

# Research Projects



Ongoing and new research projects using IMOS data

## Argo floats

POAMA development: improving seasonal climate forecasting for Australia , Bureau of Meteorology, Oscar Alves, Harry Hendon

Sea level rise program, Centre for Australian Weather and Climate Research , Antarctic Climate and Ecosystems Cooperative Research Centre, John Church

Climate variability and change program, Centre for Australian Weather and Climate Research , Antarctic Climate and Ecosystems Cooperative Research Centre, Steve Rintoul

BlueLink II/III - ocean forecasting for Australia: Bluelink littoral zone program, Centre for Australian Weather and Climate Research , Bureau of Meteorology, Helen Beggs, Gary Brassington, David Griffin, Peter Oke, Eric Schulz, 2003-2013, Partner Institution(s): Royal Australian Navy

BlueLink II/III - ocean forecasting for Australia: Bluelink global program, Centre for Australian Weather and Climate Research , Bureau of Meteorology, Helen Beggs, Gary Brassington, David Griffin, Peter Oke, Eric Schulz, 2003-2013

Australian climate change science program: ocean processes and change, Department of Climate Change and Energy Efficiency, Commonwealth Scientific Industrial Research Organisation, Steve Rintoul, Susan Wijffels, Bernadette Sloyan, 2003-2010

BlueLink II/III - ocean forecasting for Australia: Bluelink regional program, Centre for Australian Weather and Climate Research , Bureau of Meteorology, Helen Beggs, Gary Brassington, David Griffin, Peter Oke, Eric Schulz, 2003-2013, Partner Institution(s): Royal Australian Navy

Ocean control of carbon dioxide oceans change program, Antarctic Climate and Ecosystems Cooperative Research Centre, Tom Trull

WAMSI Node 1: Southwest Australia marine ecosystem, Commonwealth Scientific Industrial Research Organisation, University of Western Australia, John Keesing, Ming Feng, Dirk Slawinski, 2006-2011

WAMSI Node 2: Leeuwin Current dynamics and variability, Commonwealth Scientific Industrial Research Organisation, University of Western Australia, Ming Feng, Dirk Slawinski, Liejun Zhong, 2006-2011

Quantifying the role of salps in marine food webs and organic carbon export, University of New South Wales, Iain Suthers, Funding: ARC Discovery Project

Modelling of source-sink relation of western rock lobster recruitment, Fisheries Research & Development Corporation, Nick Caputi, Ming Feng, Evan Weller, 2009-2011, Partner Institution(s): Department of Fisheries, CSIRO

Coastal cold core eddies of the East Australian Current and their fisheries potential, University of New South Wales, Iain Suthers, Funding: ARC Discovery Project

Pacific climate change science program; oceans component - ocean change, variability and sea level rise, Department of Climate Change and Energy Efficiency, Commonwealth Scientific Industrial Research Organisation, Centre for Australian Weather and Climate Research , University of New South Wales, John Church, Susan Wijffels, Jaci Brown, Alexander Gupta, 2009-2012, Partner Institution(s): Pacific Island Countries

Australian climate change science program: sea level rise, Department of Climate Change and Energy Efficiency, Commonwealth Scientific Industrial Research Organisation, John Church, Susan Wijffels, 2010-2011

CO2 program, University of Tasmania, Tom Trull, Partner Institution(s): UTAS, CSIRO, AAD, Funding: ACECRC

Research program: mechanisms and attribution of past and future ocean circulation change, ARC Centre of Excellence for Climate System Science, Nathan Bindoff, Andrew Hogg, Matthew England, Dietmar Dommenget, David Karloy, Peter Strutton, Richard Matear, Anthony Hirst, Scott Power, Stephen Griffies, 2010-2017, Partner Institution(s): University of Tasmania, Australian National University, University of New South Wales, University of Melbourne, CSIRO Centre for Marine and Atmospheric Research, Geophysical Fluid Laboratory USA

Mixing parameters in the Southern Ocean determined by inverse methods, Commonwealth Scientific Industrial Research Organisation, Andrew Meijers, Trevor McDougall, Bernadette Sloyan, 2010-2012

Environmental factors affecting the low puerulus settlements, Fisheries Research & Development Corporation, Nick Caputi, Ming Feng, 2010-2013, Partner Institution(s): Dep of Fisheries, CSIRO

Southern Ocean productivity and CO2 exchange under current and future climate regimes, University of Tasmania, Peter Strutton, 2010-2014, Funding: ARC Future Fellowship

Eddies and upwelling: using satellite datasets to examine patterns in chlorophyll a adjacent to the East Australian Current, University of Technology Sydney, Jason Everett

Validating the upgrade of Bureau NWP from APS0 to APS1, Bureau of Meteorology, National Oceanography Centre, Eric Schulz, Simon Josey

eReefs, Commonwealth Scientific Industrial Research Organisation, Stuart Minchin, John Stevens, George Cresswell, 2012-2017, Partner Institution(s): CSIRO, AIMS, BoM, GBRMPA, GBR Foundation, DERM QLD

Southern Ocean circulation and water mass formation in a warming world, Antarctic Climate and Ecosystems Cooperative Research Centre, Commonwealth Scientific Industrial Research Organisation, Steve Rintoul, 2013-2018, Funding: Australian Antarctic Sciences Program, Australian Climate Change Science Program (ACCSP), ACECRC

Great Australian Bight collaborative science program, South Australian Research and Development Institute, Tim Ward, 2013-2016, Partner Institution(s): Marine Innovation South Australia (MISA), CSIRO, British Petroleum, SARDI

Observations of remarkable eastward flows in the South Indian Ocean, University of Tasmania, Nathan Bindoff, Julian McCreary, Ryo Furue, Ming Feng, Jessica Benthuisen, Catia Domingues, 2013-2016, Partner Institution(s): CSIRO, University of Hawaii, Funding: ARC Discovery Project

Climate-scale forcing of phytoplankton community structure in the south Indian Ocean, Commonwealth Scientific Industrial Research Organisation, Nick Hardman-Mountford, Richard Matear, Anthony Richardson, Ming Feng, 2013-2016, Partner Institution(s): CSIRO, Funding: CSIRO OCE Postdoctoral Fellowship

Phytoplankton variability in the Indian Ocean, Commonwealth Scientific Industrial Research Organisation, Nick Hardman-Mountford, 2014-2015, Funding: CSIRO

Australian national shelf reanalysis, Emlyn Jones, Moninya Roughan, Tim Moltmann, Andreas Schiller, Peter May, 2014-2014, Funding: Integrated Marine Observing System (IMOS)

Advancing dynamical understanding in the East Australian Current: optimising the ocean observation and prediction effort, Sydney Institute for Marine Science, Moninya Roughan, 2014-2016, Funding: ARC

CARS, synTS and SSS, Commonwealth Scientific Industrial Research Organisation, Madeleine Cahill, J Lovell, Funding: CSIRO

CSIRO OCE Postdoctoral: climate drivers of ocean change, Commonwealth Scientific Industrial Research Organisation, Damien Irving, Susan Wijffels, John Church, Nathan Bindoff, 2015-2018, Funding: CSIRO

Patterns of interaction between habitat and oceanographic variables affecting the connectivity and productivity of invertebrate fisheries, Deakin University, University of Melbourne, Latrobe University, Fisheries Victoria, Daniel Ierodiaconou, Eric Trembl, Steve Swearer, Nick Murphy, Mary Young, Adam Miller, Jan Strugnell, Harry Gorfine, Craig

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Sherman, Bridget Green, 2015-2017, Funding: Fisheries Research and Development Corporation

NESP Earth systems science hub: coastal hazards in a variable and changing climate, Commonwealth Scientific Industrial Research Organisation, Allison McInnes, Y Zhang, Mark Hemer, 2016-2019, Funding: Department of Education, Employment and Workplace Relations, CSIRO Ocean and Atmosphere Flagship

NESP Earth systems scienceHub: changing oceans and Australia's future climate, University of Tasmania, Susan Wijffels, Bernadette Sloyan, Steve Rintoul, Andrew Hogg, Nathan Bindoff, Helen Phillips, 2016-2019, Funding: Department of Education, Employment and Workplace Relations, CSIRO, University of Tasmania, Australian National University

**Research Project Count 35**

## Ships of opportunity

BlueLink II/III - ocean forecasting for Australia: Bluelink global program, Centre for Australian Weather and Climate Research, Bureau of Meteorology, Helen Beggs, Gary Brassington, David Griffin, Peter Oke, Eric Schulz, 2003-2013

WAMSI Node 2: Leeuwin Current dynamics and variability, Commonwealth Scientific Industrial Research Organisation, University of Western Australia, Ming Feng, Dirk Slawinski, Liejun Zhong, 2006-2011

GHRST tropical warm pool diurnal variability project, Centre for Australian Weather and Climate Research, Bureau of Meteorology, Helen Beggs, Leon Majewski, Pierre LeBorgne, Gary Wick, Sandra Castro, Carol Ann Clayson, Chelle Gentemann, Rachel Weihs, Peter Steinle, Paul Sandery, Vaughan Barass, Chris Tingwell, Matthew Martin, Partner Institution(s): NOAA, CSIRO, University of Colorado, Meteo-France, Met Office, Florida State University, Remote Sensing Systems, University of Edinburgh, Funding: BLUElink, Bureau of Meteorology

Plankton dynamics in Moreton Bay, University of Queensland, Griffith University, Anthony Richardson, Funding: ARC

Micronekton, Commonwealth Scientific Industrial Research Organisation, Rudy Kloser, 2009-2015, Funding: CSIRO

Coastal CO2 data from Southern Surveyor used for determining the uptake of CO2 and acidification in Australia's regional seas and the South Pacific, Commonwealth Scientific Industrial Research Organisation, Bronte Tilbrook, Mareva Kuchinke, Richard Matear, Andrew Lenton, 2009-2011, Partner Institution(s): Ausaid, DCCEE

NWP marine flux validation in the Australian region, Bureau of Meteorology, Eric Schulz, 2010-2012

Ocean carbon and acidification, Commonwealth Scientific Industrial Research Organisation, Bronte Tilbrook, 2010-2011, Partner Institution(s): DCCEE

CO2 program, University of Tasmania, Tom Trull, Partner Institution(s): UTAS, CSIRO, AAD, Funding: ACECRC

Net community production in the Australian sector of the Southern Ocean, Nicolas Cassar, 2010-2014, Partner Institution(s): CSIRO, Princeton University, Duke University

Calibration of the clumped-isotope technique in marine biogenic carbonates, and its eventual application to paleothermometry and paleo-oceanography, University of California, Aradhna Tripathi

Coral sea connections, Australian Institute of Marine Science, A McKinnon, 2011-2014, Partner Institution(s): AIMS, CSIRO, Funding: Australian Institute of Marine Science

Understanding climate drivers and predicting the future for coastal Australian ecosystems, University of Tasmania, Peter Strutton, Jayson Semmens, Caleb Gardner, Gary Griffith, 2011-2013, Partner Institution(s): UWA, JCU, Funding: ANNIMS

Southern ocean carbon cycle, Bronte Tilbrook, 2011-2012, Partner Institution(s): AAD, UTAS, Funding: Australian Antarctic Division, CSIRO

Scientific support for managing Australia's marine biodiversity - a national marine biodiversity hub, University of Tasmania, Nicholas Bax, Chris Austin, Russ Babcock, Neville Barrett, Mark Bravington, Brendan Brooke, Julian Michael Caley, Piers Dunstan, Karen Edyvane, Peter Harris, Sarah Jennings, Gary Kendrick, Tim O'Hara, Sean Pascoe, Bob Pressey, Wendy

Proctor, Tony Smith, Chris Wilcox, 2011-2015, Partner Institution(s): AIMS, CDU, CSIRO, GA, Museum Victoria, JCU, UTas, UWA, Funding: National Environmental Research Program (NERP)

A Laser Optical Plankton Counter (L-OPC) for laboratory or in situ size distributions of zooplankton: ecological dynamics of a changing East Australian Current , University of New South Wales, Iain Suthers, Anthony Richardson, M Doblin, Funding: ARC LIEF

Ocean carbon and acidification, Bronte Tilbrook, Andrew Lenton, Partner Institution(s): AIMS, UQ, USyd, UNSW, UWA, NOAA(USA) NIES(Japan), IPSL(France), Funding: Australian Climate Change Science Program (ACCSP), CSIRO

Surface Ocean CO<sub>2</sub> Atlas (SOCAT), D Bakker, Partner Institution(s): UEA, NOAA, CSIRO, plus 47 others

Demography and interannual variability of salp swarms, University of New South Wales, Natasha Henschke, Jason Everett, M Doblin, Kylie Pitt, Anthony Richardson, Iain Suthers, 2011-2014, Funding: Commonwealth Government

WAMSI node 2: Ningaloo, Australian Institute of Marine Science, University of Western Australia, Richard Brinkman, Partner Institution(s): AIMS, Funding: Australian Institute of Marine Science, Western Australian Marine Science Institution

The krill pump: transferring carbon across a layered ocean in a changing, University of New South Wales, Iain Suthers, Funding: ARC Discovery Project

Future Reef MAP, Bronte Tilbrook, 2012-2015, Funding: Rio Tinto Alcan, Great Barrier Reef Foundation, CSIRO

Validating the upgrade of Bureau NWP from APS0 to APS1, Bureau of Meteorology, National Oceanography Centre, Eric Schulz, Simon Josey

Biological oceanography, University of Western Australia, Australian Institute of Marine Science, Commonwealth Scientific Industrial Research Organisation, Miles Furnas, A McKinnon, Anya Waite, Jim Greenwood, 2012-2015, Partner Institution(s): AIMS, UWA, CSIRO, Funding: Western Australian Marine Science Institution, Australian Institute of Marine Science, CSIRO

Sustainable ecological observing, Commonwealth Scientific Industrial Research Organisation, Keith Hayes, D Smith, Peter Thompson, Russ Babcock, Anthony Richardson, W Rochester, 2012-2013, Funding: CSIRO

High seas acoustic and biological sampling, Commonwealth Scientific Industrial Research Organisation, Rudy Kloser, 2012-2015, Funding: CSIRO, Sealords NZ

Coastal carbon collaboration cluster, Commonwealth Scientific Industrial Research Organisation, Andy Steven, 2012-2015, Partner Institution(s): CSIRO, UTS, UWA, SCU, JCU, UNSW

The IMOS plankton ecosystem assessment report, Commonwealth Scientific Industrial Research Organisation, Anthony Richardson, 2012-2013, Funding: CSIRO

Plankton dynamics down the Australian east coast, University of Tasmania, G Griffiths, 2012-2013

Resilience of Moreton Bay to climate change: links between nutrient inputs and plankton dynamics, Commonwealth Scientific Industrial Research Organisation, Anthony Richardson, 2012-2013, Partner Institution(s): Griffith University, Healthy Waterways Partnership, Queensland EPA, Funding: ARC Linkage Project

BLUElink III - OceanMAPS v2.1 validation, BOM Queensland Regional Office, Helen Beggs, 2012-2012, Funding: Royal Australian Navy

Long-term changes in Vibrio bacteria, Luigi Vezzulli, 2012-2013, Funding: CSIRO

Zooplankton atlas of Australia, University of Tasmania, Kerrie Swadling, 2012-2012, Funding: University of Tasmania, Integrated Marine Observing System (IMOS), CSIRO

Phytoplankton atlas of Australia, University of Tasmania, Gustaaf Hallegraeff, 2012-2015, Funding: University of Tasmania, Integrated Marine Observing System (IMOS), CSIRO

Ocean carbon and acidification in Australian regional seas and the Southern Ocean, Commonwealth Scientific Industrial Research Organisation, Bureau of Meteorology, Bronte Tilbrook, Andrew Lenton, Partner Institution(s): CSIRO, BOM,

Funding: Australian Climate Change Science Program (ACCSP)

High-latitude validation of OAFlux, Bureau of Meteorology, Woods Hole Oceanographic Institute, Eric Schulz, Lisan Yu

Global spread of Vibrios with climate change, University of Genoa, Luigi Vezzulli, 2013-2014

Near real-time modelling of Bass Strait for EPA Victoria, John Andrewartha, 2013-2014

Climate-driven windblown dust and flood runoff can increase marine fungal diseases by fungal pathogens, University of Tasmania, Gustaaf Hallegraeff, Anthony Richardson, Funding: ARC Discovery Project

Southern Ocean Network of Acoustics (SONA), British Antarctic Survey, Sophie Fielding, 2013-2016, Funding: Natural Environment Research Council (UK)

The Great Australian Bight Research Program, Project 2.2 Characterise variation in offshore/slope microbial, plankton and micronekton communities in the Great Australian Bight, South Australian Research and Development Institute, Commonwealth Scientific Industrial Research Organisation, Rudy Kloster, Paul van Ruth, Mark Doubell, Anthony Richardson, 2014-2017, Partner Institution(s): CSIRO, SARDI, Funding: BP, CSIRO, South Australian Research and Development Institute

Alkalinity of Australian waters, Nick Hardman-Mountford, Jim Greenwood, 2014-2015, Funding: CSIRO

Australian national shelf reanalysis, Emlyn Jones, Moninya Roughan, Tim Moltmann, Andreas Schiller, Peter May, 2014-2014, Funding: Integrated Marine Observing System (IMOS)

Patterns of interaction between habitat and oceanographic variables affecting the connectivity and productivity of invertebrate fisheries, Deakin University, University of Melbourne, Latrobe University, Fisheries Victoria, Daniel Ierodiaconou, Eric Treml, Steve Swearer, Nick Murphy, Mary Young, Adam Miller, Jan Strugnell, Harry Gorfine, Craig Sherman, Bridget Green, 2015-2017, Funding: Fisheries Research and Development Corporation

Freshening events and hypersaline conditions in the central Great Barrier Reef, Australian Institute of Marine Science, Jessica Benthuisen

Southern ocean carbon cycle postdoctoral fellow, University of Tasmania, Paula Conde-Pardo, 2015-2018, Funding: ACECRC

Linking phytoplankton to fisheries using zooplankton size spectra, University of New South Wales, Iain Suthers, Laura Richardson, Mark Baird, Sagulenko Evgeny, 2015-2018, Partner Institution(s): ARC Discovery Project, Funding: University of New South Wales, ARC Discovery Project

CAPRICORN: clouds, aerosols, precipitation, radiation and atmospheric composition over the Southern Ocean (Ship component of SOCRATES), Bureau of Meteorology, Alain Protat, 2015-2018, Partner Institution(s): Schofield (Melb Uni), Franklin (CSIRO), Keywood (CSIRO), Siems (MONASH), Alexander (AAD)

Understanding the physical oceanographic drivers of a mass coral bleaching event AIMS research project, Australian Institute of Marine Science, Craig Steinberg, 2016-2017

Using NFLUX to force an Indonesian area ocean model with validation of its SST forecasts using IMOS ship SST and fluxes, Naval Research Lab, University of New Orleans, Charlie Barron, Jackie May, Silvia Gremes-Cordero, C Rowley

**Research Project Count 50**

## Deep water moorings

Global carbon project, Rob Jackson, Nebojsa Nakicenovic, 2001-2020, Partner Institution(s): International Geosphere-Biosphere Programme (IGBP); International Human Dimensions Programme on Global Environmental Change (IHDP); World Climate Research Programme (WCRP)

Controls on carbon uptake, Commonwealth Scientific Industrial Research Organisation, Bronte Tilbrook, 2008-2019, Partner Institution(s): Tom Trull; Elizabeth Shadwick

Response of pteropods to ocean acidification, University of Tasmania, Antarctic Climate and Ecosystems Cooperative Research Centre, Donna Roberts, William Howard, Stephen Bray, Tom Trull, 2009-2012, Partner Institution(s): ACE CRC, Department of Climate Change

Building long-term climate quality air-sea flux record in Southern Ocean, Bureau of Meteorology, Eric Schulz

Net community production in the Australian sector of the Southern Ocean, Nicolas Cassar, 2010-2014, Partner Institution(s): CSIRO, Princeton University, Duke University

NWP marine flux validation in the Australian region, Bureau of Meteorology, Eric Schulz, 2010-2012

CO2 program, University of Tasmania, Tom Trull, Partner Institution(s): UTAS, CSIRO, AAD, Funding: ACECRC

Air-sea interaction and seasonality of the mixed layer in the Subantarctic Zone, University of New South Wales, Commonwealth Scientific Industrial Research Organisation, Steve Rintoul, Bernadette Sloyan, Matthew England, 2011-2012, Partner Institution(s): Marvin Alfaro - Fullbright Scholar

Revisiting wave-induced mixing and current effects: observations and modelling based on the Southern Ocean Flux Station, Swinburne University, Commonwealth Scientific Industrial Research Organisation, Bureau of Meteorology, Alexander Babanin, Mark Hemer, Eric Schulz, 2012-2014, Funding: CSIRO

Validating the upgrade of Bureau NWP from APS0 to APS1, Bureau of Meteorology, National Oceanography Centre, Eric Schulz, Simon Josey

Grass of the oceans: quantifying biodiversity, environmental and climatic connectivity from a decade-long capture of Southern Ocean diatoms, Maquarie University, Andres Rigual-Hernandez, Leanne Armand, Tom Trull, Stephen Bray, 2013-2015, Partner Institution(s): UTAS-CSIRO-ACECRC, Funding: Australian Antarctic Sciences Program

Sensor based estimates of ocean productivity, Commonwealth Scientific Industrial Research Organisation, Tom Trull, 2013-2017, Funding: CSIRO, ACECRC, University of Tasmania

In-depth analysis of the EAC and ITF mooring arrays and computation of mass, heat and salt time-series transports from collected data, Bernadette Sloyan, Ken Ridgway, Susan Wijffels, Rebecca Cowley, 2013-2014, Funding: Australian Climate Change Science Program (ACCSP)

Southern Ocean circulation and water mass formation in a warming world, Antarctic Climate and Ecosystems Cooperative Research Centre, Commonwealth Scientific Industrial Research Organisation, Steve Rintoul, 2013-2018, Funding: Australian Antarctic Sciences Program, Australian Climate Change Science Program (ACCSP), ACECRC

Advancing dynamical understanding in the East Australian Current: optimising the ocean observation and prediction effort, Sydney Institute for Marine Science, Moninya Roughan, 2014-2016, Funding: ARC

The Southern Ocean boundary layer: winds, turbulence, sea spray and clouds, Monash University, Steve Siems, Partner Institution(s): Manton (Monash), Belusic (Monash), Sullivan (NCAR), Keywood (CSIRO), Schulz (BOM), Funding: ARC Discovery Project

CAPRICORN: clouds, aerosols, precipitation, radiation and atmospheric composition over the Southern Ocean (Ship component of SOCRATES), Bureau of Meteorology, Alain Protat, 2015-2018, Partner Institution(s): Schofield (Melb UNi), Franklin (CSIRO), Keywood (CSIRO), Siems (MONASH), Alexander (AAD)

Towards large-scale estimates of photosynthetic competency: an assessment of iron stress and other environmental influences on sun-induced fluorescence quenching, Commonwealth Scientific Industrial Research Organisation, Christina Schallenberg, 2017-2018, Partner Institution(s): ACE CRC; CSIRO Oceans and Atmosphere, Funding: Natural Sciences and Engineering Research Council

Southern Ocean nanoplankton response to CO2 (SONAR-CO2), Commonwealth Scientific Industrial Research Organisation, National Institute of Water and Atmospheric Research, University of Salamanca, University of Lisbon, Andres Rigual-Hernandez, 2017-2019, Funding: European Union Marie Curie Fellowship

Surface wind mixing in ocean models, University of New South Wales, Australian Defence Force Academy, Robin Robertson, 2017-2017, Funding: Defence Science and Technology Group

Research Project Count 20

## Ocean gliders

Deployment of ocean gliders as part of WAIMOS, University of Western Australia, Charitha Pattiaratchi, 2008-2011, Partner Institution(s): WAMSI, Funding: Western Australian Marine Science Institution

Quantifying the role of salps in marine food webs and organic carbon export, University of New South Wales, Iain Suthers, Funding: ARC Discovery Project

Coastal cold core eddies of the East Australian Current and their fisheries potential, University of New South Wales, Iain Suthers, Funding: ARC Discovery Project

New insights from ocean gliders - comparing oceanographic forcing of phytoplankton dynamics in two very different Eastern Boundary Current regions, University of Western Australia, University of Washington, Christine Hanson, Peter Rhines, Funding: University of Western Australia

Cross shelf processes and nutrient enrichment in the East Australian Current regime, University of New South Wales, Amandine Schaeffer, Moninya Roughan, 2010-2015

Ocean-reef interactions as drivers of continental shelf productivity in a changing climate, University of Western Australia, University of New South Wales, Anya Waite, Moninya Roughan, Charitha Pattiaratchi, Jonne Kotta, Helen Orav-Kotta, 2010-2012, Funding: ARC

AUV Data Analysis for Predictability in Time-Evolving Regimes (ADAPTER), Naval Research Lab, Jeff Book, 2010-2012, Partner Institution(s): UWA, AIMS, Funding: US-NRL

Ocean-shelf exchange with an emphasis on the role of waves, tides, eddies and cross-shelf flows on carbon exchange, University of Western Australia, University of Tasmania, James Cook University, Charitha Pattiaratchi, Roger Proctor, Peter Ridd, 2011-2012, Partner Institution(s): UWA, JCU, AIMS, UTas, CSIRO, UNSW, UTS, SARDI/Flinders, IOC, Proudman Oceanographic Laboratory, University of Southern Mississippi, University of Maryland, Baltic Sea Research Institute, Funding: ANNIMS

Shaping integrated monitoring for the Great Barrier Reef World Heritage Area, Paul Hedge, 2011-2015, Funding: National Environmental Research Program (NERP)

The connectivity of the Australian North West Shelf with the Leeuwin Current, University of Western Australia, Australian Institute of Marine Science, Naval Research Lab, Gregory Ivey, Ryan Lowe, Peter Strutton, Nicole Jones, Miles Furnas, Richard Brinkman, 2012-2013, Partner Institution(s): UWA, AIMS, US-NRL, UTAS, Funding: NICOP

Ocean-shelf exchange with an emphasis on the roles of waves, tides, eddies and cross-shelf flows on carbon exchange, University of Tasmania, University of Western Australia, James Cook University, Roger Proctor, Charitha Pattiaratchi, Peter Ridd, 2012-2014, Funding: ANNIMS

Additional observations in support of eReefs, Commonwealth Scientific Industrial Research Organisation, Simon Allen, Partner Institution(s): CSIRO, AIMS, IMOS, Funding: CSIRO, Australian Institute of Marine Science, Integrated Marine Observing System (IMOS)

eReefs - hydrodynamic modelling validation, BOM Queensland Regional Office, Arthur Simanjuntak, 2013-2014, Partner Institution(s): CSIRO, AIMS, Funding: Bureau of Meteorology

Australian national shelf reanalysis, Emlyn Jones, Moninya Roughan, Tim Moltmann, Andreas Schiller, Peter May, 2014-2014, Funding: Integrated Marine Observing System (IMOS)

Advancing dynamical understanding in the East Australian Current: optimising the ocean observation and prediction effort, Sydney Institute for Marine Science, Moninya Roughan, 2014-2016, Funding: ARC

Finding the shadows using the eyes of gliders, Robin Robertson, Funding: ADFA

eReefs DA - phase 2, Commonwealth Scientific Industrial Research Organisation, Emlyn Jones, 2014-2015, Partner Institution(s): BOM, AIMS

CARS, synTS and SSS, Commonwealth Scientific Industrial Research Organisation, Madeleine Cahill, J Lovell, Funding: CSIRO

Sediment re-suspension processes under internal waves in the north-west shelf of Australia , University of Western Australia, Charitha Pattiaratchi, Gustavo Lauton de Oliveira, 2015-2016, Funding: University of Western Australia

Offshore southern right whale calling, Curtin University, Rob McCauley, Alexander Gavrilov

Predicting circulation patterns along the south-west Australian continental shelf, University of Western Australia, Ivica Janekovic, Charitha Pattiaratchi, Sarath Wijeratne, Yasha Hetzel, Simone Cosoli, 2015-2016, Partner Institution(s): IMOS, Funding: University of Western Australia

Reflections on sonar, University of New South Wales, Robin Robertson, Funding: ADFA

**Research Project Count 22**

## Autonomous underwater vehicle

Rebuilding ecosystem resilience: Assessment of management options to minimise formation of 'Barrens' habitat by the long-spined sea urchin (*Centrostephanus rodgersii*) in Tasmania, University of Tasmania, Craig Johnson, 2007-2010, Partner Institution(s): DPIPWE

Autonomous exploration and characterization of benthic habitats linked to oceanographic processes, University of Sydney, Stefan Williams, 2008-2010, Funding: ARC Discovery Project

Establishment of a cost-effective monitoring program to detect changes in the structure of benthic invertebrate and macroalgae assemblages in the west coast Bioregion, University of Western Australia, University of Sydney, Dan Smale, Gary Kendrick, Euan Harvey, 2010-2013, Funding: Western Australian Marine Science Institution

Stress, virulence and bacterial disease in temperate seaweeds: the rise of the microbes, University of New South Wales, Peter Steinberg, S Kjelleberg, T Thomas, S Egan, Melinda Coleman, 2010-2013, Funding: ARC Linkage Project

Machine assisted, multi-scale spatial and temporal observation and modelling of marine benthic habitats, University of Sydney, Stefan Williams, Maria Bryne, Will Figueria, Neville Barrett, 2010-2013, Partner Institution(s): University of Tasmania, Funding: ARC Super Science Fellowship

Autonomous repeatable surveys for long term monitoring of marine habitats, University of Sydney, Stefan Williams, Oscar Pizarro, Michael Jakuba, Mitchell Bryson, 2010-2013, Partner Institution(s): Thales Australia Pty. Ltd., Funding: ARC Linkage Project

Cost-effective autonomous systems for large scale monitoring of marine protected areas, University of Sydney, Oscar Pizarro, Stefan Williams, Michael Jakuba, Ryan Eustice, Louis Whitcomb, 2010-2014, Partner Institution(s): University of Michigan, Johns Hopkins University, Funding: ARC Discovery Project, QEII Fellowship

Southern rock lobster thrive in Tasman Fracture CMR, University of Tasmania, Neville Barrett, 2011-2015, Funding: National Environmental Research Program (NERP)

Sand and granite reef communities revealed at Freycinet CMR, University of Tasmania, Neville Barrett, 2011-2015, Funding: National Environmental Research Program (NERP)

Scientific support for managing Australia's marine biodiversity - a national marine biodiversity hub, University of Tasmania, Nicholas Bax, Chris Austin, Russ Babcock, Neville Barrett, Mark Bravington, Brendan Brooke, Julian Michael Caley, Piers Dunstan, Karen Edyvane, Peter Harris, Sarah Jennings, Gary Kendrick, Tim O'Hara, Sean Pascoe, Bob Pressey, Wendy Proctor, Tony Smith, Chris Wilcox, 2011-2015, Partner Institution(s): AIMS, CDU, CSIRO, GA, Museum Victoria, JCU, UTas, UWA, Funding: National Environmental Research Program (NERP)



Project 2: analysis of approaches for monitoring biodiversity in Commonwealth waters, Commonwealth Scientific Industrial Research Organisation, University of Tasmania, Keith Hayes, Jeffrey Dambacher, Emma Lawrence, Russ Babcock, Rhys Leeming, Alan Williams, Neville Barrett, Nicole Hill, Vanessa Lucieer, Gary Kendrick, Euan Harvey, Scott Nichol, 2011-2014, Partner Institution(s): AIMS, CSIRO, GA, UTAS, UWA, Funding: National Environmental Research Program (NERP)

Virulence and bacterial disease in temperate seaweeds. The rise of the microbes, University of New South Wales, Ezequiel Marzinelli, Funding: NSW State Government, ARC Future Fellowship

Effects of climate change on temperate benthic assemblages on the continental shelf in eastern Australia, University of Tasmania, Craig Johnson, Neil Holbrook, Neville Barrett, Peter Steinberg, 2011-2014, Partner Institution(s): University of New South Wales, Funding: ARC Super Science Fellowship

Multi-scale recognition: generating meaning from multi-resolution data, University of Sydney, Bertrand Douillard, Funding: ARC APD Fellow

Integration of Autonomous Underwater Vehicles (AUVs) and remote satellite sensing for automated and persistent monitoring, University of Queensland, Chris Roelfsema, Matthew Dunbabin, Russ Babcock, 2011-2013, Funding: CSIRO

NERP Flinders Island and CMR survey, University of Tasmania, Neville Barrett, Partner Institution(s): USyd

Image-based automated macrobenthic species identification, counting and sizing, University of Sydney, Commonwealth Scientific Industrial Research Organisation, University of Tasmania, Stefan Williams, Oscar Pizarro, Russ Babcock, Matthew Dunbabin, Neville Barrett, 2011-2014, Funding: SIEF Fellowship

Analysis of approaches for monitoring biodiversity in the Commonwealth marine area: Houtman Abrolhos Islands, Keith Hayes, 2011-2015, Funding: National Environmental Research Program (NERP)

Collating existing survey data for Commonwealth marine waters, Jeffrey Dambacher, 2011-2015, Funding: National Environmental Research Program (NERP)

Marine monitoring blueprint: meeting a monumental challenge, Paul Hedge, 2011-2015, Funding: National Environmental Research Program (NERP)

Model benthic habitat and assemblage distribution using data derived from AUV, BUUV and swath acoustic mapping in and around NSW marine parks, University of Sydney, Renata Ferrari, Partner Institution(s): NSW DPI, Funding: NSW State Government

Delivering information suitable for studying spatial and temporal variability in benthic habitats using autonomous underwater vehicles, University of Sydney, Stefan Williams, Funding: ARC Future Fellowship

Marine video, University of Sydney, Stefan Williams, Partner Institution(s): UWA, UTAS, UNSW, CSIRO, AIMS, Funding: Australian National Data Service (ANDS)

NERP Solitary Island survey, Department of Primary Industries, NSW, Alan Jordan, Partner Institution(s): USyd, UTAS

Autonomous benthic observing system, University of Western Australia, University of Tasmania, Commonwealth Scientific Industrial Research Organisation, Australian Institute of Marine Science, Department of Primary Industries, NSW, Stefan Williams, Oscar Pizarro, Gary Kendrick, Neville Barrett, Russ Babcock, Andrew Heyward, Alan Jordan, Partner Institution(s): University of Sydney, Funding: ARC LIEF

High quality benthic and demersal surveys from small form factor underwater robots, University of Sydney, Oscar Pizarro, Stefan Williams, Mathew Edmunds, 2013-2016, Partner Institution(s): Australian Marine Ecology Pty Ltd, Funding: ARC Linkage Project

Remotely operated vehicle, University of Sydney, Stefan Williams, Oscar Pizarro, I Manchester, Jody Webster, Renata Ferrari, Funding: University of Sydney

Application of NERP biodiversity hub survey methodology to Geographe Bay Commonwealth marine reserve, University of Tasmania, Emma Lawrence, Stefan Williams, Gary Kendrick, Euan Harvey, 2014-2015, Partner Institution(s): CSIRO, UTAS, UWA, USyd, Funding: National Environmental Research Program (NERP)

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Supervised autonomy for AUVs using limited bandwidth communication channels, Sydney Institute for Marine Science, Stefan Williams, Oscar Pizarro, 2015-2018, Partner Institution(s): Thales Australia Pty Ltd, Funding: ARC Linkage Project

Autonomous survey technologies for large scale ocean observing , Sydney Institute for Marine Science, Oscar Pizarro, Michael Jakuba, James Kinsey, Christopher Roman, Stefan Williams, Ryan Eustice, Thomas Bridge, Richard Camilli, 2015-2015, Funding: Schmidt Ocean Institute

Project D2: analysis methods and software to support standard operating procedures for survey design, condition assessment and trend detection, University of Tasmania, Scott Foster, Neville Barrett, 2015-2021, Funding: National Environmental Science Program (NESP)

Managing ecosystem interactions across differing environments: building flexibility and risk assurance into environmental management strategies, University of Tasmania, Commonwealth Scientific Industrial Research Organisation, C MacLeod, Neville Barrett, Karen Wild-Allen, 2015-2018, Funding: Fisheries Research and Development Corporation

A photometric imaging model for mobile underwater camera design, Sydney Institute for Marine Science, Stefan Williams, Oscar Pizarro, A Lumsdaine, Christopher Roman, Y Schechner, 2015-2017, Funding: ARC Discovery Project

Project D3: evaluating and monitoring the status of marine biodiversity assets on the continental shelf, University of Tasmania, Neville Barrett, Vanessa Lucieer, 2015-2021, Funding: National Environmental Science Program (NESP)

AUV-based monitoring of benthic habitats in the SE CMR Network, University of Tasmania, Neville Barrett, Jacquomo Monk, 2016-2016, Funding: Department of the Environment

**Research Project Count 35**

## National mooring network

Reef rescue marine monitoring program, Reef and Rainforest Research Centre, Britta Schaffelke, 2005-2013, Partner Institution(s): GBRMPA, AIMS, James Cook University, CSIRO, the Northern Fisheries Centre of the Queensland Department of Employment, Economic Development and Innovation and the National Research Centre for Environmental Toxicology at the University of Queensland, Funding: Caring For Our Country

Early warning and assessment system for thermal stress on the GBR, Marine and Tropical Sciences Research Facility, Ove Hoegh-Guldberg, Scarla Weeks, Ray Berkelmans, Craig Steinberg, 2006-2010

WAMSI Node 2: Leeuwin Current dynamics and variability, Commonwealth Scientific Industrial Research Organisation, University of Western Australia, Ming Feng, Dirk Slawinski, Liejun Zhong, 2006-2011

WAMSI Node 1: Southwest Australia marine ecosystem, Commonwealth Scientific Industrial Research Organisation, University of Western Australia, John Keesing, Ming Feng, Dirk Slawinski, 2006-2011

Prawn and crab harvest optimisation: a bio-physical management tool, South Australian Research and Development Institute, Lachlan McLeay, 2008-2015, Partner Institution(s): SA Government, Funding: Fisheries Research and Development Corporation, South Australian Research and Development Institute

A hydrodynamic/biogeochemical modelling facility for S.A., South Australian Research and Development Institute, John Middleton, 2008-2014, Partner Institution(s): Marine Innovation S.A., Flinders University, Funding: Marine Innovation S.A.

eAtlas, Australian Institute of Marine Science, Katrina Fabricius, 2009-2013, Partner Institution(s): JCU, GBRMPA, Funding: National Environmental Research Program (NERP) , Marine and Tropical Sciences Research Facility (MTSRF)

Hydrodynamics at the whole-of-GBR scale, Australian Institute of Marine Science, Commonwealth Scientific Industrial Research Organisation, Richard Brinkman, Mike Herzfeld, 2009-2010, Partner Institution(s): MTSRF and GBRMPA

Receiving water quality modelling, Australian Institute of Marine Science, Commonwealth Scientific Industrial Research Organisation, Richard Brinkman, Mike Herzfeld, 2009-2011, Partner Institution(s): GBRMPA, MTSRF, Funding: Marine and Tropical Sciences Research Facility (MTSRF)

Carrying capacity for Spencer Gulf, South Australian Research and Development Institute, John Middleton, 2009-2013, Partner Institution(s): Fisheries research and Development Corporation, Flinders University, Funding: South Australian

## Research and Development Institute

Modelling of source-sink relation of western rock lobster recruitment, Fisheries Research & Development Corporation, Nick Caputi, Ming Feng, Evan Weller, 2009-2011, Partner Institution(s): Department of Fisheries, CSIRO

Ocean-reef interactions as drivers of continental shelf productivity in a changing climate, University of Western Australia, University of New South Wales, Anya Waite, Moninya Roughan, Charitha Pattiaratchi, Jonne Kotta, Helen Orav-Kotta, 2010-2012, Funding: ARC

Long-term changes in gelatinous plankton in Australia, Griffith University, Kylie Pitt, 2010-2011, Partner Institution(s): US National Center for Ecological Analysis and Synthesis

Cross shelf processes and nutrient enrichment in the East Australian Current regime, University of New South Wales, Amandine Schaeffer, Moninya Roughan, 2010-2015

Management implications of climate change on fisheries in WA, Fisheries Research & Development Corporation, Nick Caputi, Ming Feng, 2010-2013, Partner Institution(s): Dep of Fisheries WA, CSIRO

CO2 program, University of Tasmania, Tom Trull, Partner Institution(s): UTAS, CSIRO, AAD, Funding: ACECRC

Importance of internal waves in the stimulation of primary productivity at Ningaloo Reef, University of Western Australia, Australian Institute of Marine Science, Ryan Lowe, Nicole Jones, Richard Brinkman, Peter Strutton, Jim Falter, Gregory Ivey, 2011-2012, Partner Institution(s): UWA, AIMS, UTas, Funding: ANNIMS

Ocean-shelf exchange with an emphasis on the role of waves, tides, eddies and cross-shelf flows on carbon exchange, University of Western Australia, University of Tasmania, James Cook University, Charitha Pattiaratchi, Roger Proctor, Peter Ridd, 2011-2012, Partner Institution(s): UWA, JCU, AIMS, UTas, CSIRO, UNSW, UTS, SARDI/Flinders, IOC, Proudman Oceanographic Laboratory, University of Southern Mississippi, University of Maryland, Baltic Sea Research Institute, Funding: ANNIMS

WAMSI node 2: Ningaloo, Australian Institute of Marine Science, University of Western Australia, Richard Brinkman, Partner Institution(s): AIMS, Funding: Australian Institute of Marine Science, Western Australian Marine Science Institution

Portland and NSW data sets acoustic data sets, University of New South Wales, Tracey Rogers, Partner Institution(s): UNSW, Funding: ARC

New pathways of exchange at the mouth of Spencer Gulf: double diffusion., South Australian Research and Development Institute, Griffith University, Mark Doubell, John Middleton, Charles Lemkert

Southern Australian Integrated Marine Observing System (SAIMOS) - biological survey and data QA/QC, Flinders University, Royal Netherlands Institute, National Oceanography Centre, Station Biologique, Sophie Leterme, Corina Brussaard, Mike Zubkov, Nathalie Simon

Leeuwin current and capes current dynamics, Commonwealth Scientific Industrial Research Organisation, Liejun Zhong, Ming Feng, 2011-2012, Funding: CSIRO

Issues in marine science: developing sustainable strategies for rang-shifting species, University of Tasmania, Stewart Frusher, Funding: ANNIMS Springboard

Ocean carbon and acidification, Bronte Tilbrook, Andrew Lenton, Partner Institution(s): AIMS, UQ, USyd, UNSW, UWA, NOAA(USA) NIES(Japan), IPSL(France), Funding: Australian Climate Change Science Program (ACCSP), CSIRO

Sea breeze forcing of near-inertial wave near the critical latitude for resonance, University of Western Australia, Florence Kaempf, Charitha Pattiaratchi, 2011-2012, Partner Institution(s): Bangor University, UK (John Simpson) and Hydrographic Institute of the Republic of Croatia, Split, Croatia (Hrvoje Mihanovic), Funding: Group of Eight European Fellowship

Tidal variability and mixing on the Australian North West shelf, University of Western Australia, Samuel Kelly, Nicole Jones, Gregory Ivey, Ryan Lowe, 2011-2012, Funding: University of Western Australia, Australian Institute of Marine Science, CSIRO

Integration of Autonomous Underwater Vehicles (AUVs) and remote satellite sensing for automated and persistent monitoring, University of Queensland, Chris Roelfsema, Matthew Dunbabin, Russ Babcock, 2011-2013, Funding: CSIRO

Sediment dynamics in muddy estuaries, Australian Defence Force Academy, Australian Institute of Marine Science, International Petroleum Exploration Corporation, David Williams, Xiao Hua Wang, 2011-2014, Funding: ADFA, Australian Institute of Marine Science, Oceanology Institute China, INPEX

Demography and interannual variability of salp swarms, University of New South Wales, Natasha Henschke, Jason Everett, M Doblin, Kylie Pitt, Anthony Richardson, Iain Suthers, 2011-2014, Funding: Commonwealth Government

Scientific support for managing Australia's marine biodiversity - a national marine biodiversity hub, University of Tasmania, Nicholas Bax, Chris Austin, Russ Babcock, Neville Barrett, Mark Bravington, Brendan Brooke, Julian Michael Caley, Piers Dunstan, Karen Edyvane, Peter Harris, Sarah Jennings, Gary Kendrick, Tim O'Hara, Sean Pascoe, Bob Pressey, Wendy Proctor, Tony Smith, Chris Wilcox, 2011-2015, Partner Institution(s): AIMS, CDU, CSIRO, GA, Museum Victoria, JCU, UTas, UWA, Funding: National Environmental Research Program (NERP)

Spencer Gulf Research Initiative: Development of an Ecosystem Model for Fisheries and Aquaculture, University of Adelaide, South Australian Research and Development Institute, Bronwyn Gillanders, Simon Goldsworthy, John Middleton, Mark Doubell, 2011-2014, Partner Institution(s): FRDC Proj. No. 2011/205, UOA, SARDI, Funding: Fisheries Research and Development Corporation

Surface Ocean CO<sub>2</sub> Atlas (SOCAT), D Bakker, Partner Institution(s): UEA, NOAA, CSIRO, plus 47 others

Shaping integrated monitoring for the Great Barrier Reef World Heritage Area, Paul Hedge, 2011-2015, Funding: National Environmental Research Program (NERP)

Ocean carbon and acidification in Australian regional seas and the Southern Ocean, Commonwealth Scientific Industrial Research Organisation, Bureau of Meteorology, Bronte Tilbrook, Andrew Lenton, Partner Institution(s): CSIRO, BOM, Funding: Australian Climate Change Science Program (ACCSP)

Critical seabird foraging locations and trophic relationships for the Great Barrier Reef, James Cook University, Brad Congdon, 2012-2015, Partner Institution(s): UQ, AIMS, Funding: Australian Institute of Marine Science

Do coastal currents feed the harvest from purpose-built, offshore artificial reefs?, University of New South Wales, Sydney Institute for Marine Science, Iain Suthers, Micheal Lowry, Matt Taylor, Moninya Roughan, Emma Johnston, Charles Gray, 2012-2015, Funding: ARC Linkage Project, Department of Primary Industries, NSW

Coupled physical and biogeochemical dynamics on the Australian North West Shelf, Gregory Ivey, Ryan Lowe, Peter Strutton, Nicole Jones, Miles Furnas, Gary Brinkman, 2012-2014, Funding: ARC Discovery Project

Net conservation benefit, connectivity codelling, Commonwealth Scientific Industrial Research Organisation, Ming Feng, 2012-2015, Partner Institution(s): UWA

South East Queensland integrated terrestrial to oceans research, University of Queensland, Andy Steven, Stuart Phinn, 2012-2013, Funding: Australian National Data Service (ANDS)

Inter-fleet comparisons of FLNTU outputs to reduce uncertainties in bio-optical data streams in a sustained observing system, Commonwealth Scientific Industrial Research Organisation, Tim Lynch, L Clementson, Robert Kay, Moninya Roughan, Vittorio Brando, M Doblin, Karen Evans, 2012-2014, Partner Institution(s): IMOS, Funding: CSIRO

Future Reef MAP, Bronte Tilbrook, 2012-2015, Funding: Rio Tinto Alcan, Great Barrier Reef Foundation, CSIRO

Deep water kelp forests; benthic biodiversity in marine parks in NSW, Sydney Institute for Marine Science, University of New South Wales, Ezequiel Marzinelli

Additional observations in support of eReefs, Commonwealth Scientific Industrial Research Organisation, Simon Allen, Partner Institution(s): CSIRO, AIMS, IMOS, Funding: CSIRO, Australian Institute of Marine Science, Integrated Marine Observing System (IMOS)

Phytoplankton atlas of Australia, University of Tasmania, Gustaaf Hallegraeff, 2012-2015, Funding: University of Tasmania, Integrated Marine Observing System (IMOS), CSIRO

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Zooplankton atlas of Australia, University of Tasmania, Kerrie Swadling, 2012-2012, Funding: University of Tasmania, Integrated Marine Observing System (IMOS), CSIRO

Long-term changes in Vibrio bacteria, Luigi Vezzulli, 2012-2013, Funding: CSIRO

Coastal carbon collaboration cluster, Commonwealth Scientific Industrial Research Organisation, Andy Steven, 2012-2015, Partner Institution(s): CSIRO, UTS, UWA, SCU, JCU, UNSW

Resilience of Moreton Bay to climate change: links between nutrient inputs and plankton dynamics, Commonwealth Scientific Industrial Research Organisation, Anthony Richardson, 2012-2013, Partner Institution(s): Griffith University, Healthy Waterways Partnership, Queensland EPA, Funding: ARC Linkage Project

The IMOS plankton ecosystem assessment report, Commonwealth Scientific Industrial Research Organisation, Anthony Richardson, 2012-2013, Funding: CSIRO

eReefs, Commonwealth Scientific Industrial Research Organisation, Stuart Minchin, John Stevens, George Cresswell, 2012-2017, Partner Institution(s): CSIRO, AIMS, BoM, GBRMPA, GBR Foundation, DERM QLD

South Australian gulfs data scoping and collation, University of Adelaide, Bronwyn Gillanders, 2012-2013, Partner Institution(s): MISA, Funding: Integrated Marine Observing System (IMOS)

Australian marine microbial biodiversity initiative, Commonwealth Scientific Industrial Research Organisation, Lev Bodrossy, Partner Institution(s): CSIRO, UNSW, UTS, AIMS, SIMS

Ocean-shelf exchange with an emphasis on the roles of waves, tides, eddies and cross-shelf flows on carbon exchange, University of Tasmania, University of Western Australia, James Cook University, Roger Proctor, Charitha Pattiaratchi, Peter Ridd, 2012-2014, Funding: ANNIMS

WAMSI Kimberley climate change project, Commonwealth Scientific Industrial Research Organisation, Ming Feng, Partner Institution(s): <http://www.wamsi.org.au/content/partners>, Funding: Western Australian Marine Science Institution

Biological nitrogen fixation in the Australian marine environment: the Southern Australian region, University of Technology Sydney, South Australian Research and Development Institute, Lauren Messer, Justin Seymour, Mark Doubell, Partner Institution(s): UTS, SARDI, Funding: ARC

Adelaide coastal waters modelling, SA water capital project C0738, South Australia Water, DAMCO Consulting and Deltares, Milena Fernandes, Rob Daly, Paul Erftemeijer, Jos van Gils, 2013-2016, Funding: South Australia Water Asset Management Program

A transportable containerised laboratory for rapid cell sorting and high-resolution bioimaging of living aquatic microbes in field locations, University of New South Wales, Macquarie University, University of Western Australia, University of Tasmania, M Doblin, Justin Seymour, Peter Ralph, Saravanamuthu Vigneswaran, Cynthia Whitchurch, Partner Institution(s): University of Technology, Sydney, Funding: ARC LIEF

eReefs - hydrodynamic modelling validation, BOM Queensland Regional Office, Arthur Simanjuntak, 2013-2014, Partner Institution(s): CSIRO, AIMS, Funding: Bureau of Meteorology

Observations of remarkable eastward flows in the South Indian Ocean, University of Tasmania, Nathan Bindoff, Julian McCreary, Ryo Furue, Ming Feng, Jessica Benthuisen, Catia Domingues, 2013-2016, Partner Institution(s): CSIRO, University of Hawaii, Funding: ARC Discovery Project

Physical oceanographic influences on Queensland reef fish and scallops, Queensland Department of Agriculture, Fisheries and Forestry, Tony Courtney, 2013-2015, Partner Institution(s): DAFF-BOM-CARM, Funding: Fisheries Research and Development Corporation

Global climate influence on local oceanography and southern bluefin tuna fishing patterns in the Great Australian Bight, Southern Bluefin Tuna Industry Association, Kirstin Rough, Page Eveson, Alastair Hobday, Jessica Farley, Mark Doubell, Partner Institution(s): CSIRO, SARDI, Funding: CSIRO, South Australian Research and Development Institute

Physical oceanographic dynamics in the Kimberley, University of Western Australia, Gregory Ivey, Richard Brinkman, Ryan Lowe, 2013-2015, Partner Institution(s): AIMS, Funding: Western Australian Marine Science Institution

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Quantitative Quality Control (QC) procedures for Australia's National Reference Stations data – comparing semi-autonomous qualitative and quantitative systems to an expert oceanographer, Commonwealth Scientific Industrial Research Organisation, Elisabetta Morello, Guillaume Galibert, D Smith, Ken Ridgway, Ben Howell, Dirk Slawinski, G Timms, Karen Evans, Tim Lynch, 2013-2013, Partner Institution(s): IMOS, Funding: CSIRO

Climate-driven windblown dust and flood runoff can increase marine fungal diseases by fungal pathogens, University of Tasmania, Gustaaf Hallegraef, Anthony Richardson, Funding: ARC Discovery Project

Offshore artificial reefs, Industry and Investment New South Wales, Iain Suthers, Matt Taylor, 2013-2016, Funding: ARC Linkage Project

The dynamics and variability of the Ningaloo Nino, Commonwealth Scientific Industrial Research Organisation, Ming Feng, 2013-2014, Partner Institution(s): BOM

Great Australian Bight collaborative science program, South Australian Research and Development Institute, Tim Ward, 2013-2016, Partner Institution(s): Marine Innovation South Australia (MISA), CSIRO, British Petroleum, SARDI

Incorporating new knowledge of phytoplankton diversity and nutrient utilisation into an ocean-climate model to improve forecasts of ocean function, M Doblin, Shauna Murray, Richard Matear, B Hutchins, 2014-2016, Funding: ARC

Advancing dynamical understanding in the East Australian Current: optimising the ocean observation and prediction effort, Sydney Institute for Marine Science, Moninya Roughan, 2014-2016, Funding: ARC

Upwelling and shelfbreak processes: the role of local and remote forcing in driving GBR exchanges, Australian Institute of Marine Science, Jessica Benthuyzen, 2014-2016, Partner Institution(s): eReefs/IMOS, Funding: Australian Institute of Marine Science

Operational oceanography for oil and gas exploration in the Great Australian Bight: British Petroleum, Oliver Jones, 2014-2017, Partner Institution(s): BP, Funding: BP

The Great Australian Bight research program: project 4.1. Status, distribution and abundance of iconic species and apex predators in the Great Australian Bight, South Australian Research and Development Institute, Flinders University, Simon Goldsworthy, Alice Mackay, Luciana Moller, Guido Para, Paul Rogers, 2014-2017, Funding: BP, South Australian Research and Development Institute, Flinders University

The Great Australian Bight research program: project 2.1. Spatial and temporal variation in shelf microbial and plankton communities in the Great Australian Bight, South Australian Research and Development Institute, Commonwealth Scientific Industrial Research Organisation, Paul van Ruth, R McGarvey, Tim Ward, Anthony Richardson, 2014-2017, Funding: BP, CSIRO, South Australian Research and Development Institute

Ocean circulation and mesoscale eddies in the southeast Indian Ocean, Commonwealth Scientific Industrial Research Organisation, Ming Feng, 2014-2016, Partner Institution(s): Chinese Academy of Sciences, Funding: CSIRO, Chinese Academy of Sciences

The Great Australian Bight research program, project 1.1, oceanography: the science that underpins, South Australian Research and Development Institute, Commonwealth Scientific Industrial Research Organisation, John Middleton, David Griffin, 2014-2017, Funding: BP, CSIRO, South Australian Research and Development Institute

Social networking in a changing ocean: microbial-scale ecological interactions control ocean-scale chemistry, DP140101045, Justin Seymour, et al., 2014-2016

The Great Australian Bight research program, project 1.2, waves, South Australian Research and Development Institute, Commonwealth Scientific Industrial Research Organisation, David Griffin, John Middleton, 2014-2017, Funding: BP, CSIRO, South Australian Research and Development Institute

Australian national shelf reanalysis, Emlyn Jones, Moninya Roughan, Tim Moltmann, Andreas Schiller, Peter May, 2014-2014, Funding: Integrated Marine Observing System (IMOS)

Improved understanding of Tasmanian harmful algal blooms and biotoxin events to support seafood risk management, University of Tasmania, Gustaaf Hallegraef, 2014-2017, Funding: Fisheries Research and Development Corporation

The Great Australian Bight research project, South Australian Research and Development Institute, Commonwealth Scientific Industrial Research Organisation, John Middleton, David Griffin, 2014-2017, Partner Institution(s): CSIRO, SARDI, Funding: BP, CSIRO, South Australian Research and Development Institute, Flinders University, University of Adelaide

The Great Australian Bight Research Program, Project 2.2 Characterise variation in offshore/slope microbial, plankton and micronekton communities in the Great Australian Bight, South Australian Research and Development Institute, Commonwealth Scientific Industrial Research Organisation, Rudy Kloster, Paul van Ruth, Mark Doubell, Anthony Richardson, 2014-2017, Partner Institution(s): CSIRO, SARDI, Funding: BP, CSIRO, South Australian Research and Development Institute

The Great Australian Bight research program: project 4.2. Identifying areas of ecological significance for iconic species and apex predators in the great Australian Bight, South Australian Research and Development Institute, Commonwealth Scientific Industrial Research Organisation, Simon Goldsworthy, Fred Bailleul, Toby Patterson, 2014-2017, Funding: BP, South Australian Research and Development Institute, Flinders University

Alkalinity of Australian waters, Nick Hardman-Mountford, Jim Greenwood, 2014-2015, Funding: CSIRO

eReefs DA - phase 2, Commonwealth Scientific Industrial Research Organisation, Emlyn Jones, 2014-2015, Partner Institution(s): BOM, AIMS

Time series of primary productivity at the Port Hacking National Reference station, University of Technology Sydney, M Doblin, Virginie van Dongen-Vogels, 2014-2016, Partner Institution(s): OEH, Funding: CSIRO, Marine and coastal carbon biogeochemistry cluster

Optimising the size and quality of sardines through real-time harvest monitoring, South Australian Research and Development Institute, South Australian Sardine Industry Association, Mark Doubell, John Middleton, Tim Ward, Graham Watson, 2014-2015, Partner Institution(s): SARDI, SASIA, Funding: Australian Seafood Cooperative Research Centre

NRS regional WQM fluorescence characterisation, Commonwealth Scientific Industrial Research Organisation, L Clementson, Tim Lynch, 2014-2016, Funding: CSIRO

The Great Australian Bight research program: project 7.1. Knowledge integration of socio-ecological systems of the Great Australian Bight, South Australian Research and Development Institute, Commonwealth Scientific Industrial Research Organisation, Tim Ward, Cathy Bulman, Elizabeth Fulton, Simon Goldsworthy, 2014-2017, Funding: BP, CSIRO

Biogeochemical processes supporting productivity of Kimberley coastal waters, WAMSI Project 2.2.2, Western Australian Marine Science Institution, Anya Waite, 2014-2015, Funding: Western Australian Marine Science Institution, University of Western Australia , CSIRO

Drivers of primary production in eastern Australia, University of Technology Sydney, M Doblin, 2014-2015, Partner Institution(s): CSIRO, Funding: CSIRO Marine and Coastal Carbon Biogeochemistry

Operational and scientific monitoring program & applied research program, Australian Institute of Marine Science, D Souter, 2014-2015, Partner Institution(s): AIMS, Shell Development (Australia) Pty Ltd, Funding: INPEX, Shell Development (Australia) Pty Ltd

Predicting marine currents, nutrients and plankton in the coastal waters of South Eastern Tasmania in response to changing weather patterns, Christine Crawford, Stewart Frusher, Kerrie Swadling, 2014-2017, Funding: Fisheries Research and Development Corporation

The role of internal wave-driven near-bed turbulent dynamics in coastal ocean sediment mobilisation, University of Western Australia, Gregory Ivey, Nicole Jones, Jonathan Nash, Samuel Kelly, 2014-2016, Funding: ARC Discovery Project

Fish chorusing and acoustics, Curtin University, Rob McCauley

Tuna and finfish aquaculture environmental program 2015/16 to 2018/19, South Australian Research and Development Institute, Maylene Loo, Mark Doubell, 2015-2019, Funding: PIRSA Fisheries and Aquaculture

Benthic habitat survey of outer Darwin Harbour and Bynoe Harbour, Australian Institute of Marine Science, David Williams, Partner Institution(s): AIMS, NT Government Department of Land Resource Management, Geoscience Australia, Funding: Australian Institute of Marine Science, NT Government Department of Land Resource Management and Geoscience

## Australia

Carbonate system of Australian coastal waters from IMOS NRS and VOS measurements, Commonwealth Scientific Industrial Research Organisation, Nick Hardman-Mountford, Jim Greenwood, 2015-2016, Partner Institution(s): CSIRO, Funding: CSIRO

Environmental monitoring to improve understanding of oyster performance, Paul van Ruth, 2015-2017, Funding: Eyre Peninsula NRM Board, South Australian Oyster Growers Association, South Australian Oyster Research Council

Southern ocean carbon cycle postdoctoral fellow, University of Tasmania, Paula Conde-Pardo, 2015-2018, Funding: ACECRC

Australian marine microbial biodiversity initiative, Lev Bodrossy, Mark Brown, Tim Moltmann, 2015-2017, Funding: Integrated Marine Observing System (IMOS), Bioplatforms Australia (BPA)

CARS, synTS and SSS, Commonwealth Scientific Industrial Research Organisation, Madeleine Cahill, J Lovell, Funding: CSIRO

Blue whale calling trends Australia wide, Curtin University, Rob McCauley, Alexander Gavrilov

A uniquely Integrated approach to predicting Fisheries Recruitment, University of New South Wales, Moninya Roughan, 2015-2018, Funding: ARC Linkage Project

Ichthyoplankton long-term monitoring at National Reference Stations, University of Tasmania, Iain Suthers, Ana Lara-Lopez, Anthony Richardson, Kerrie Swadling, Tim Ward, 2015-2016, Funding: AFMA - Australian Fisheries Management Authority

Linking phytoplankton to fisheries using zooplankton size spectra, University of New South Wales, Iain Suthers, Laura Richardson, Mark Baird, Sagulenko Evgeny, 2015-2018, Partner Institution(s): ARC Discovery Project, Funding: University of New South Wales, ARC Discovery Project

Ocean Mixing Matters, University of New South Wales, Robin Robertson, Partner Institution(s): Defence Related Research Project

Modelling of oceanographic variables for the development of additional finfish aquaculture in Spencer gulf, South Australian Research and Development Institute, Mark Doubell, Charles James, John Middleton, Funding: Clean Seas Tuna

Predicting circulation patterns along the south-west Australian continental shelf, University of Western Australia, Ivica Janekovic, Charitha Pattiaratchi, Sarath Wijeratne, Yasha Hetzel, Simone Cosoli, 2015-2016, Partner Institution(s): IMOS, Funding: University of Western Australia

Eastern Indian Ocean upwelling research initiative, Commonwealth Scientific Industrial Research Organisation, Yukio Masumoto, Weidong Yu, Raleigh Hood, Ming Feng, 2016-2020, Partner Institution(s): CSIRO, JAMSTEC, State oceanographic Administration of China, University of Maryland

eSA-Marine: Phase I: the first step towards an operational now-cast/forecast model ocean prediction system for Southern Australia (FRDC 2016/005), John Middleton, et al., 2016-2017, Funding: Fisheries Research and Development Corporation

NESP project 2.3.1 - benthic light as ecologically-validated GBR-wide indicator for water quality: drivers, thresholds and cumulative risks, Australian Institute of Marine Science, University of Queensland, James Cook University, Katrina Fabricius, 2016-2018, Partner Institution(s): National Environmental Science Programme (NESP)

Computer modelling tools for predicting acoustic detection performance of a sea glider, Curtin University, Alexander Gavrilov, 2016-2016, Funding: Defence Science and Technology Group

A unique integrated approach to predicting fisheries recruitment, LP150100064, Moninya Roughan, Andrew Jeffs, G Liggins, Melinda Coleman, 2016-2018

Understanding the physical oceanographic drivers of a mass coral bleaching event AIMS research project, Australian Institute of Marine Science, Craig Steinberg, 2016-2017

NESP Tropical Water Quality Hub, Project 3.2.5 – Testing and implementation of the water quality metric for the 2017 and 2018 reef report cards, Great Barrier Reef Marine Park Authority, Britta Schaffelke, Mark Baird, 2017-2017, Funding: Department of Energy and Environment, National Environmental Science Program (NESP), CSIRO, Australian Institute of Marine Science, Queensland Government - Office of the Great Barrier Reef



Increasing participation in ocean science through data visualization, University of Sydney, M Doblin, K Sweetapple, J Lorber-Kasunic, Funding: Department of Industry, Innovation, Science, Research and Tertiary Education

Integrating biogeochemical modelling and ocean colour observations to quantify human impacts on water quality in the coastal ocean. CSIRO OCE postdoctoral fellowship, Commonwealth Scientific Industrial Research Organisation, Mark Baird, Emlyn Jones, Richard Matear, Thomas Schroeder, Funding: CSIRO

NESP TWQ - Project 3.3.3 - Defining the values of the ecological systems that influence the GBR and lie outside the marine park and world heritage area boundaries, James Cook University, Johanna Johnson, Funding: James Cook University, University of Queensland, Australian Institute of Marine Science, National Environmental Science Program (NESP)

AIMS Bleaching response 201, Australian Institute of Marine Science, Line Bay, Neal Cantin, Katrina Fabricius, Craig Steinberg, 2017-2018

NESP Tropical Water Quality Hub Project 3.2.1 – Deriving ecologically relevant load targets to meet desired ecosystem condition for the Great Barrier Reef: a case study for seagrass meadows in the Burdekin region, James Cook University, M Collier, Mark Baird, 2017-2019, Partner Institution(s): UQ, JCU, AIMS, Funding: National Environmental Science Program (NESP)

Great Barrier Reef resilience mapping, Commonwealth Scientific Industrial Research Organisation, Mark Baird, Scott Condie, 2017-2018, Partner Institution(s): AIMS, UQ, Funding: Great Barrier Reef Foundation

Key-stone microbes and planktonic guilds in the Australian ocean, University of Technology Sydney, Mark Brown, Justin Seymour, Martin Ostrowski, J Fuhrman, Murray Levine, R Edwards, Lev Bodrossy, Partner Institution(s): DP170101925, Funding: ARC Discovery Project

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## Ocean radar

New tools for managing ecosystem responses to climate change on the Southern Great Barrier Reef, James Cook University, Ove Hoegh-Guldberg, Kenneth Anthony, Andrew Bakun, Brad Congdon, Sophie Dove, Gene Feldman, Mal Heron, Ron Johnstone, Andrew Krockenberger, Laurence McCook, Allan Strong, Paul Marshall, Diane DiMassa, Julian Michael Caley, 2007-2011

Wave climate in the Southern Great Barrier Reef, James Cook University, Mal Heron, Michael Banner, Lucy Wyatt, 2009-2012, Partner Institution(s): Helzel Messtechnik GmbH, Seaview Sensing Ltd

HF radar applications on coral reefs, James Cook University, Mal Heron, Diane DiMassa, 2010-2012, Partner Institution(s): Massachusetts Maritime Academy, Funding: James Cook University, Massachusetts Maritime Academy, Bureau of Meteorology

Ocean-reef interactions as drivers of continental shelf productivity in a changing climate, University of Western Australia, University of New South Wales, Anya Waite, Moninya Roughan, Charitha Pattiaratchi, Jonne Kotta, Helen Orav-Kotta, 2010-2012, Funding: ARC

Cross shelf processes and nutrient enrichment in the East Australian Current regime, University of New South Wales, Amandine Schaeffer, Moninya Roughan, 2010-2015

Shaping integrated monitoring for the Great Barrier Reef World Heritage Area, Paul Hedge, 2011-2015, Funding: National Environmental Research Program (NERP)

New pathways of exchange at the mouth of Spencer Gulf: double diffusion., South Australian Research and Development Institute, Griffith University, Mark Doubell, John Middleton, Charles Lemkert

Sea breeze forcing of near-inertial wave near the critical latitude for resonance, University of Western Australia, Florence Kaempf, Charitha Pattiaratchi, 2011-2012, Partner Institution(s): Bangor University, UK (John Simpson) and Hydrographic Institute of the Republic of Croatia, Split, Croatia (Hrvoje Mihanovic), Funding: Group of Eight European Fellowship

Utilising the Capricorn Bunker HF radar, James Cook University, Lucy Wyatt, 2012-2012

Diffusion on the sea surface, James Cook University, Mal Heron, 2012-2014, Funding: ARC

eReefs - hydrodynamic modelling validation, BOM Queensland Regional Office, Arthur Simanjuntak, 2013-2014, Partner Institution(s): CSIRO, AIMS, Funding: Bureau of Meteorology

Physical oceanographic influences on Queensland reef fish and scallops, Queensland Department of Agriculture, Fisheries and Forestry, Tony Courtney, 2013-2015, Partner Institution(s): DAFF-BOM-CARM, Funding: Fisheries Research and Development Corporation

Topological, statistical and signal-theoretic methods for identifying Lagrangian coherent structures in the East Australian Current, University of New South Wales, Shane Keating, 2013-2013, Partner Institution(s): SIMS, Funding: University of New South Wales

Australian national shelf reanalysis, Emlyn Jones, Moninya Roughan, Tim Moltmann, Andreas Schiller, Peter May, 2014-2014, Funding: Integrated Marine Observing System (IMOS)

Advancing dynamical understanding in the East Australian Current: optimising the ocean observation and prediction effort, Sydney Institute for Marine Science, Moninya Roughan, 2014-2016, Funding: ARC

Accuracy of wind data from WERA radars, University of Western Australia, Charitha Pattiaratchi, Simone Cosoli

Feasibility of SeaSonde radar calibration via autonomous drones, University of Western Australia, Simone Cosoli, Jim Pettigrew

Coastal radar observations of frontal eddies in the Tasman Sea, University of New South Wales, Moninya Roughan, Shane Keating, Iain Suthers, Matt Archer, 2015-2017, Funding: NSW Research Attraction and Acceleration Program

Predicting circulation patterns along the south-west Australian continental shelf, University of Western Australia, Ivica Janekovic, Charitha Pattiaratchi, Sarath Wijeratne, Yasha Hetzel, Simone Cosoli, 2015-2016, Partner Institution(s): IMOS, Funding: University of Western Australia

eSA-Marine: Phase I: the first step towards an operational now-cast/forecast model ocean prediction system for Southern Australia (FRDC 2016/005), John Middleton, et al., 2016-2017, Funding: Fisheries Research and Development Corporation

Feasibility of extraction of meteotsunami signals from HF Radar, University of Western Australia, Simone Cosoli, Charitha Pattiaratchi

**Research Project Count 21**

## Animal tracking

Foraging ecology of emperor penguins in summer and potential overlap with fisheries, Australian Antarctic Division, Barbara Wienecke, Jerry Kooyman, Yvon Le Maho, Graham Roberston, 2000-2013, Partner Institution(s): Scripps, CNRS France

Estimating and maximising the survival of key species released by recreational fishers in NSW, Industry and Investment New South Wales, Matt Broadhurst, 2003-2012

Spatial management of reef fisheries and ecosystems: understanding the importance of movement, University of Tasmania, Colin Buxton, 2004-2010, Partner Institution(s): DPIPW, NT Fisheries

Predator research survey and monitoring in support of CCAMLR's management of the krill fishery, Australian Antarctic Division, Colin Southwell, Louise Emmerson, 2006-2012, Funding: Australian Antarctic Division

Grey nurse shark South-East Australian Coastal Acoustic Monitoring System (SEACAMS), Industry and Investment New South Wales, Nick Otway, 2006-2008

Winter foraging success of Southern Ocean predators in relation to stochastic variation in sea-ice extent and winter water formation, University of Tasmania, Mark Hindell, Mike Fedak, Iain Field, Christophe Guinet, Rob Harcourt, Clive McMahon,

John Van Den Hoff, 2006-2012, Partner Institution(s): University of St Andrews, Macquarie University, CNRS France, Charles Darwin University, Australian Antarctic Division, Funding: Australian Antarctic Division

"Fishtrack": effects of flows and barriers on the distribution, abundance, movements and migration of freshwater fishes in the Clarence River System, Industry and Investment New South Wales, Stuart Rowland, Gavin Butler, 2006-2011

Great white shark tagging project, Industry and Investment New South Wales, Nick Otway, 2006-2007

WAMSI Node 3 Ningaloo research program: diversity, abundance and habitat utilisation of sharks and rays., John Stevens, Peter Last, W White, Rob McCauley, Mark Meekan

WAMSI node 3 Ningaloo research program: adequacy of zoning in the Ningaloo marine park, R Pillans, Russ Babcock, James Patterson, Jason How, G Hyndes

Movements and biology of coastal sharks in NSW, Industry and Investment New South Wales, Amy Smoothery, Vic Peddemors, 2007-2012

Winter foraging locations of Southern Ocean predators - sub Antarctic islands, University of Tasmania, British Antarctic Survey, Mark Hindell, Mary-Anne Lea, Phil Trathan, 2007-2011, Partner Institution(s): AAD, Funding: Australian Antarctic Division

Habitat use and migration patterns of silvertip and grey reef sharks at the Rowley Shoals, Western Australia, Maquarie University, University of Adelaide, Iain Field, Mark Meekan, Corey Bradshaw, 2007-2009

Study of manta rays within the South East Queensland waters, University of Queensland, Kathy Townsend, 2007-2008, Partner Institution(s): South East Queensland Catchments, Funding: South East Queensland Catchments

Site Fidelity, localised movement patterns and migrations of manta rays along the Queensland coast, University of Queensland, Mike Bennett, Kathy Townsend, 2007-2009

Dietary ecology and remote sensing as predictive tools for habitat utilisation of the manta ray, *Manta birostris*, Mike Bennett, Kathy Townsend, Scarla Weeks, 2007-2009, Partner Institution(s): Sea World, Funding: Seaworld Research and Rescue Foundation

Ecological management sub-project - assessing native fish behaviour in response to flow in a dryland river (Moonie R, southwest QLD), eWater CRC, Jon Marshall, Stephen Balcombe, 2007-2010, Partner Institution(s): DERM, Griffith University, Arthur Rylah Insatiate, Monash University

Project Manta – a multidisciplinary study of an iconic species, University of Queensland, Kathy Townsend, Mike Bennett, Anthony Richardson, Scarla Weeks, 2007-2012, Partner Institution(s): CSIRO, Earthwatch, Lady Elliot Island Resort, CRL, Sea World, Redland City Council, SEQ Catchments, Manta Lodge and Scuba Centre

Rebuilding ecosystem resilience: Assessment of management options to minimise formation of 'Barrens' habitat by the long-spined sea urchin (*Centrostephanus rodgersii*) in Tasmania, University of Tasmania, Craig Johnson, 2007-2010, Partner Institution(s): DPIPWE

Towards integrated multi-species management of Australia's SE reef fisheries: a Tasmanian example, University of Tasmania, Commonwealth Scientific Industrial Research Organisation, Stewart Frusher, 2007-2010, Partner Institution(s): DPIPWE

Understanding the vulnerability of key inshore and estuarine fish species: new opportunities with accelerometer telemetry, University of Tasmania, Jayson Semmens, 2008-2010, Partner Institution(s): Vemco

Project Manta – Ecology and biology of an iconic marine animal, University of Queensland, Commonwealth Scientific Industrial Research Organisation, Kathy Townsend, 2008-2011, Partner Institution(s): Hannan Productions, Redland City Council, Kaufmann Productions, Earthwatch, LEI Eco-Resort, Manta Lodge and Scuba Centre, Consolidated Rutile Limited

Movement and migration of carp in the Murray-Darling basin, Fisheries Victoria, Paul Brown, 2008-2011, Partner Institution(s): Invasive Animals CRC, NSW I&I

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Movements and ecological interactions of key fish species in estuaries and coastal waters of NSW, Industry and Investment New South Wales, Charles Gray, 2008-2013

Habitat use and movement patterns of grey reef sharks in Palau, Australian Institute of Marine Science, Mark Meekan, Partner Institution(s): Micronesian Shark Foundation, Save Our Seas Foundation, University of Western Australia

Preliminary acoustic monitoring of sharks on the Ribbon Reefs, James Cook University, Michelle Heupel, 2008-2008, Partner Institution(s): Reef Channel, JCU

Understanding movement patterns in key recreational species, University of Tasmania, Jeremy Lyle, 2008-2010, Partner Institution(s): Inland Fisheries Service

Spatial ecology of inshore predators in tropical marine systems and implications of marine protection zones, Colin Simpfendorfer, Michelle Heupel, David Welch, John Carlson, 2009-2011, Funding: ARC Linkage Project

Offshore artificial reefs research program, Industry and Investment New South Wales, Micheal Lowry, 2009-2013

What size do marine protected area sanctuary zones need to be in order to protect the near-threatened Western Blue Groper and Harlequin Fish? , Department of Environment and Natural Resources, Simon Bryars, Paul Rogers, Charlie Huveneers, 2009-2010, Partner Institution(s): Flinders University, Funding: Department of Environment and Natural Resources, SA, South Australian Research and Development Institute

eAtlas, Australian Institute of Marine Science, Katrina Fabricius, 2009-2013, Partner Institution(s): JCU, GBRMPA, Funding: National Environmental Research Program (NERP) , Marine and Tropical Sciences Research Facility (MTSRF)

The effects of berley on the distribution and behaviour of white sharks at the Neptune Islands, SA, Commonwealth Scientific Industrial Research Organisation, Bary Bruce, Russell Bradford, 2009-2011, Funding: Department of Environment and Natural Resources, SA, Calypso Star Charters

Assessment of barotrauma and its mitigation measures on the behaviour and survival of offshore species in NSW, Industry and Investment New South Wales, John Stewart, 2009-2012, Partner Institution(s): University of Western Sydney

Assessing the adequacy and effectiveness of eastern blue groper protection within Bronte-Coogee Aquatic Reserve utilising habitat mapping and acoustic monitoring techniques, Department of Environment, Climate Change and Water, Macquarie University, T MacDonald, Charlie Huveneers, Rob Harcourt, 2009-2011, Partner Institution(s): Sydney Institute for Marine Science, Macquarie University, SARDI, Flinders University, Randwick Council, Waverly Council, Funding: Caring for Coasts

The aggregative behaviour of snapper (*Chrysophrys auratus*) and their interactions with white sharks (*Carcharodon carcharias*), South Australian Research and Development Institute, Anthony Fowler, Charlie Huveneers, Mike Steer, 2009-2010

Near-shore habitat use by juvenile white sharks in coastal waters off Port Stephens, Commonwealth Scientific Industrial Research Organisation, Bary Bruce, Russell Bradford, 2010-2011, Partner Institution(s): Hunter-Central rivers CMA, Port Stephens Great Lakes Marine Park, Funding: Tag for life

Presence and residency of inshore teleosts within a scientific research zone, Australian Institute of Marine Science, Michelle Heupel, Mike Cappo

Assessing the effectiveness of shark nursery area closures for the protection and conservation of soastal shark species, University of Tasmania, Jayson Semmens, Stewart Frusher, Adam Barnett, 2010-2014, Funding: Winifred Violet Scott Charitable Trust

Activity patterns of reef sharks assessed from accelerometer telemetry: contributing to understanding the potential impacts of tourist diving on shark, University of Tasmania, Jayson Semmens, 2010-2014, Funding: Winifred Violet Scott Charitable Trust

The impact of Fish Aggregating Devices (FADs) on the movement and behaviour of tropical tuna (*Thunnus obesus*, *Katsuwonus pelamis* and *Thunnus albacares*), University of Tasmania, Jayson Semmens, Stewart Frusher, Kilian Stehfest, 2010-2013, Funding: Holsworth Wildlife Research Endowment

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Profiling the biology and fishery of rock blackfish (*Girella elevata*) in the Sydney region, Department of Primary Industries, NSW, Charles Gray, Matt Taylor, 2010-2013, Partner Institution(s): UNSW

Movements and habitat use of luderick within Jervis Bay Marine Park, New South Wales Marine Parks Authority, Nathan Knott, Matt Taylor, 2010-2011, Partner Institution(s): UNSW, UWA, NSW DPI, Funding: New South Wales Marine Parks Authority

Feeding and breeding: the role of hydrology in habitat use, fidelity and connectivity of iconic temperate fishes, University of New South Wales, Matt Taylor, Iain Suthers, 2010-2013, Partner Institution(s): NSW I&I, UTS, Invasive Animals CRC, Funding: ARC Linkage Project

Movement and home ranges of the Harlequin Fish, Department of Environment and Natural Resources, Simon Bryars, 2010-2011, Partner Institution(s): SARDI, Flinders University, University of Adelaide

Acoustic telemetry in Northern Spencer Gulf, South Australia: understanding the spawning aggregative behaviour of snapper (*Chrysophrys auratus*) and their interactions with white sharks (*Carcharodon carcharias*), South Australian Research and Development Institute, Flinders University, Charlie Huvneers, 2010-2011

Understanding the residence time and movement patterns of whaler sharks (*Carcharhinus* spp.) along the Adelaide metropolitan beaches, South Australian Research and Development Institute, Flinders University, Charlie Huvneers, Paul Rogers, Simon Goldsworthy, 2010-2014, Partner Institution(s): DEWNR, Adelaide and Mt Lofty Range NRM Board

Sub-tropical Queensland great white and bull shark tagging program, Queensland Fisheries, Jonathon Werry, 2010-2015, Partner Institution(s): Griffith University

Longitudinal movement of *Tandanus tandanus* in the Pioneer R, QLD: the influence of flow and connectivity, Department of Environment and Resource Management, Jon Marshall, Stephen Balcombe, 2010-2011, Partner Institution(s): Griffith University

White shark population and abundance trends, Bary Bruce, 2011-2015, Funding: National Environmental Research Program (NERP)

Marine monitoring blueprint: meeting a monumental challenge, Paul Hedge, 2011-2015, Funding: National Environmental Research Program (NERP)

Collating existing survey data for Commonwealth marine waters, Jeffrey Dambacher, 2011-2015, Funding: National Environmental Research Program (NERP)

Maximising the benefits of mobile predators to GBR ecosystems: the importance of movement, habitat and environment, Australian Institute of Marine Science, James Cook University, Michelle Heupel, Colin Simpfendorfer, 2011-2014, Funding: National Environmental Research Program (NERP)

An integrated examination of the drivers of movements of large filter feeding organisms of high ecotourism value: a case study, University of Queensland, Commonwealth Scientific Industrial Research Organisation, Mike Bennett, Kathy Townsend, Anthony Richardson, Scarla Weeks, 2011-2013, Partner Institution(s): Earthwatch, LEI Eco-Resort, Manta Lodge and Scuba Centre, Consolidated Rutile Limited, CSIRO, Funding: ARC Linkage Project

Snapper migratory dynamics and habitat use, Fisheries Victoria, Paul Hamer, 2011-2014, Funding: Victorian Recreational Fishing Licence Trust

Drivers of juvenile shark biodiversity and abundance in inshore ecosystems of the Great Barrier Reef, James Cook University, Australian Institute of Marine Science, Michelle Heupel, Colin Simpfendorfer, Andrew Tobin, 2011-2014, Funding: National Environmental Research Program (NERP)

Grey nurse shark research and community engagement program, Reef Check Australia, Carley Bansemer, Mike Bennett, Partner Institution(s): Moreton Bay Regional Office of DERM, Uni of Q and Fauna & Flora International Australia (FFI)

Scientific support for managing Australia's marine biodiversity - a national marine biodiversity hub, University of Tasmania, Nicholas Bax, Chris Austin, Russ Babcock, Neville Barrett, Mark Bravington, Brendan Brooke, Julian Michael Caley, Piers Dunstan, Karen Edyvane, Peter Harris, Sarah Jennings, Gary Kendrick, Tim O'Hara, Sean Pascoe, Bob Pressey, Wendy Proctor, Tony Smith, Chris Wilcox, 2011-2015, Partner Institution(s): AIMS, CDU, CSIRO, GA, Museum Victoria, JCU, UTas,

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UWA, Funding: National Environmental Research Program (NERP)

Acoustic tracking of top-order predators on offshore coral atolls of the NW Shelf, Australian Institute of Marine Science, Macquarie University, University of Western Australia, Mark Meekan, Rob Harcourt, 2011-2016

Pelagic ecosystem linkages in a changing Southern Ocean, Australian Antarctic Division, University of Tasmania, Maquarie University, Steve Nicol, Nick Gales, Mark Hindell, Rob Harcourt, 2011-2014, Funding: ARC Super Science Fellowship

Continued monitoring of chondrichthyan species in coastal areas of SE Australia: assessing the effectiveness of shark nursery area closures for the protection and conservation of coastal shark species, University of Tasmania, Jayson Semmens, Jeremy Lyle, Adam Barnett, Colin Buxton, Stewart Frusher, 2011-2013, Funding: Save Our Seas Foundation

Understanding climate drivers and predicting the future for coastal Australian ecosystems, University of Tasmania, Peter Strutton, Jayson Semmens, Caleb Gardner, Gary Griffith, 2011-2013, Partner Institution(s): UWA, JCU, Funding: ANNIMS

Assessing the efficacy of small marine protected areas for the conservation of eastern blue groper and wobbegong sharks, Maquarie University, Rob Harcourt, 2011-2012, Partner Institution(s): DECCW, I & I, Funding: Seaworld Research and Rescue Foundation

Using animal-borne cameras to quantify prey field, habitat characteristics and foraging success in a marine top predator, Deakin University, John Arnould, Mark Hindell, Jayson Semmens, 2011-2013, Partner Institution(s): University of Tasmania, Funding: ARC

Changing ocean temperatures and movements of marine predators: the performance of marine protected areas in a warming ocean, James Cook University, Michelle Heupel, 2011-2015, Funding: ARC Future Fellowship

Acoustic telemetry in Northern Gulf St. Vincent, South Australia: contributions to understanding the movement behaviour of snapper (*Chrysophrys auratus*) and whaler and white sharks (*Carcharhinus* sp. and *Carcharodon carcharias*), South Australian Research and Development Institute, Anthony Fowler, Charlie Huveneers, 2011-2012, Partner Institution(s): Flinders University, Funding: South Australian Research and Development Institute

Moreton Bay acoustic consortium, University of Queensland, Commonwealth Scientific Industrial Research Organisation, National Electronics and Computer Technology Centre, Commonwealth Scientific Industrial Research Organisation, Department of Environment and Heritage Protection, Helen Marsh, 2011-2014, Funding: Australian Marine Mammal Foundation

Monitoring Threatened, Endangered and Protected shark species and species of conservation concern within the Adelaide metropolitan region, South Australian Research and Development Institute, Flinders University, Charlie Huveneers, 2011-2014, Funding: Neiser Foundation, Adelaide and Mt Lofty Ranges NRM Board

The potential of using data-logging acoustic receivers to study the movements and residency patterns of dugongs in port environments: a comparison with satellite tracking, James Cook University, Helen Marsh, Partner Institution(s): CSIRO, Funding: Australian Marine Mammal Centre

Assessing threats to marine biodiversity of the Ningaloo world heritage area, Mathew Vanderklift, Russ Babcock, 2012-2013, Funding: Caring For Our Country

Do coastal currents feed the harvest from purpose-built, offshore artificial reefs?, University of New South Wales, Sydney Institute for Marine Science, Iain Suthers, Micheal Lowry, Matt Taylor, Moninya Roughan, Emma Johnston, Charles Gray, 2012-2015, Funding: ARC Linkage Project, Department of Primary Industries, NSW

South East Queensland integrated terrestrial to oceans research, University of Queensland, Andy Steven, Stuart Phinn, 2012-2013, Funding: Australian National Data Service (ANDS)

Towards and integrated study of the Gladstone marine system, Commonwealth Scientific Industrial Research Organisation, Russ Babcock, R Pillans, 2012-2014, Partner Institution(s): CSIRO, APLNG, Funding: GISERA

The influence of fish movement on regional fishery production and stock structure for snapper (*Pagrus auratus*) in south eastern Australia, South Australian Research and Development Institute, Anthony Fowler, Charlie Huveneers, Mike Steer, 2012-2014, Funding: Fisheries Research and Development Corporation

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Jigging for Science - Defining the spawning needs of calamari, Fisheries Victoria, Corey Green, 2012-2015, Funding: Victorian Recreational Fishing Licence Trust

Movement of Port Jackson Sharks, Macquarie University, Christopher Brown, Nathan Knott, 2012-2020, Partner Institution(s): Taronga Conservancy Society, Fisheries NSW, Funding: ARC Linkage Project, Taronga Zoo, Seaworld Research and Rescue Foundation, Woolworths

Autonomous platforms and biotagging data: a new approach for understanding variability and change across the Antarctic Ocean/sea-ice climate system, University of Tasmania, Guy Williams, 2013-2017, Funding: ARC Future Fellowship

Monitoring the effects of the South Australian white shark cage-diving industry, South Australian Research and Development Institute, Flinders University, Woods Hole Oceanographic Institute, Charlie Huveneers, Paul Rogers, Simon Goldsworthy, 2013-2016, Funding: Department of Environment and Natural Resources, SA

Offshore artificial reefs, Industry and Investment New South Wales, Iain Suthers, Matt Taylor, 2013-2016, Funding: ARC Linkage Project

Social interactions and migration patterns of Port Jackson sharks, Macquarie University, Culum Brown, Tristan Guttridge, Joanna Wiszniewski, Marlin Gregor, Nathan Knott, 2014-2017, Funding: ARC Linkage Project

The Great Australian Bight research program: project 4.2. Identifying areas of ecological significance for iconic species and apex predators in the great Australian Bight, South Australian Research and Development Institute, Commonwealth Scientific Industrial Research Organisation, Simon Goldsworthy, Fred Bailleul, Toby Patterson, 2014-2017, Funding: BP, South Australian Research and Development Institute, Flinders University

The Great Australian Bight research program: project 4.1. Status, distribution and abundance of iconic species and apex predators in the Great Australian Bight, South Australian Research and Development Institute, Flinders University, Simon Goldsworthy, Alice Mackay, Luciana Moller, Guido Para, Paul Rogers, 2014-2017, Funding: BP, South Australian Research and Development Institute, Flinders University

Sensing Macquarie Harbour, University of Tasmania, Commonwealth Scientific Industrial Research Organisation, Jayson Semmens, Adam Main, John McCulloch, 2015-2016, Partner Institution(s): Tasmanian Salmonoid Growers Association, Funding: Sense-T Stage 2

Applications of tracking technologies to understand patterns of movement, residency and habitat use of pelagic sharks in Spencer Gulf: resolving overlaps with community activities and marine industries, South Australian Research and Development Institute, Paul Rogers, 2015-2017, Funding: Fisheries Research and Development Corporation

Shark movements linked to oceanography, Rob Harcourt, Vic Peddemors, Moninya Roughan, Kate Lee, 2015-2017, Funding: NSW Research Attraction and Acceleration Program

Monitoring the effects of the South Australian white shark cage-diving industry, South Australian Research and Development Institute, Charlie Huveneers, 2016-2019, Funding: Department of Environment and Natural Resources, SA

Assessment of any impacts of scuba divers on critically endangered Grey Nurse sharks, Queensland Parks and Wildlife Service, Great Barrier Reef and Marine Parks, Carley Bansemer, 2017-2018, Partner Institution(s): QLD Government, UQ, CSIRO, Funding: Burnett Mary Regional Group from Landcare Australia, Sea Life Trust, The Edge Pledge

Identifying Galapagos shark movement patterns, interactions with fishing vessels and residency in Lord Howe Island Marine Park, University of Western Australia, Jonathan Mitchell, 2017-2018, Partner Institution(s): NSW DPI, UWA, Funding: NSW Recreational Fisheries Trust

Multi-site foraging habitat use by Weddell seals under different sea-ice conditions, National Institute for Polar Research, Karine Heerah, 2018-2019, Partner Institution(s): Macquarie University Australia, UTas Australia, Paris Museum of Natural History, CNRS France, Funding: Japan Society for the Promotion of Science

Smart Environmental Monitoring and Analysis Technologies - SEMAT, University of Queensland, Ron Johnstone, 2009-2012, Partner Institution(s): Queensland State Government, Milan Foundation, Torino Foundation., Funding: Queensland Smart State

eAtlas, Australian Institute of Marine Science, Katrina Fabricius, 2009-2013, Partner Institution(s): JCU, GBRMPA, Funding: National Environmental Research Program (NERP) , Marine and Tropical Sciences Research Facility (MTSRF)

CREON Thailand mooring, National Electronics and Computer Technology Centre, Scott Bainbridge, Mullica Jaroensutasinee, Piyawut Srichaikul, 2010-2011, Partner Institution(s): Australian Institute of Marine Science, Walailak University, Funding: National Electronics and Computer Technology Centre

Event detection and data management using cloud computing based systems for sensor network data, University of Melbourne, Marimuthu Palaniswami, 2010-2011, Funding: ARC

Automated detection and identification of marine organisms using sensor networks, University of Melbourne, Marimuthu Palaniswami, 2010-2011, Funding: ARC

Space-based national wireless sensor network, University of South Australia, Jeff Kasparian, 2011-2015, Partner Institution(s): CSIRO, Defence Science and Technology Organisation, Australian Institute of Marine Science, Sage Automation, Funding: Department of Industry, Innovation, Science, Research and Tertiary Education

Next generation satellite tools for understanding change in coral reef ecosystems due to multiple global and local stressors, University of Queensland, Ove Hoegh-Guldberg, Sophie Dove, Mark Eakin, Ray Berkelmans, Scott Bainbridge, David Wachenfeld, 2011-2016, Partner Institution(s): University of Queensland, Australian Institute of Marine Science, Great Barrier Reef Marine Park Authority, NOAA, Funding: ARC Linkage Project

Drivers of juvenile shark biodiversity and abundance in inshore ecosystems of the Great Barrier Reef, James Cook University, Australian Institute of Marine Science, Michelle Heupel, Colin Simpfendorfer, Andrew Tobin, 2011-2014, Funding: National Environmental Research Program (NERP)

SeaDroid: low cost, real-time water temperature logging, National Oceanic and Atmospheric Administration, Jim Hendee, Tim Burgess, Scott Heron, Scott Bainbridge, 2011-2012, Partner Institution(s): Australian Institute of Marine Science, Funding: NOAA - National Oceanic and Atmospheric Administration

Maximising the benefits of mobile predators to GBR ecosystems: the importance of movement, habitat and environment, Australian Institute of Marine Science, James Cook University, Michelle Heupel, Colin Simpfendorfer, 2011-2014, Funding: National Environmental Research Program (NERP)

eReefs - hydrodynamic modelling validation, BOM Queensland Regional Office, Arthur Simanjuntak, 2013-2014, Partner Institution(s): CSIRO, AIMS, Funding: Bureau of Meteorology

eReefs DA - phase 2, Commonwealth Scientific Industrial Research Organisation, Emlyn Jones, 2014-2015, Partner Institution(s): BOM, AIMS

**Research Project Count 12**

## Australian Ocean Data Network

Quantifying the role of salps in marine food webs and organic carbon export, University of New South Wales, Iain Suthers, Funding: ARC Discovery Project

Coastal cold core eddies of the East Australian Current and their fisheries potential, University of New South Wales, Iain Suthers, Funding: ARC Discovery Project

Marine and Climate Data Discovery and Access Project (MACDDAP) NeAT Project, University of Tasmania, Nathan Bindoff, 2009-2011, Partner Institution(s): UTAS, BoM, CMAR, Architecta

Analysis and visualisation tools for the interactions of biological and physical processes in the Great Barrier Reef, James Cook University, Michelle Heupel, Roger Proctor, Wiebke Ebeling, 2010-2012, Partner Institution(s): UTAS, JCU , Funding: ANNIMS



Marine monitoring blueprint: meeting a monumental challenge, Paul Hedge, 2011-2015, Funding: National Environmental Research Program (NERP)

Collating existing survey data for Commonwealth marine waters, Jeffrey Dambacher, 2011-2015, Funding: National Environmental Research Program (NERP)

Australia/EU marine information infrastructure collaboration, University of Tasmania, Roger Proctor, 2011-2011, Partner Institution(s): AIMS, CSIRO, ICT, UTAS, AAD, Funding: Department of Industry, Innovation, Science, Research and Tertiary Education

Ocean-shelf exchange with an emphasis on the role of waves, tides, eddies and cross-shelf flows on carbon exchange, University of Western Australia, University of Tasmania, James Cook University, Charitha Pattiaratchi, Roger Proctor, Peter Ridd, 2011-2012, Partner Institution(s): UWA, JCU, AIMS, UTas, CSIRO, UNSW, UTS, SARDI/Flinders, IOC, Proudman Oceanographic Laboratory, University of Southern Mississippi, University of Maryland, Baltic Sea Research Institute, Funding: ANNIMS

Shaping integrated monitoring for the Great Barrier Reef World Heritage Area, Paul Hedge, 2011-2015, Funding: National Environmental Research Program (NERP)

Ocean-shelf exchange with an emphasis on the roles of waves, tides, eddies and cross-shelf flows on carbon exchange, University of Tasmania, University of Western Australia, James Cook University, Roger Proctor, Charitha Pattiaratchi, Peter Ridd, 2012-2014, Funding: ANNIMS

Marine Virtual Laboratory (MARVL) early activity, University of Tasmania, Commonwealth Scientific Industrial Research Organisation, Roger Proctor, Peter Oke, 2012-2013, Funding: National eResearch Collaboration Tools and Resources (NeCTAR)

MARVL Information System (MARVLIS), University of Tasmania, Roger Proctor, 2012-2013, Funding: Australian National Data Service (ANDS)

Marine Virtual Laboratory (MARVL) stage 2, University of Tasmania, Commonwealth Scientific Industrial Research Organisation, Roger Proctor, Peter Oke, 2013-2014, Partner Institution(s): AIMS, SARDI, UWA, UNSW, BOM, UTAS, CSIRO, Funding: National eResearch Collaboration Tools and Resources (NeCTAR)

Marine Virtual Laboratory (MARVL) stage 3: improving access to shelf and coastal data and models through MARVL, University of Tasmania, Commonwealth Scientific Industrial Research Organisation, Roger Proctor, Peter Oke, 2014-2015, Partner Institution(s): IMOS, CSIRO, TPAC, Funding: National eResearch Collaboration Tools and Resources (NeCTAR)

Australian Marine and Antarctic DATA Archive (ARMADa), Commonwealth Scientific Industrial Research Organisation, University of Tasmania, Sebastien Mancini, Edward King, Funding: CSIRO, Integrated Marine Observing System (IMOS)

Marine Virtual Laboratory (MARVL) stage 4: engaging more widely, Commonwealth Scientific Industrial Research Organisation, University of Tasmania, Roger Proctor, Peter Oke, 2015-2016, Partner Institution(s): IMOS, CSIRO, TPAC, Funding: National eResearch Collaboration Tools and Resources (NeCTAR)

Marine Virtual Laboratory (MARVL) - increasing flexibility and utility, Commonwealth Scientific Industrial Research Organisation, University of Tasmania, Roger Proctor, Peter Oke, 2016-2017, Partner Institution(s): IMOS, CSIRO, TPAC, Funding: National eResearch Collaboration Tools and Resources (NeCTAR), Australian National Data Service (ANDS)

Reef 2050 Integrated monitoring and reporting program strategy - Data Management and Systems Actions 3 and 5: Principles, protocols and characteristics for data management, University of Tasmania, Roger Proctor, 2017-2017, Partner Institution(s): UTAS, AIMS, CSIRO, JCU

**Research Project Count 18**

## Satellite remote sensing

BlueLink II/III - ocean forecasting for Australia: BlueLink global program, Centre for Australian Weather and Climate Research, Bureau of Meteorology, Helen Beggs, Gary Brassington, David Griffin, Peter Oke, Eric Schulz, 2003-2013

Reef rescue marine monitoring program, Reef and Rainforest Research Centre, Britta Schaffelke, 2005-2013, Partner Institution(s): GBRMPA, AIMS, James Cook University, CSIRO, the Northern Fisheries Centre of the Queensland Department of Employment, Economic Development and Innovation and the National Research Centre for Environmental Toxicology at the University of Queensland, Funding: Caring For Our Country

Reef temp project - GBRMPA web tool for predicting coral bleaching , University of Melbourne, Jeffrey Maynard

Quantifying the role of salps in marine food webs and organic carbon export, University of New South Wales, Iain Suthers, Funding: ARC Discovery Project

GHRST tropical warm pool diurnal variability project, Centre for Australian Weather and Climate Research , Bureau of Meteorology, Helen Beggs, Leon Majewski, Pierre LeBorgne, Gary Wick, Sandra Castro, Carol Ann Clayson, Chelle Gentemann, Rachel Weihs, Peter Steinle, Paul Sandery, Vaughan Barass, Chris Tingwell, Matthew Martin, Partner Institution(s): NOAA, CSIRO, University of Colorado, Meteo-France, Met Office, Florida State University, Remote Sensing Systems, University of Edinburgh, Funding: BLUElink, Bureau of Meteorology

Predictive tool for the improved monitoring of the onset and outbreak of coral disease (White Syndrome) in northern Australia , University of Melbourne, Jeffrey Maynard

Coastal cold core eddies of the East Australian Current and their fisheries potential, University of New South Wales, Iain Suthers, Funding: ARC Discovery Project

Innovative Solutions 2, Department of Primary Industries SA, John Luick, 2009-2013, Funding: Fisheries Research and Development Corporation

Transient coastal upwelling along Ningaloo Reef project , University of Western Australia, Gregory Ivey, Ryan Lowe, Charitha Pattiaratchi, 2009-2011, Funding: ARC

Animations of raw temperature and anomalies for all Commonwealth Marine Reserves to inform the review and revision, in particular, of management plans for the following Reserves: Ashmore, Cartier, Ningaloo, and Mermaid, University of Melbourne, Jeffrey Maynard

Cross shelf processes and nutrient enrichment in the East Australian Current regime, University of New South Wales, Amandine Schaeffer, Moninya Roughan, 2010-2015

Ultra high-resolution SST analysis over the Great Barrier Reef - testing use of IMOS HRPT AVHRR L2P products in the SST analysis system , French Research Institute for Exploration of the Sea, Jean-Francois Poille, Partner Institution(s): Ifremer, Funding: European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT)

Reef rescue marine monitoring program, Commonwealth Scientific Industrial Research Organisation, Vittorio Brando, 2010-2010, Partner Institution(s): AIMS, JCU, Funding: Great Barrier Reef Marine Park Authority

CSIRO Marine and Atmospheric Research SST products - testing use of IMOS HRPT AVHRR L2P products for production of CMAR SST composite products , Commonwealth Scientific Industrial Research Organisation, David Griffin, Partner Institution(s): Bureau of Meteorology

Collating existing survey data for Commonwealth marine waters, Jeffrey Dambacher, 2011-2015, Funding: National Environmental Research Program (NERP)

Eddies and upwelling: using satellite datasets to examine patterns in chlorophyll a adjacent to the East Australian Current, University of Technology Sydney, Jason Everett

Shaping integrated monitoring for the Great Barrier Reef World Heritage Area, Paul Hedge, 2011-2015, Funding: National Environmental Research Program (NERP)

Demography and interannual variability of salp swarms, University of New South Wales, Natasha Henschke, Jason Everett, M Doblin, Kylie Pitt, Anthony Richardson, Iain Suthers, 2011-2014, Funding: Commonwealth Government

Understanding climate drivers and predicting the future for coastal Australian ecosystems, University of Tasmania, Peter Strutton, Jayson Semmens, Caleb Gardner, Gary Griffith, 2011-2013, Partner Institution(s): UWA, JCU, Funding: ANNIMS

Scientific support for managing Australia's marine biodiversity - a national marine biodiversity hub, University of Tasmania, Nicholas Bax, Chris Austin, Russ Babcock, Neville Barrett, Mark Bravington, Brendan Brooke, Julian Michael Caley, Piers Dunstan, Karen Edyvane, Peter Harris, Sarah Jennings, Gary Kendrick, Tim O'Hara, Sean Pascoe, Bob Pressey, Wendy Proctor, Tony Smith, Chris Wilcox, 2011-2015, Partner Institution(s): AIMS, CDU, CSIRO, GA, Museum Victoria, JCU, UTas, UWA, Funding: National Environmental Research Program (NERP)

Including IMOS HRPT AVHRR L2P SST in Global 1 km SST analysis (G1SST), North American Space Agency Jet Propulsion Laboratory, Yi Chao, Partner Institution(s): NASA JPL, Funding: National Aeronautics and Space Agency (NASA)

Collating existing pressure data for the Commonwealth marine area, Piers Dunstan, 2011-2015, Funding: National Environmental Research Program (NERP)

NERP and NESP marine biodiversity hub, Australian Institute of Marine Science, Charles Darwin University, Commonwealth Scientific Industrial Research Organisation, Geoscience Australia, University of Tasmania, Museum Victoria, University of Western Australia, NSW DPI, NSW OEH, Nicholas Bax, 2011-2021, Funding: Department of the Environment

Marine monitoring blueprint: meeting a monumental challenge, Paul Hedge, 2011-2015, Funding: National Environmental Research Program (NERP)

Project 318950 'A global network of permanent sites for calibrating satellite altimetry missions', Stelios Mertikas, 2012-2016, Partner Institution(s): Watson, C.S. UTAS. Et al., Funding: European Union 7th Framework Marie Curie Actions: International Research Staff Exchange Scheme FP7-PEOPLE-2012 IRSES

Australian Cal/Val of sentinel-3 sea surface height project ID: 13680, University of Tasmania, Chris Watson, Neil White, John Church, Partner Institution(s): CSIRO, Funding: ESA - European Space Agency

eReefs - ReefTemp Next Generation, Bureau of Meteorology, Great Barrier Reef Marine Park Authority, Claire Spillman, Luke Garde, Oscar Alves, Funding: National Plan for Environmental Information (NPEI)

eReefs - enhanced monitoring, Commonwealth Scientific Industrial Research Organisation, Andreas Schiller, 2012-2013, Partner Institution(s): BOM, GBRF, Funding: Great Barrier Reef Foundation, SIEF Fellowship

The krill pump: transferring carbon across a layered ocean in a changing, University of New South Wales, Iain Suthers, Funding: ARC Discovery Project

Satellite phytoplankton functional algorithm inter-comparison project, Hokkaido University, Daisuke Hirano, Partner Institution(s): <http://pft.ees.hokudai.ac.jp/satellite/index.shtml>

Critical seabird foraging locations and trophic relationships for the Great Barrier Reef, James Cook University, Brad Congdon, 2012-2015, Partner Institution(s): UQ, AIMS, Funding: Australian Institute of Marine Science

Physical oceanographic influences on Queensland reef fish and scallops, Queensland Department of Agriculture, Fisheries and Forestry, Tony Courtney, 2013-2015, Partner Institution(s): DAFF-BOM-CARM, Funding: Fisheries Research and Development Corporation

Great Australian Bight oceanography project, accuracy of remotely sensed chlorophyll products, South Australian Research and Development Institute, John Middleton

Understanding the decline of the little penguins in South Australia, Flinders University, Diane Colombelli-Negrel, Partner Institution(s): NRM Boards (Adelaide and Mt Lofty Ranges Board and Kangaroo Island Board), Funding: Adelaide and Mt Lofty Ranges NRM Board, Department of Environment and Natural Resources, SA, Nature Foundation of South Australia, Lirabenda Endowment Research Fund, Birds SA, The Nature Conservation

Physical oceanography in GAB: the science that underpins, Department of Primary Industries SA, South Australian Research and Development Institute, John Luick, J Luetchford, 2013-2017, Partner Institution(s): CSIRO, Funding: BP

eReefs - hydrodynamic modelling validation, BOM Queensland Regional Office, Arthur Simanjuntak, 2013-2014, Partner Institution(s): CSIRO, AIMS, Funding: Bureau of Meteorology

Australian-waters EO phytoplankton-type products (AEsOP), Commonwealth Scientific Industrial Research Organisation, Nick Hardman-Mountford, 2013-2013, Funding: CSIRO

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Remote sensing in support of marine environmental monitoring, Curtin University, David Antoine, 2013-2016

Enhanced monitoring in the GBR, Andy Steven, 2013-2016, Funding: Great Barrier Reef Foundation, CSIRO, SIEF Fellowship

International phytoplankton functional type intercomparison working group, Commonwealth Scientific Industrial Research Organisation, Nick Hardman-Mountford, 2014-2015, Partner Institution(s): NASA, ESA, NOAA, EUMETSAT, JAXA, KIOST, AWI, CNRS/LOV, CSIR, PML, U. Maine, U. Hokkaido, U. Lisboa, U. Sao Paulo, IRD, U. Richmond, Pixalytics, Michigan Tech., WHOI, Funding: IOCCG

Alkalinity of Australian waters, Nick Hardman-Mountford, Jim Greenwood, 2014-2015, Funding: CSIRO

Phytoplankton variability in the Indian Ocean, Commonwealth Scientific Industrial Research Organisation, Nick Hardman-Mountford, 2014-2015, Funding: CSIRO

NRS regional WQM fluorescence characterisation, Commonwealth Scientific Industrial Research Organisation, L Clementson, Tim Lynch, 2014-2016, Funding: CSIRO

eReefs DA - phase 2, Commonwealth Scientific Industrial Research Organisation, Emlyn Jones, 2014-2015, Partner Institution(s): BOM, AIMS

NOV-7279-DV\_3653 regional calibration of Envisat at Bass Strait, Noveltis, Mathilde Cancet, 2014-2014, Partner Institution(s): Dr Christopher Watson (University of Tasmania), Funding: ESA - European Space Agency

Implications of current spatial management measures on AFMA ERAs for habitats, Roland Pitcher, Funding: Fisheries Research and Development Corporation, CSIRO

Productivity in the East Australian Current, University of New South Wales, Moninya Roughan, Amandine Schaeffer

Biogeochemical processes supporting productivity of Kimberley coastal waters, WAMSI Project 2.2.2, Western Australian Marine Science Institution, Anya Waite, 2014-2015, Funding: Western Australian Marine Science Institution, University of Western Australia, CSIRO

Drivers of primary production in eastern Australia, University of Technology Sydney, M Doblin, 2014-2015, Partner Institution(s): CSIRO, Funding: CSIRO Marine and Coastal Carbon Biogeochemistry

Australian national shelf reanalysis, Emlyn Jones, Moninya Roughan, Tim Moltmann, Andreas Schiller, Peter May, 2014-2014, Funding: Integrated Marine Observing System (IMOS)

IOCCG working group on atmospheric correction over turbid waters, algorithm inter-comparisons, University Littoral-Cote d'Opale, Cedric Jamet, 2014-2016, Partner Institution(s): <http://www.esa-oceancolour-cci.org/?q=project%20team>, Funding: IOCCG

Upwelling and shelfbreak processes: the role of local and remote forcing in driving GBR exchanges, Australian Institute of Marine Science, Jessica Benthuyssen, 2014-2016, Partner Institution(s): eReefs/IMOS, Funding: Australian Institute of Marine Science

Operational and scientific monitoring program & applied research program, Australian Institute of Marine Science, D Souter, 2014-2015, Partner Institution(s): AIMS, Shell Development (Australia) Pty Ltd, Funding: INPEX, Shell Development (Australia) Pty Ltd

ESA ocean colour climate change initiative: round robin algorithm comparison, Plymouth Marine Laboratories, Shubha Sathyendranath, 2014-2017, Partner Institution(s): <http://www.esa-oceancolour-cci.org/?q=project%20team>, Funding: ESA

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Advancing dynamical understanding in the East Australian Current: optimising the ocean observation and prediction effort, Sydney Institute for Marine Science, Moninya Roughan, 2014-2016, Funding: ARC

DP150100615 quantifying sea-level trends and extremes along Australia's coastal margin, University of Tasmania, Matt King, 2015-2018, Partner Institution(s): Dr Christopher Watson (UTAS), Dr John Church (CSIRO), Dr Xiaoli Deng (U Newcastle), Dr John Hunter (UTAS), Prof Richard Coleman (UTAS), Dr Ole Anderson (TU Denmark), Funding: ARC Discovery Project

Patterns of interaction between habitat and oceanographic variables affecting the connectivity and productivity of invertebrate fisheries, Deakin University, University of Melbourne, Latrobe University, Fisheries Victoria, Daniel Ierodiaconou, Eric Trembl, Steve Swearer, Nick Murphy, Mary Young, Adam Miller, Jan Strugnell, Harry Gorfine, Craig Sherman, Bridget Green, 2015-2017, Funding: Fisheries Research and Development Corporation

Remote sensing in support of environmental monitoring - part 2, David Antoine, 2015-2017, Funding: Western Australian Marine Science Institution, CSIRO, CUT

CARS, synTS and SSS, Commonwealth Scientific Industrial Research Organisation, Madeleine Cahill, J Lovell, Funding: CSIRO

A uniquely Integrated approach to predicting Fisheries Recruitment, University of New South Wales, Moninya Roughan, 2015-2018, Funding: ARC Linkage Project

Optimising the size and quality of sardines through real-time harvest monitoring: CRC Project No. 2013/746, South Australian Research and Development Institute, Mark Doubell, Tim Ward, Paul Watson, Charles James, Jonathan Carrol, Ana Redondo-Rodriguez, Funding: CRC Seafood

Assessing satellite SST as a potential data source to replace temperature data from tide gauges to populate ballast water exchange risk tables, Fisheries, Forestry and Quantitative Sciences Branch ABARES, Rupert Summerson

Satellite detection of marine pollution in the Great Barrier Reef, Commonwealth Scientific Industrial Research Organisation, David Blondeau-Patissier, 2016-2019, Funding: Advance Queensland Fellowship

NESP project 2.3.1 - benthic light as ecologically-validated GBR-wide indicator for water quality: drivers, thresholds and cumulative risks, Australian Institute of Marine Science, University of Queensland, James Cook University, Katrina Fabricius, 2016-2018, Partner Institution(s): National Environmental Science Programme (NESP)

Understanding the physical oceanographic drivers of a mass coral bleaching event AIMS research project, Australian Institute of Marine Science, Craig Steinberg, 2016-2017

Scoping study to address poor water quality in the Whitsunday Region, Commonwealth Scientific Industrial Research Organisation, Mark Baird, Britta Schaffelke, 2017-2019, Partner Institution(s): AIMS, Funding: Department of Energy and Environment

NESP TWQ - Project 3.3.3 - Defining the values of the ecological systems that influence the GBR and lie outside the marine park and world heritage area boundaries, James Cook University, Johanna Johnson, Funding: James Cook University, University of Queensland, Australian Institute of Marine Science, National Environmental Science Program (NESP)

Integrating biogeochemical modelling and ocean colour observations to quantify human impacts on water quality in the coastal ocean. CSIRO OCE postdoctoral fellowship, Commonwealth Scientific Industrial Research Organisation, Mark Baird, Emlyn Jones, Richard Matear, Thomas Schroeder, Funding: CSIRO

Great Barrier Reef resilience mapping, Commonwealth Scientific Industrial Research Organisation, Mark Baird, Scott Condie, 2017-2018, Partner Institution(s): AIMS, UQ, Funding: Great Barrier Reef Foundation

NESP Tropical Water Quality Hub Project 3.2.1 – Deriving ecologically relevant load targets to meet desired ecosystem condition for the Great Barrier Reef: a case study for seagrass meadows in the Burdekin region, James Cook University, M Collier, Mark Baird, 2017-2019, Partner Institution(s): UQ, JCU, AIMS, Funding: National Environmental Science Program (NESP)

NESP Tropical Water Quality Hub, Project 3.2.5 – Testing and implementation of the water quality metric for the 2017 and 2018 reef report cards, Great Barrier Reef Marine Park Authority, Britta Schaffelke, Mark Baird, 2017-2017, Funding:

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## OceanCurrent

Do coastal currents feed the harvest from purpose-built, offshore artificial reefs?, University of New South Wales, Sydney Institute for Marine Science, Iain Suthers, Micheal Lowry, Matt Taylor, Moninya Roughan, Emma Johnston, Charles Gray, 2012-2015, Funding: ARC Linkage Project, Department of Primary Industries, NSW

**Research Project Count 1**