



Annual General Meeting 2014

Tony Worby
CEO



An Australian Government Initiative



ANTARCTIC CLIMATE & ECOSYSTEMS
COOPERATIVE RESEARCH CENTRE

www.acecrc.org.au

National Level

- Funding for ACE confirmed: \$25M over 5 years to June 2019
- Antarctic Gateway funding: \$24M over 3 years to June 2017
- 20 year strategic review of Australia's Antarctic program
 - Long-term plan to underpin Australia's leadership in Antarctic science
- Senate Inquiries
 - Australia's future responsibilities in the Southern Ocean and Antarctica
 - Australia's Innovation System
- CRC Programme Review underway
- Infrastructure
 - New waterfront building
 - Funding committed for a new ice breaker
 - Arrival of RV Investigator
 - IMOS



National Level

Not all the news has been positive

- Sustained funding cuts to our core partners
 - Job losses
 - Cuts to marine science capability
 - Reduction in number of science projects supported in Antarctica
- Deregulation of the higher education sector
 - Challenge for smaller, regional universities
- 180 days of operating time for RV Investigator (not 300)
- Lack of a Science Minister
 - The Dept. of Industry is becoming increasingly 'industry' focused

International Level

- Interest in Antarctica is strong and increasing
 - New stations, ships, infrastructure
- Growing influence of new states in Antarctic Treaty System
- Growing interest in Tasmania as a Gateway
- Global movement on emissions reduction

Strong partnerships for ACE

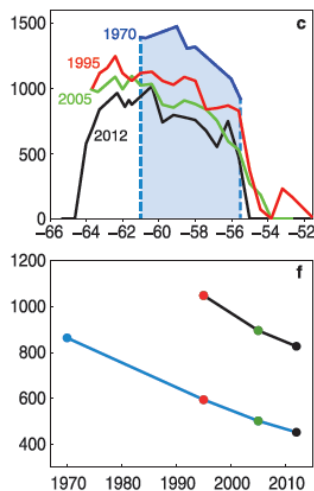
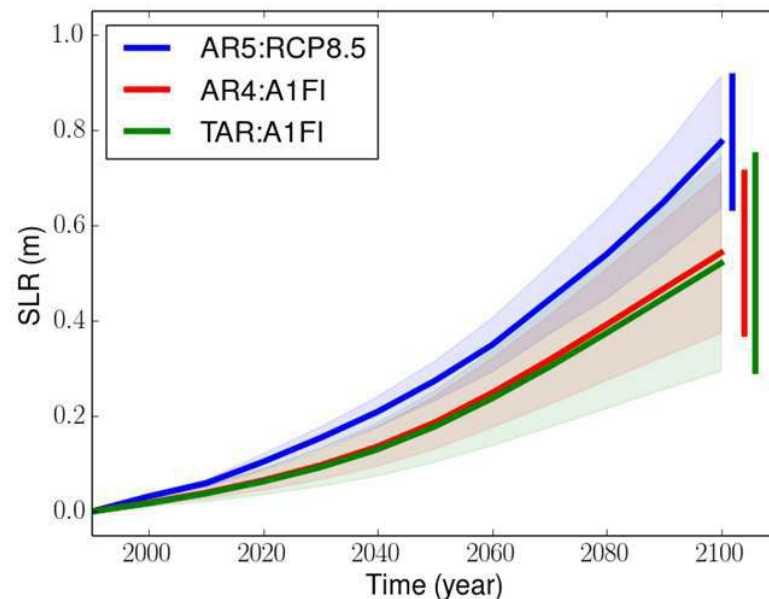
- 2 core and 10 other international partners
- 57 international collaborative projects



Photo: Christopher Michael

IPCC Fifth Assessment Report

- 18 ACE CRC staff involved
- AR5 predicts higher SLR, with more confidence than AR4
- Sea level rise calculator: *CANUTE*
 - Over 400 registered, active users
- Some of the largest uncertainties to resolve are in Antarctica



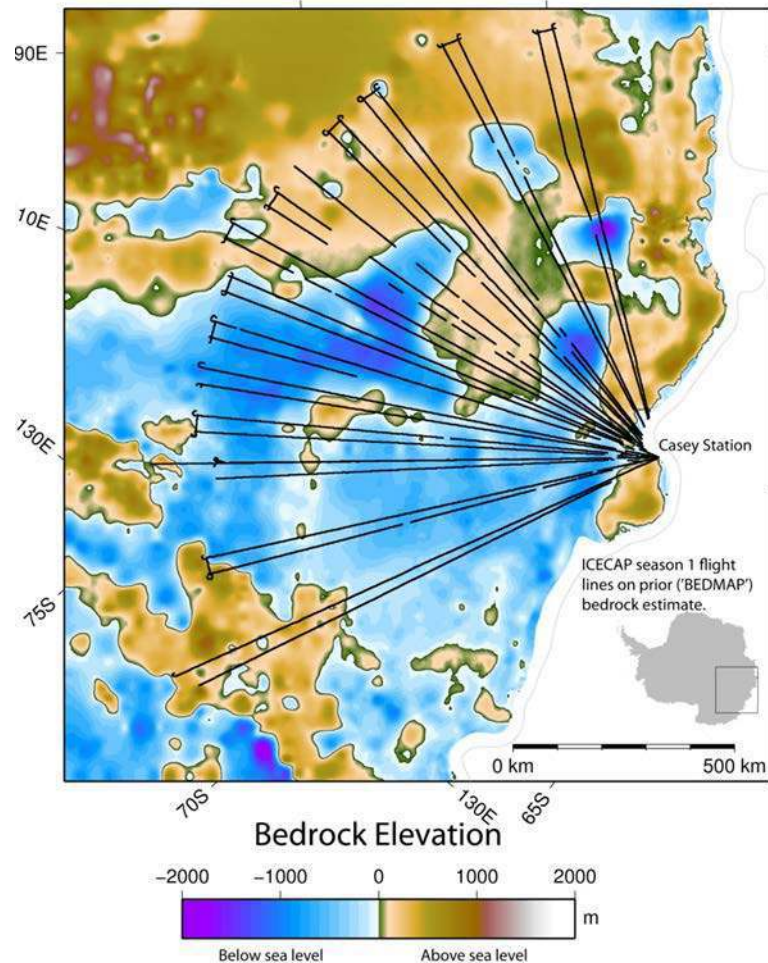
ACE research continued to show the freshening and warming of the Southern Ocean, and contraction of the layer of Antarctic Bottom Water

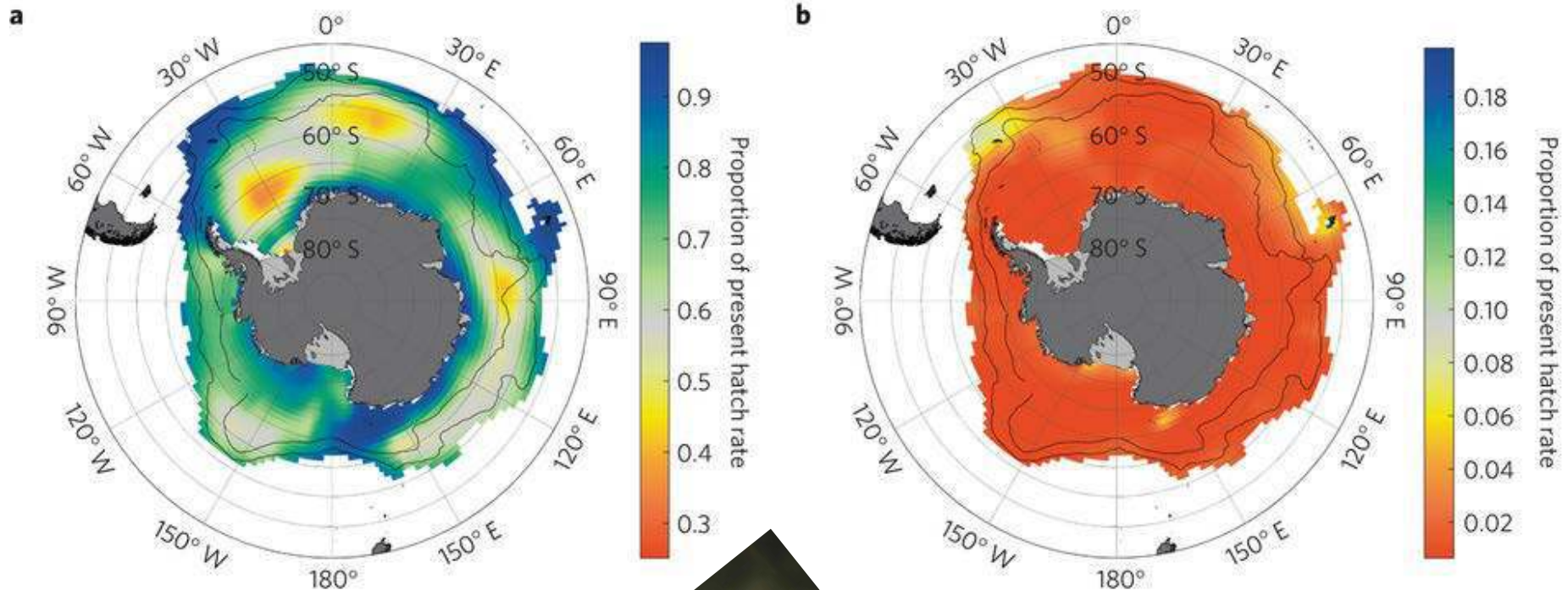
van Wijk and Rintoul, 2014

ICECAP

- Airborne geophysical survey
- Joint with Univ. Texas, USA
- Provide knowledge of bedrock topography
- Much of the East Antarctic bedrock is below sea level

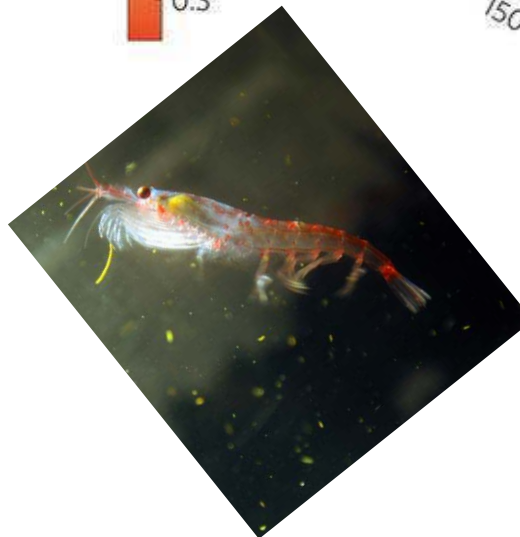
ACE is collaborating with international efforts in model development. ACE contributions include improved treatment of basal conditions under ice shelves and the ice sheet.



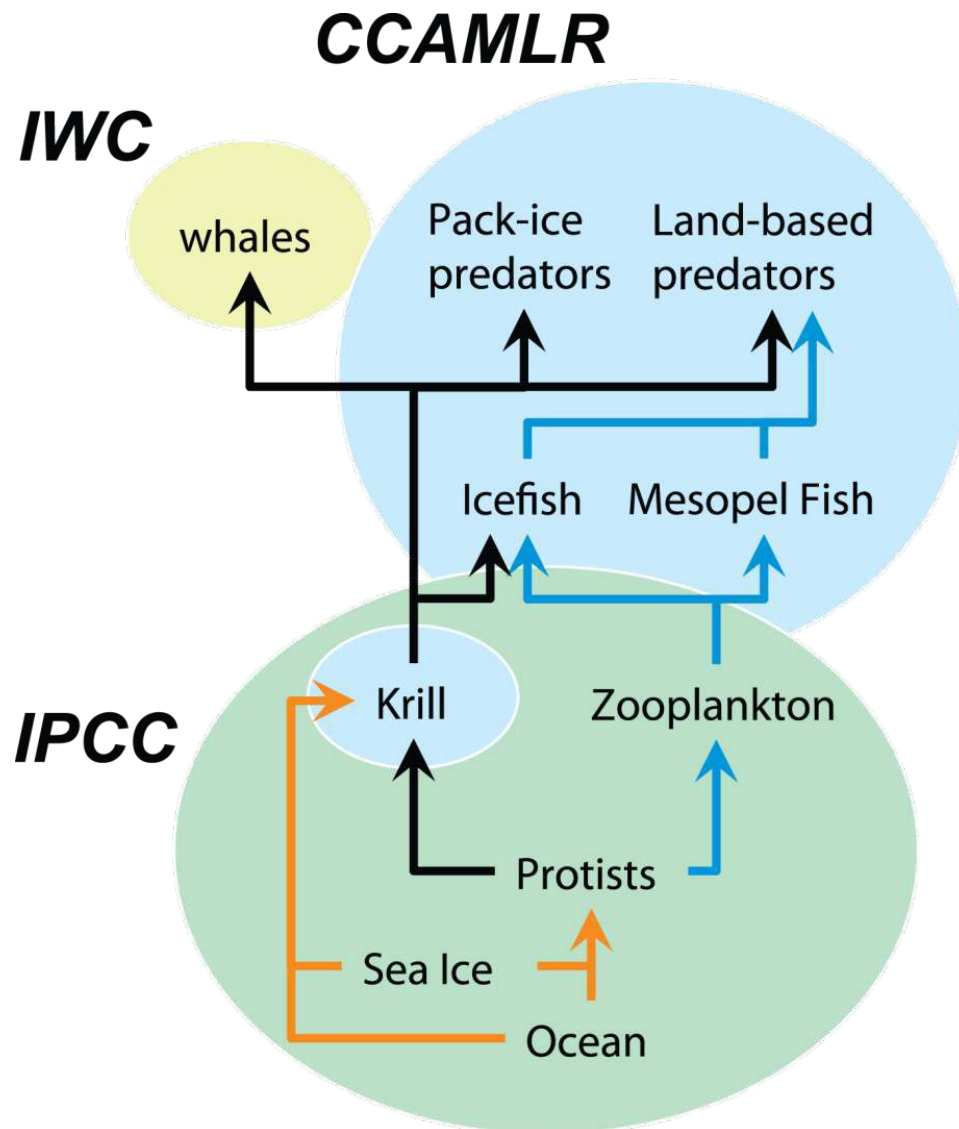


RCP8.5* emission scenario
(a) 2100 and (b) 2300

*high emission, no specific mitigation target



Kawaguchi et al.,
Nature Climate Change, 2013



- **Canute**
 - Over 400 active users
 - City of Melbourne changed land use and development regulation and risk management strategies
- **CCAMLR**
 - ACE research has informed precautionary catch limits for krill
- **International Maritime Organisation**
 - International ban on marine geoengineering
- **Through Climate Futures Tas**
 - Aurora Energy identifying new areas of peak load and taking remedial action
 - Tassal is selectively breeding salmon more resilient to warmer ocean temperatures
 - Fruit Growers Tas encouraging more diverse crops requiring less 'chill hours', or relocating
- **Position Analysis**
 - In 2013/14 we published the "Sea ice" Position Analysis – 9th in the series
 - Four are currently in preparation and will be published through 2015



SMEs

Pitt & Sherry

SGS

- Ongoing engagement, especially through Canute
- Feedback
 - Hard for SMEs to access scientists
 - Difficult to commit for full term
 - Inability to influence direction

Industry

Long-term economic benefits to industry are huge

- Avoided costs of taking early action are close to \$1B in value from ACE alone
- Economic benefit to the sector in Tasmania is >\$200M (direct) and >\$600M (indirect)



Photo: Adrian Boyle

Visitors

Dr Rupert Gladstone

Marie Curie Fellow (2 years)

Coupled ice shelf-ocean modelling

Dr Liu Yaping

State Key Laboratory for Cryospheric Sciences, China (1 year)

Ice Core Analysis

Dr Ralph Greve

Visiting Scholar program, ILIS - Japan

Ice sheet modelling (3 months)

Dr Naoya Kanna

UTAS Tsunehiko Fuji Scholarship (3 months)

Dissolution of Fe in sea ice environment

Short-term visitors

- NIWA
- University of Texas
- LEGOS



Education Milestones

In 2013/14

- 50 students were doing PhDs related to ACECRC work
- 8 new students
- 4 completions
- 1 withdrawal

Of the 4 graduates

- One is a tBoM
- Two are doing Postdocs overseas
- One working outside science

MOOC

- Jess Melbourne-Thomas (AAD/ACE)
- Craig Johnson (IMAS)

IMAS

In 2013/14

- 313 students
- 40 doing Bachelor of Antarctic Science
- 38 doing Bachelor of Marine Science

ACECRC staff continue to teach into these programs and supervise PhD, Masters by coursework and Honours students



Staff

- **Ian Allison**
Order of Australia
- **Steve Rintoul**
Society of Underwater Technology Award
for Leadership in Oceanography
- **Andy Bowie**
Catia Domingues
Guy Williams
ARC Future Fellowships
- **Rob Massom**
Visiting Professor at Institute of Low
Temperature Science at Hokkaido
University, Japan

Many ACE staff continue to serve on,
and be appointed to, international
committees and panels

Students

- **David Gwyther**
Fulbright Postgraduate Scholarship
- spent 1 year at University of Texas
- **Molly Jia**
SCAR Award for best science
communication
- **Lavania Ratnarajah**
Holdsworth Research Grant



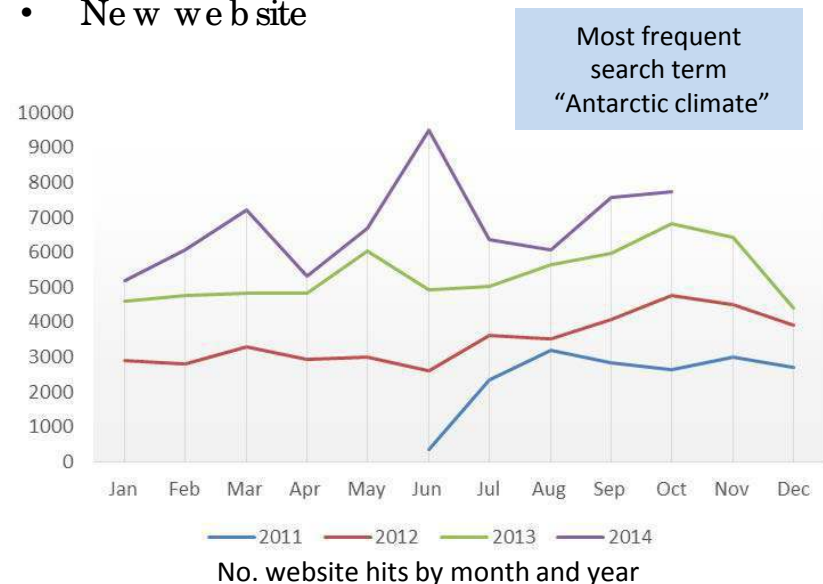
In 2013/14

- ACESymposium: Looking Back, Looking Forward – Antarctic Science for the 21st Century
- Briefings to government on IPCC AR5
- Briefings to political representatives across all levels of gov't + departments
- Media releases (18)
- Social networking (200 Twitter followers)
- Newsletters
- Staff forum
- Public lectures and school visits
- Southern Ocean Modelling workshop - hosted
- International Sea Ice Conference - hosted

New strategy – David Reilly

Specific, actionable goals in relation to:

- External Stakeholders/End users
- Partner Institutions
- Internal stakeholders
- Media
- General public
- New website



CHAIR

Katherine Woodthorpe

CEO

Tony Worby

REPRESENTATIVE MEMBERS

Tony Fleming, Paddy Nixon, **Graham Hawke**, **Ken Lee**

INDEPENDENT MEMBERS

Tony Coleman, Greg Johannes, **Two vacant**

EX OFFICIO

Nick Gales

Risk and Audit
Committee

Remuneration
and Assessment
Committee

Dep CEO

Mark Kelleher

Public Affairs Mgr

David Reilly

Admin Mgr

Wenneke ten Hout

Admin Support

Kathleen Kelly

Executive
Committee

Computing
Committee

Oceans and Cryosphere Program

Steve Rintoul and Tas van Ommen

1.1 Southern Ocean in a Changing Climate

1.2 Ocean forced evolution of the Antarctic ice
sheet

1.3 Sea ice processes and change

1.4 Antarctic Climate Variability of the past 2000
years

Carbon and Ecosystems Program

Tom Trull and Andrew Constable

2.1 Carbon uptake and chemical change

2.2 Biological responses to environmental change

2.3 Status and trends in habitats, key species and
ecosystems

These 7 projects will be led by our 'next gen' leaders

	Totals to 2013-14				Totals for 5 years			
	Actual	Agr'mt	Diff	%Diff	Actual	Agr'mt	Diff	%Diff
Employee Expenses	3,274	2,113	1,161	55	14,247	12,273	1,974	16
Supplier Expenses	2,466	576	1,890	328	7,662	5,798	1,864	32
Capital	0	0	0	0	1,347	807	540	67
Other Expenses	255	612	-357	-58	255	612	-357	-58
TOTAL EXPENSES	5,995	3,301	2,694	82	23,511	19,490	4,021	21

Key points:

- Increase in employee expenses in 2013/4 is due to the extension of 3 year contracts and was covered by cash brought forward from previous agreement, additional participant income and revenue from interest
- Increase in supplier expenses in 2013/14 is accrued expenses for logistics costs from previous year (\$1.74M)



RECRUITMENT FOR 2014-19

15 POSITIONS AVAILABLE

- Dep CEO and Public Affairs Manager – both started
- 13 academic positions – four have started
 - Welcome Kerrie Swadling, Stuart Corney, Kristen Karsh and Rowan Trebilco
 - Offers are accepted for the other 8 positions
 - One position will be re-advertised in the new year
- 6 of 12 academic recruits are women
- 4 foreign nationals (UK, Japan, Germany, Spain)
- 1 Australian returning from overseas
- 2 from interstate
- 5 locals (3 IMAS, 1 AAD, 1 ACE)



Photo: Christopher Michael



ANTARCTIC CLIMATE & ECOSYSTEMS
COOPERATIVE RESEARCH CENTRE

www.acecrc.org.au