

CARBON UNDERWAY MEASUREMENTS: SOUTHERN OCEAN

International Ocean Carbon Coordination Project (www.ioccp.org)

Last updated: November 2007.

Track/Ship name	Dates of operation	Area	Brief description (ship track)	Frequency	PI	Nation
Southern Ocean						
Palmer	2000-	Pacific / Southern Ocean	Various	Random	T. Takahashi	USA
l'Astrolabe	2002-	Southern	Hobart – Terre Adelie (Antarctica.)	3/austral summer	B. Tilbrook (joint project with C; Goyet)	Australia/ France
Aurora Australis	2006-	Southern	Hobart -Mawson Base/ Hobart - Casey Base	4/year	B. Tilbrook	Australia
Polarstern	2007-	both polar oceans and Atlantic transects to/from Antarctic	autonomous pCO ₂ system (General Oceanics) should already have been completed and delivered. For installation and continuous operation at Polarstern.	Annual	M. Hoppema collaborative effort with Royal NIOZ	Germany/ Netherlands
JARE by Icebreaker Shirase	On going	Southern	Fremantle – Syowa Stn. (Lützow-Holm Bay, Antarctica) Syowa Stn. – Sydney	Annual Dec. *Feb-Mar	G. Hashida S. Nakaoka	Japan
Xuelong	Nov-Mar	Southern	Leaving from Shanghai, pass northern and southern Pacific, investigate in Prydz Bay and tracks between Zhongshan St (East Antarctica) and Changcheng St (Antarctic Peninsular).	Yearly except for modification year.	L. Chen,	China
RRS James Clark Ross	2006-2009	Southern	Variable but mainly Falklands-South Georgia-Signy-Rothera	Variable	N. Hardman-Mountford	UK
RV Umitaka Maru	Dec 2007- Feb 2008	Southern	Cape Town – Fremantle - Hobart (Off of Lützow-Holm Bay, 110°E, 140°E)		G. Hashida S. Nakaoka	Japan

RV Hakuho Maru	Feb 2008	Southern	Port Elizabeth – Fremantle (near Kerguelene, Off of Lützow-Holm Bay)		H. Y. Inoue	Japan
SA Agulhas lines	Dec 2007-	Atlantic / Southern	Cape Town – Neumayer (SANAE): Southwards: early Dec, return Feb with additional sampling between Neumayer and S.Sandwich Is. Cape Town – Marion Is.: southwards march, return April, including an extended southward leg to 55 S Cape Town – Gough Is.: Southwards in Sept, return October, additional leg to 55 S.	Dec, Feb, March, Apr, Sept, Oct (repeated annually)	P. Monteiro	South Africa
IRIZAR Project	2007-	Atlantic	Buenos Aires - Antarctica	2-4 times per year	C. Goyet (joint project with Argentina)	France
Drake Passage Time series/ LM Gould	2005-	Atlantic	Ponte Arenas - Palmer	20/year	T. Takahashi C. Sweeney	USA
Marion Dufresne / OISO	1998-	S Indian/ Southern Ocean	Reunion - Crozet - Kerguelen - Amsterdam Is	2/year	N. Metzl	France
RV Tangaora	2009 -	Pacific, Southern	SW Pacific, mainly New Zealand EEZ	Continuous	K. Currie	New Zealand