruise	Mar 1994	Cool ridge on Agulhas Bank	RS Algoa	M
Ship-based sample collection	Abundance, species composition	RMT (200 µm)	Agulhas Eddy - Shelf Interactions	Dec 1996	western Agulhas Bank	RS Africana	M
Ship-based sample collection	abundance, species ID (genetics), distribution	Multinet (405 µm)	Hake Eggs & Larvae surveys	Oct 2005; Jan, Apr, Sep 2007, Sep 2008	West Coast & western Agulhas Bank (31-36°S)	RV Dr Fridtjof Nansen, RV Ellen Khuzwayo	M (N) U (G)
Ship-based sample collection	Abundance, species composition, isotopes (not all samples analysed)	ALG 112 & 119: V Bongo (300 & 500 µm); ALG 122: V Bongo (500µm); ALG 130: V Bongo (200 µm) & O Bongo (300 & 500 µm); ALG 134, 135, 139, 147 & 150: V Bongo (200 µm); ALG 160: V Bongo (200 µm), WP-2 (100 µm), V MultiNet (200 µm), O Bongo (300 & 500 µm).	ACEP 1: African Coelacanth Ecosystem Project (2002-2007)	ALG 112 (Jul/Aug 2002); ALG 119 (Apr/May 2003); ALG 122 (Jul/Aug 2003); ALG 130 (Aug/Sep 2004); ALG 134 (Apr 2005); ALG 135 (May 2005); ALG 139 (Sep 2005); ALG 147 (Apr/May 2006); ALG 150 (Aug/Sep 2006); ALG 160 (Sep/Oct 2007).	PE northwards, including Transkei Coast, KZN Bight, Delagoa Bight (transboundary RSA-Moz). Additional data from coasts of Moçambique, Tanzania (incl Pemba & Zanzibar), Comoros, Madagascar, and in the Moçambique Channel.	RS Algoa	M R
Ship-based sample collection	Abundance, biomass (Cruise 4), species composition	Cruise 1 & 2: V/O Bongo (300 & 500 µm); Oblique MultiNet (180 µm); Cruise 3: Bongo (180 & 375 µm), Oblique MultiNet (180 µm);	ASCLME/EAF Nansen 2008	23 Aug - 17 Dec 2008	Cruise 1: E Madagascar; Cruise 2: Mauritius; Cruise 3: Mascarene Plateau; Cruise 4: Moçambique Channel	RV Dr Fridtjof Nansen	AS

		Cruise 4: Oblique bongo (300 & 500 µm), WP-2 (100 µm), Oblique MultiNet (180 µm)					
Ship-based sample collection	Abundance, species composition	Cruise 1: Oblique MultiNet (180 µm)	ASCLME/EAF Nansen 2009	Aug-Oct 2009	Cruise 1: N Moçambique; Cruise 2: W Madagascar; Cruise 3: Comoros gyre	RV Dr Fridtjof Nansen	AS
Ship-based sample collection	Abundance, biomass, species composition, grazing, DVM	Vertical Bongo, 200 µm mesh; Oblique Bongo, 500 µm mesh; Oblique MultiNet, 200 µm mesh	ACEP 2: African Coelacanth Ecosystem Project (2008-2011)	Aug/Sep 2009 and Jan/Feb 2010	KwaZulu-Natal Bight	RS Algoa	M U
Ship-based sample collection	Abundance, species composition	Oblique Bongo, 100 µm mesh; vertical ring net haul, 80 µm	ACEP 2: African Coelacanth Ecosystem Project (2008-2011)	Sep/Oct 2009 and Feb/Mar 2010	Agulhas shelf (2009 - PE to Moç. border; 2010 - Cape Town to PE)	RS Algoa	U M
Ship-based sample collection	Species composition, abundance indices, distribution	CPR - Continuous Plankton Recorder	Proof of Concept CPR Survey	Oct/Nov 2005	Cape Frio (Namibia) to East London	MV Tugela	M SA
Ship-based sample collection	Displacement volume	Juday nets, 500 µm mesh, upper 100m	Joint NORAD/Moçambique/FAO Project to Investigate the Fish Resources off the Coast of Moçambique	4 cruises: Aug-Oct 1977, Oct-Dec 1977, Jan-Mar 1978, Apr-Jun 1978	Entire Moçambique coast	RV Dr Fridtjof Nansen	IN N

2.8 Marine and estuarine meiofauna

Data type	Category	Format	Metadata record	Description
NeMys: generic online species information system for nematodes and turbularians *	Species systematics, presence, ecology, geographical location	Electronic data base	Data set containing 3055 species of Nematoda, 3843 literature references. 336 taxa of Turbellaria and many other meiofaunal taxa. http://www.saeonoocean.co.za/geonet/work/srv/en/main.home?uuid=46abe172-a620-492c-84bb-1e4ddba1c153	Comprehensive online database on nematodes and mysidacea based on the data sets housed at the University of Ghent, Belgium.
Institutional data	Species systematics, presence, ecology, geographical location	Hard copy catalogs	1600 literature references and 2861 morphological and/or geographical records. http://www.saeonoocean.co.za/geonet/work/srv/en/main.home?uuid=b31f8752-0ab5-4a88-943b-8dc0ef1fbf85	Likely the most comprehensive database on nematodes and meiofauna housed at the University of Ghent, Belgium.
Institutional data	Species systematics, presence, ecology, geographical location	Hard copy catalogs	Many slides and literature references. http://www.saeonoocean.co.za/geonet/work/srv/en/main.home?uuid=5c11c70e-d6ec-4529-8bf7-7f0af8a2bfbc	One of the most comprehensive databases on nematodes housed at the British Natural History Museum.

(* Deprez *et al.* 2005)

2.9.1 Invertebrates

Data type	Category	Format	Metadata record	Description
AfrObis: an open access electronic data base	Species presence	Electronic data base	3.2 million records of more than 23 000 species http://www.saeonoocean.co.za/geonetnetwork/srv/en/main.home?uuid=ba623a30-669b-4475-9266-6694c10b97b9	This data base covers the southern African region and includes records other than invertebrates

Institutional data	Species presence	Hard copy catalogs	129 000 records from the mid 1800's to present http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=26bb36c1-b447-464d-a0eb-4736c91614e2	Marine invertebrate collections housed at Iziko Museums, Cape Town. Records from the southern African region but focused on South Africa.
Institutional data	Species presence	Hard copy catalogs	63 000 records http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=490464e8-84c8-43f6-b634-05e6812feff8	A collection of molluscs housed at the Natal Museum. Records from the southern African region but focused on South Africa.

Note: The above data refer to the whole South African coast.

2.9.2 Fish and fish resources

A comprehensive meta-data and gap analysis has been completed by SWIOFP for all fisheries. The meta-data database should be accessed for details and is provided electronically.

<http://wiofish.bluebox.co.za/custom.php?mode=ori/data&action=databseopts>

2.9.3 Mammals

Data type	Theme	Format	Metadata record	Description
Humpback photo identification	Mark/recapture, distribution and size of population	Electronic	MCM http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=accaac3a-5140-4884-94ff-1eff58b298ce	Catalogue
Southern right whale photographs	Population dynamics	Electronic	MRI, UP http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=886d75d9-2fce-4f7a-9f02-2f93c26ab49b	Photographs
Seal breeding	Coastline	Electronic	MCM; MCM island visit cards http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=17377867-8e94-4cd4-892a-7a146d51f2a9	Photographs, pup numbers
Seal diet	Seals breeding localities	Electronic	MCM diet database http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=a71aa5dc-1525-4a93-9904-ada45f6cb5de	Record of stomach and scat contents

2.9.5 Birds

Data type	Theme	Format	Metadata record	Description
Bird presence	Coastline, expanding to at sea observations	Electronic	Animal Demography Unit (UCT) Bird Atlas programme http://www.saeonocoean.co.za/geonet/work/srv/en/main.home?uuid=ca11a753-754e-4726-8829-177575eeb645	Species present in grid blocks, date
Bird banding	Capture/mark/recapture	Electronic	SAFRING database, Animal Demography Unit (UCT) http://www.saeonocoean.co.za/geonet/work/srv/en/main.home?uuid=d8182252-3edd-4420-a9df-29dab93f654d	Species, individual band number, date deployed, date re-sighted/recovered
Bird breeding	Coastline	Cards	Animal Demography Unit (UCT) nest record cards; MCM island visit cards http://www.saeonocoean.co.za/geonet/work/srv/en/main.home?uuid=fc3a9084-6096-4658-82c1-0669344945ee	Species, date, breeding record
Seabird diet	Seabird breeding localities	Electronic	MCM Seabird diet database http://www.saeonocoean.co.za/geonet/work/srv/en/main.home?uuid=eb01c7d8-4e12-4f74-bfcd-58682fa3e18b	Seabird species, locality, date, prey species in diet sample

2.9.6 Exotic and Invasive Species

No collections or databases specifically focused on marine alien species exist in South Africa. However, a number of species have only recently been recognised as introduced (Mead *et al.* in press) and are included in the AfrObis database and collections housed at the Iziko Museums Cape Town.

Metadata record: <http://www.saeonocoean.co.za/geonetwork/srv/en/main.home?uuid=ba623a30-669b-4475-9266-6694c10b97b9>

2.10 Long term predicted changes

The following are the leading categories of data. There is a plethora of additional data held within institutions, project databases, etc.

Data type	Category	Format	Metadata record	Description
Historical station data	Weather observations	Mixed, mostly electronic.	Variable http://www.saeonocoean.co.za/geonetwork/srv/en/mai	Mostly data collected by national meteorological services. Some still in paper archive, and much

			n.home?uuid=11213d76-6fbd-4d39-a61e-c1b92d76f827	not easily available and subject to restrictions.
GHCN global station data	Weather observations	Electronic	Quality controlled station data each of variable duration, quality controlled. http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=ba3a2a5e-9b89-4606-9824-f6a508c4d28f	Data from the global repository of contributions from each nation
Satellite data / blended observations	Weather observations	Electronic	Variable http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=51e541be-f912-4ac3-8e85-31b06755291a	Data derived from satellites and, in some cases, blended with station observations to create gridded data sets
Global reanalysis data	Weather observations	Electronic	Available from ~mid 20 th century, most robust in the southern hemisphere post 1979. Global, gridded, multi-level. http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=308b423a-764c-4a9d-ad3d-dfe4cf66ce2e	GCM output that assimilated observations to provide a best estimate of the global weather. Two dominant reanalyses, the NCEP/NCAR reanalysis, and the ERA 40 / ERA-interim reanalysis
Global Climate Model output	Simulations of past and future weather	Electronic	Variable, most spanning mid-1900s to 2100, on coarse resolution grid (~2° resolution) http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=0e122bff-d078-4ed4-8103-d3f3c8267cec	Principally from the CMIP-3 archive as 21 GCMs used in the IPCC AR5. Much of the data is available through other e-portals, such as the IPCC-DDC
Downscaled data	Regional projections of climate	Electronic	Variable, mostly for the end of the 20 th century, mid and end 21 st century. Both gridded and point specific products available. http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=7586ef60-dbf6-4146-af9a-b0a48151994e	Different sources, usually related to downscaling undertaken in specific projects. Africa-wide products available through CSAG-UCT. Rapidly evolving situation in the coming years.

3.1 Coastal and Island Populations – Current Status and Trends

Stats SA makes a wide variety of socio-economic data and interactive products available through its website. <http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=e7cb9489-8df8-4c3c-9833-51543e6fed8f>

3.2 Sites of religious or cultural significance

The South African Heritage Resources Agency (SAHRA) maintains an inventory of heritage resources: <http://www.sahra.org.za/PHS%20and%20Register.pdf>

3.3 Human Health

Stats SA makes a wide variety of socio-economic data and interactive products available through its website. <http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=e7cb9489-8df8-4c3c-9833-51543e6fed8f>

5.5 Monitoring, Control and Surveillance

Data type	Themes	Format	Metadata record	Description
Transgression database	Data on transgressors and transgressions	Excel Access	http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=adcfc2b8-2a06-4d2e-93b8-0b4f97e7a0a6	MLRA transgressions
Exhibit database	Fish and goods	Excel	http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=681930b6-ccee-40f9-85fe-66af537db72b	Goods and fish confiscated
Monitoring database	Data on weight of fish landed by right holder	Excel	http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=1994f23d-1168-4dc2-a41e-17df7f6db992	Fish landings monitored
Inspection database	Data on number and type of inspections and patrols done	Excel	http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=5394b5d1-9cf9-47a9-a05a-7375f434ff5a	Record of patrols and inspections done
VMS database	Tracking data per vessel	ImarsatC GSM	http://www.saeonocean.co.za/geonetwork/srv/en/main.home?uuid=a57e482f-6ed6-4582-b800-6b171a973af9	Commercial vessel monitoring records

