

Summary of Field Work proposed by ICED-IPY EoIs 21/3/07

Integrating Climate and Ecosystem Dynamics in the Southern Ocean ICED-IPY

<http://www.iced.ac.uk>

Title	Contact	Fieldwork time frame	Approx Location (lat/lon)	Parameters measured	Data Availability (i.e. where data will be/is stored)	Website
ICED-IPY	Eugene Murphy, BAS, UK ejmu@bas.ac.uk Day to day contact: Rachel Cavanagh rcav@bas.ac.uk	N/A	N/A	Coordinated synthesis and analysis of data on circumpolar operation of Southern Ocean ecosystems. Fieldwork coordination. Integrated modelling of climate-ocean-ecosystem process interactions. Development of integrated ecosystem analyses and models to determine appropriate spatial and temporal scales and trophic resolutions for model development.	Data management will comply with the Natural Environment Research Council (NERC) Antarctic Environmental Data Centre (AEDC) policy and will be made available via the Global Change Master Directory (GCMD)	http://www.iced.ac.uk http://classic.ipy.org/development/eoi/proposal-details.php?id=92
Synoptic Circum-Antarctic Climate-processes and	Volker Strass AWI, Germany Email: vhstrass@awi-bremerhaven.de	Shiptime with Polarstern ANT-XXIV/2.	Scheduled with Polarstern Cruise ANT-XXIV/2 is a section that	Measurements: CTD, ADCP; pCO ₂ , oxygen, alkalinity, pH; trace metals;	The data will be made available on established databases such as PANGAEA, a	http://www.polarjahr.de/SCACE.257+M52087573ab0.0.html http://classic.ipy.org/development/eoi/details.php?id=16

Title	Contact	Fieldwork time frame	Approx Location (lat/lon)	Parameters measured	Data Availability (i.e. where data will be/is stored)	Website
Ecosystem study (SCACE)		28 Nov 07 - 4 Feb 08	runs along the Greenwich Meridian from 46°S toward the Antarctic continental coast, and two parallel sections between 60°S and 70°S along 3°E and 3°W.	zooplankton acoustics, continuous plankton recorder, various plankton nets; geochemical sediment sampling using Multicorer and Bottom Lander with in situ probes.	facility connected to the AWI.	
Atmospheric inputs of organic carbon and pollutants to the polar ocean: rates, significance and outlook (ATOS).	Carlos M Duarte and Jesús M. Arrieta IMEDEA, CSIC, Spain Email: carlosduarte@imedea.uib.es and: jesus.arrieta@uib.es	Cruise Jan-Feb 2009. Plus participation in another project with funded shiptime (ESASSI Spain - also IMEDEA project).	A triangular track between the Polar Front to the Bellinghausen Sea, from this to the Weddell Sea, tracking the edge of the sea ice, to return to the Polar Front.	Activities during the cruise will include: (1) estimates of aerosol and gaseous deposition of organic matter and pollutants, along with subsurface temperature-salinity-chlorophyll a-pCO ₂ (air and sea), meteorology and total and ultraviolet solar radiation ; (2) vertical profiles of organic matter and pollutants using a Rosette sampler	As a future component of the international OASIS programme, a component of SOLAS, the data obtained will comply to the open-access policy of IGBP and ICSU, and will be made available through the databases maintained by these programmes. In	http://www.oasishome.net/ http://classic.ipy.org/development/eoi/details.php?id=147

Title	Contact	Fieldwork time frame	Approx Location (lat/lon)	Parameters measured	Data Availability (i.e. where data will be/is stored)	Website
				system and a CTD; (3) estimates of pollutant contents in biota sampled using a Rosette sampler system, a CTD and; estimates of organic matter and pollutant loads in sea ice; (4) experimental assessments, using large on-deck incubators, of the effects of organic matter and pollutant inputs on planktonic communities.	addition, data will be made available through the data bank of projects run under the Spanish Polar Research National Programme.	
Physical and biogeochemical fluxes in the Atlantic Sector of the Southern Ocean during the IPY (Southern Ocean Atlantic Box SOSA).	Brian King SOC, UK Email: bak@noc.soton.ac.uk	12/2008-02/2009	70W to 30E, Antarctic continent to 30S. Near-synoptic cruises around a box consisting of Drake Passage, a transect across the Atlantic boundary of the SO, and the African	A comprehensive suite of physical and biogeochemical measurements, including transient tracers and elements of the carbon system. Where possible will repeat sections previously occupied non-synoptically during the 1990s as part of the World Ocean Circulation	Data will be submitted to the CLIVAR hydrographic and carbon data centre, who will in turn ensure it is archived at the appropriate World Data Centre.	http://classic.ipy.org/development/eoi/details.php?id=283

Title	Contact	Fieldwork time frame	Approx Location (lat/lon)	Parameters measured	Data Availability (i.e. where data will be/is stored)	Website
			chokepoint at 30°E. Simultaneous crossing of ACC at the African and S American chokepoints.	Experiment. Anticipate international cooperation to achieve the geochemical tracer measurement program. Where appropriate will deploy new observing techniques, such as gliders and floats, that have the capability to develop into systematic sustained observing systems. Measurements will be coordinated with other IPY efforts in the Atlantic and other sectors.		
Biogeochemistry of the Southern Ocean: interactions between nutrients, dynamics and	Marie Boye and Sabrina Speich, Technopole Brest-Iroise, France Email: Marie.Boye@univ-brest.fr	Feb-Mar 2008 and 2009	Extend the zero meridian section towards South Africa focusing on i) the African	Parameters: full depth hydrology (T, S, pressure, O2) and other parameters (fluorescence, chl-a, nutrients, DIC, TA, dissolved Ba). CTD	Two data centres will be solicited to collect and archive our data: the SISMER (Brest) for dynamics data and	http://www.univ-brest.fr/IUEM/BONUS/ http://classic.ipy.org/development/eoi/details.php?id=584

Title	Contact	Fieldwork time frame	Approx Location (lat/lon)	Parameters measured	Data Availability (i.e. where data will be/is stored)	Website
ecosystem structure (BONUS-GoodHope)	Sabrina.Speich@univ-brest.fr		continental margin for quantification of the extent to which they represent sources and sinks of TEI and ii) SAMW/AAIW subduction zone, because of their role in the transportation of nutrients to the global ocean.	parameters, biological parameters (chl-a, pigments, primary production, plankton taxonomy), macro- and micro-nutrients, tracers and isotopes, particles levels, sediments and core parameters, DIC, TA, pH, DOC/POC/PIC, process studies (Fe bioavailability, zooplankton feeding, Si regeneration, N uptake).	the JGOFS-national centre (Villefranche/mer) for biogeochemical data. A strong link with the GEOTRACES database will also be established.	
Study of Antarctic Sea Ice Ecosystems (SASIE)	Igor Melnikov, P.P.Shirshov Institute of Oceanology, Russia Email: migor@online.ru	03/2007-03/2008 Year-round ecological monitoring of the sea-ice in the coastal area of "Progress" station and seasonal monitoring	69S and 72E (Progress station near Davis - Prydz Bay)	Biological (chl a, biomass and numbers of species); Chemical (silicate and phosphate); Physical (salinity, temperature) of sea-ice on transect along 11°E from sea-ice edge to continental station "Novolazarevskaya". Satellite sounding over the biological	The data will be integrated into national and international databases under the concordance with countries and/or institutions that fulfil the analogous studies in Antarctica.	http://classic.ipy.org/development/eoi/details.php?id=818

Title	Contact	Fieldwork time frame	Approx Location (lat/lon)	Parameters measured	Data Availability (i.e. where data will be/is stored)	Website
				production within the Antarctic Sea Ice Zone (ASIZ). Shipboard observation of sea-ice algal bloom to find algorithm between satellite and field sounding. Lab observations to detect taxonomy of species developing within the ASIZ in time and space.		
A year-round study of Antarctic Sea Ice Biogeochemistry (Biogeochemistry of Antarctic Sea Ice and the Climate System BASICS)	Jean-Louis Tison, Universite Libre de Bruxelles, Belgium Email: jtison@ulb.ac.be	Winter First-year pack ice 04-06/2007 Year-round land-fast sea ice 02/2008-02/2009	A meridional transect in either the Ross Sea, the Dumont d'Urville Sea or the Weddell Sea, (depending on ships' availabilities). An Antarctic Base with wintering facilities and easy sea ice access all year	Winter First-year pack ice. Year-round land-fast sea ice. <i>Parameters measured?</i>	Data will be stored in a dedicated database, established by the consortium. Data will be made available to the scientific community after a stipulated period during which their use will be restricted to the investigators. The ASPeCt, IODE, CDIAC databases, would be adequate	http://www.utsa.edu/lrsg/Antarctica/SIMBA http://classic.ipy.org/development/eoi/details.php?id=862

Title	Contact	Fieldwork time frame	Approx Location (lat/lon)	Parameters measured	Data Availability (i.e. where data will be/is stored)	Website
			round (Dumont d'Urville, Scott Base, McMurdo, Neumayer...)		locations for general dissemination purposes.	
Southern Ocean Studies for Understanding Global Climate issues (SOS-Climate)	Carlos Garcia, Fundacao Universidade Federal do Rio Grande, Brazil Email: dfsgar@furg.br	3/2007; 11/2007-02/2008; 11/2008-02/2009	Northwestern Weddell Sea and Weddell-Scotia Confluence zone, Bransfield and Gerlache Straits, Patagonian shelf and shelfbreak zone, Brazil-Malvinas Confluence Zone. 40 S to 65 S 40 W to 70 W	The field observations will include a wide range of physical (temperature, salinity, mixed layer depth), biological-optical (pigments, phytoplankton taxonomy, surface irradiance, in-water optical properties, primary production), and chemical (atmosphere and ocean pCO ₂ , oxygen, alkalinity, atmospheric dimethyl sulfide, nutrients) parameters.	The oceanographic data collected are planned to be placed at the Brazilian National Oceanographic Data Center (BNDO) and the American National Oceanographic Data Center (NODC). The bio-optical data will be sent to the SeaWiFS Bio-optical Archive and Storage System (SeaBASS) at Goddard Space Flight Center (GSFC/NASA). These archives can be freely	http://www.goal.ocfis.furg.br http://classic.ipy.org/development/eoi/details.php?id=911

Title	Contact	Fieldwork time frame	Approx Location (lat/lon)	Parameters measured	Data Availability (i.e. where data will be/is stored)	Website
					accessed via internet. All data will be available to the community as soon as possible.	
Climate change in Antarctica: A pelagic-benthic coupling approach to the extremes of the Weddell Sea (CLIMANT)	Enrique Isla, Instituto de Ciencias del Mar CSIC, Spain Email: isla@icm.csic.es	11/2006-01/2007; 11/2007-01/2008	Western Antarctic Peninsula: 65°S, 60°W; eastern Weddell Sea: 71°S, 12°W	Will attempt to bring together several compartments of pelagic-benthic coupling by combining information from meteorology, plankton communities (e.g., composition, biomass, productivity), dissolved nutrients, settling particulate matter (e.g., plankton detritus, lithogenic debris) and the chemical and physical characteristics of the water (e.g., S‰, T°C, current velocity and direction, turbidity), and sediment columns	Data collected will be available through the project website.	http://www.goal.ocfis.furg.br http://classic.ipy.org/development/eoi/details.php?id=911

Title	Contact	Fieldwork time frame	Approx Location (lat/lon)	Parameters measured	Data Availability (i.e. where data will be/is stored)	Website
				(e.g., grain size, organic contents) and benthic fauna studies.		
<p><i>The potential decline in rates of CaCO₃ accretion and primary productivity in cold waters due to elevated CO₂ content</i></p>	<p><i>Dr John W Runcie Honorary Research Associate School of Biological Sciences University of Sydney NSW 2006 jruncie@usyd.edu.au</i></p>	<p><i>Currently seeking funding</i></p>	<p><i>Casey: 66°15'S, 110°33'E Davis: 68°30'S, 78°44'E Mawson: 67°36'S 6252'E Macquarie Island: 54°30'S, 158°57'E and Southern Ocean between these locations and Hobart. Final locations will depend on available logistics.</i></p>	<p><i>Calcification, respiration, photosynthesis and growth rates of marine macro algae and potentially micro algae; pCO₂, temp, pH, DO, salinity. In situ measurements in benthic systems are a priority; in vivo experiments may be necessary if field access is restricted.</i></p>	<p><i>Australian Antarctic Data Center</i></p>	<p><i>http://classic.ipy.org/development/eoi/details.php?id=406</i></p>