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# Dr Michelle Jillian Devlin

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**Partner & Senior Scientist**  
C<sub>2</sub>O Consulting



coasts | climate | oceans

**Scientist Research Scientist**  
TropWater, James Cook University

## EMPLOYMENT HISTORY

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- Present post C<sub>2</sub>O Consulting, Australia  
Partner and Senior Scientist
- 2007– ongoing James Cook University, Catchment to Reef Research Group. Senior Research Scientist – TropWater. Catchment to Reef Research Group. James Cook University
- 2001 – 2007 Centre for Environment, Fisheries & Aquaculture Science, United Kingdom  
Environmental scientist/Project Manager
- 1997 – 2000 Great Barrier Reef Marine Park Authority, Townsville, Australia  
Project Manager – Water Quality Research and Monitoring
- 1991 – 1997 Australian Institute of Marine Science, Townsville, Australia  
Long-term monitoring of the Great Barrier Reef – Water quality

## QUALIFICATIONS

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- 2005 Doctor of Philosophy**  
James Cook University, Tropical Environmental Studies and Geography, Townsville, Qld
- 1996 Masters Degree in Natural Resource Management**  
James Cook University, Tropical Environmental Studies and Geography, Townsville, Qld
- 1989 Bachelor of Applied Science – Biology major**  
La Trobe University, Bendigo, Victoria
- 2001 ADAS Commercial Diver (2815 Level 1)**
- 2000 Recreation shipmasters licence, Coastal navigation and Radio operators licence**
- 1998 Senior first aid and Advanced Oxygen Resuscitation (annual update)**

## **CONSULTANCIES AND FUNDING GRANTS**

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**2013 – 2014 Ecological status of Kuwait Bay** **Kuwait Env. Protection Agency**  
*Ten-year monitoring of the water quality status of Kuwait Bay, including eco-toxicological studies.*

**2007 – 2014 Great Barrier Reef Marine Monitoring** **Australian Government**  
*Long-term monitoring and research of riverine input (flood plumes) into Great Barrier Reef inshore waters.*

**2009 – 2014 Research Management** **Reef and Rainforest Research Centre**  
*Manage and facilitate the design, conduct, delivery and reporting of the Reef Rescue Water Quality Research and Development program, the National Environmental Research Program Tropical Ecosystems Hub water quality research program, Great Barrier Reef Marine Monitoring Program and the Marine and Tropical Science Research Facility water quality research programs.*

**2008 – 2009 Waters 4 Bowen (North Queensland)** **Sunwater Queensland**  
*Provision of EIS for impact of 100 km pipeline in North Qld: assessment of potential terrestrial and marine impact.*

**2001 – 2007 Water Framework Directive** **European Union**  
*Marine Plant Classification in UK marine waters using a series of ecological tools (phytoplankton, macroalgae and angiosperms) and establish nutrient regulatory triggers.*

**2004 – 2007 NE Atlantic Geographical Inter-calibration** **Dept of Fisheries and Rural Affairs**  
*Common implementation strategy of the Water Framework Directive for phytoplankton and nutrient regulatory standards for UK and European Agencies.*

**2003 – 2007 Light dynamics in UK marine waters** **Dept of Fisheries and Rural Affairs**  
*Spatial variation in light and optical components in UK marine waters; predictive modelling of optical components.*

**2001 – 2005 OSPAR Convention** **Dept of Fisheries and Rural Affairs**  
*OSPAR Convention for the Protection of Marine Environment common procedure for the identification of the eutrophication status of UK waters: Submission of UK eutrophication status – monitoring and assessment of water quality information for assessment of coastal and marine waters.*

**2002 – 2004 Ecological status of Kuwait Bay** **Kuwait Env. Protection Agency**  
*Monitoring and research on the eutrophication status of Kuwait Bay, including eco-toxicological studies.*

**2002 – 2003 Coastal environmental quality monitoring** **Gov of Georgia and World Bank**  
*Implementation of a marine monitoring strategy for Georgia submission to World Bank.*

**2000 – 2001 Land and Water Research Council International Travel Fellowship**  
*Professional travel and collaboration with scientists in Florida, Guelph, Canada and United Kingdom.*

**1997 – 2000 Community based river monitoring** **Waterwatch Australia**  
*Integration of community monitoring into established water quality monitoring program for Russell-Mulgrave and Barron Rivers in the Great Barrier Reef catchment.*

## RELEVANT PUBLICATIONS

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Álvarez-Romero, J. G., **Devlin, M.**, E. Teixeira da Silva, C. Petus, N. C. Ban, R. L. Pressey, J. Kool, J. Roberts, S. Cerdeira, A. Wenger, and J. Brodie (2013) Following the flow: a combined remote sensing-GIS approach to model exposure of marine ecosystems to riverine flood plumes. *Environmental monitoring*.

Johnson, J.E., Maynard, J.A., **Devlin, M.J.**, Wilkinson, S., Anthony, K.R.N., Yorkston, H., Heron, S.F., Puotinen, M.L., van Hoodon, R. (2013) Chapter 2: Resilience of Great Barrier Reef marine ecosystems and drivers of change. In: *Synthesis of evidence to support the Reef Water Quality Scientific Consensus Statement 2013*. Department of the Premier and Cabinet, Queensland Government, Brisbane, 35pp

**Devlin, M.**, Brodie, J., Wenger, A., da Silva, E., Alvarez Romero, J., Waterhouse, J. and McKenzie, L. (2012) Chronic and acute influences on the Great Barrier Reef: Putting extreme weather conditions in context. In: *Proceedings of the 12th International Coral Reef Symposium, Cairns, Australia, 9-13 July 2012: 21A Watershed management and reef pollution*.

Brodie, J., Bainbridge, Z., Lewis, S., **Devlin, M.**, Waterhouse, J., Davis, A., Bohnet, I.C., Kroon, F., Schaffelke, B., Wolanski, E. (2012) Terrestrial pollutant runoff to the Great Barrier Reef: Issues, priorities and management response. *Marine Pollution Bulletin*, Vol 65, Issues 4–9, 81–100.

**Devlin, M.J.**, Brodie, J., Wenger, A., da Silva, E., Alvarez-Romero, J.G., Waterhouse, J., McKenzie, L. (2012) Extreme weather conditions in the Great Barrier Reef: Drivers of change? *Proceedings of the 12th International Coral Reef Symposium, Cairns, Australia, 9-13 July 2012 21A Watershed management and reef pollution*.

**Devlin, M.J.** and Schaffelke, B (editors). (2012) Catchment-to-Reef continuum: Case studies from the Great Barrier Reef. A special issue – *Marine Pollution Bulletin* 2012. 65:77-80.

**Devlin, M.**, Schroeder, T., McKinna, L., Brodie, J., Brando, V., Dekker, A. (2012) Monitoring and mapping of flood plumes in the Great Barrier Reef based on in-situ and remote sensing observations, in: *Advances in Environmental Remote Sensing to Monitor Global Changes*, CRC Press, Boca Raton.

Schroeder, T., **Devlin, M.**, Brando, V.E., Dekker, A.G., Brodie, J., Clementson, L., McKinna, L., (2012). Inter-annual variability of wet season freshwater plume extent in the Great Barrier Reef lagoon from satellite ocean colour observations. *Marine Pollution Bulletin*.

**Devlin M.**, McKinna LW, Alvarez-Romero JG, Petus C, Abott B, Harkness P and Brodie J (2012) Mapping the pollutants in surface riverine flood plume waters in the Great Barrier Reef, Australia. *Mar Pollut Bull.* 65:224-235.

Bricker, S. & **Devlin, M.J** (Editors). (2011) Eutrophication: international comparisons of causes, consequences and management. *Biogeochemistry*.106: 135-136.

**Devlin, M.J.** (2011) Flooding in NE Australia: how ongoing monitoring of flood plumes helps in managing the Great Barrier Reef. *Marine Ecosystems and Management*. Vol 4, No. 4.

Brodie, J.E., **Devlin, M.J.**, Haynes, D., Waterhouse, J. (2011) Assessment of the eutrophication status of the Great Barrier Reef lagoon (Australia). *Biogeochemistry*. DOI 10.1007/s10533-010-9542-2.

Brodie, J.E., **Devlin, M.J.**, Haynes, D. & Waterhouse, J. (2011) Assessment of the eutrophication status of the Great Barrier Reef lagoon (Australia). *Biogeochemistry*. DOI 10.1007/s10533-010-9542-2

**Devlin, M.J.**, Bricker, S. & Painting, S. (2011) Comparison of five methods for assessing impacts of nutrient enrichment using estuarine case studies. *Biogeochemistry*. 106:177-205.

**Devlin, M.**, Harkness, P., McKinna, L. and Waterhouse, J. (2010) Mapping of risk and exposure of Great Barrier Reef ecosystems to anthropogenic water quality. ACTFR report number 10/12. 2010. James Cook University.

Heffernan, J., Barry, J., **Devlin, M.J.** & Fryer, R. (2010) A simulation tool for designing nutrient monitoring programmes for eutrophication assessments. *Environmetrics*, 21:3-20.

**Devlin, M.J.**, Barry, J., Mills, D.K., Gowen, J., Foden, J., Sivyver, D., Greenwood, N., Pearce, D. & Tett, P. (2009) Estimating the diffuse attenuation coefficient from optically active constituents in UK marine waters. *Estuarine, Coastal and Shelf Science*, 82:73-83.

**Devlin, M.J.**, Barry, J., Painting, S. & Best, M. (2009) Extending the phytoplankton tool kit for UK Water Framework Directive: indicators of phytoplankton community structure. *Hydrobiologia*, 633:151-168.

**Devlin, M.J.** & Schaffelke, B. (2009) Spatial extent of riverine flood plumes and exposure of marine ecosystems in the Tully coastal region, Great Barrier Reef. *Marine & Freshwater Research*, 60:1109-1122.

**Devlin, M.J.**, Foden, J., Sivyver, D., Mills, D., Gowen, R. & Tett, P. (2008) Relationships between suspended particulate material, light attenuation and Secchi depth in waters around the UK. *Estuarine, Coastal and Shelf Science*, 79:429-439.

Brodie, J.E., De'ath, G., **Devlin, M.J.**, Furnas, M. & Wright, M. (2007) Spatial and temporal patterns of near-surface chlorophyll a in the Great Barrier Reef lagoon. *Marine and Freshwater Research*, 58:342-353.

**Devlin, M.J.**, Best, M. & Haynes, D. (Editors)(2007) Implementation of the Water Framework Directive in European Waters (special edition). *Marine Pollution Bulletin*. 55:1-6.

**Devlin, M.J.**, M. Best and D. Haynes. (2007) Implementation of the Water Framework Directive in European Waters (special edition). *Marine Pollution Bulletin*. Vol 55 (1-6).

**Devlin, M.J.**, M. Best, D.Coates, E. Bresnan, S. O'Boyle, R. Park, J.Silke, J. Skeats and J. Barry (2007) Establishing boundary classes for classification of marine waters using phytoplankton communities - the first step in establishing a link between nutrient pressure and the marine plant community. *Marine Pollution Bulletin*. Vol 55. 1- 6: 91 - 104

**Devlin, M.J.**, S.Painting\* and M.Best (2007) Connecting nutrients with ecological functioning for the EU Water Framework Directive based on nutrient enrichment, primary production and undesirable disturbance. *Marine Pollution Bulletin*. Vol 55 (1- 6): 91 – 104

**Devlin, M.J.**, J. Foden, D.Sivyver, D.Mills, R.Gowen and P. Tett (2008) Relationships between suspended particulate material, light attenuation and Secchi depth in waters around the UK. *ICES J. Marine Science*.

**Devlin, M.J.**, J. Foden, D.Sivyver, D.Mills, R.Gowen and P. Tett (2008) The application of a mechanistic model in predicting the underwater light regime throughout UK marine waters. *Est & Coastal Shelf Science*.

**Devlin, M.J.** and C. Kirk (2005) The assessment of the environmental quality of Kuwait Bay and the use of spatial mapping in an ecological assessment. *Coast Map News*. Vol 3.

S.J. Painting, **Devlin, M.J.**, S.J. Malcolm, E.R. Parker, D.K. Mills, C. Mills, P. Tett, A. Wither, A. Burt, R. Jones and K. Winpenny\* (2006) Assessing the impact of nutrient enrichment in estuaries: susceptibility to eutrophication. *Marine Pollution Bulletin*. Vol 55 (1): 74 - 91

S.J. Painting, **Devlin, M.J.**, S.I. Rogers, D.K. Mills, E.R. Parker and H.L. Rees (2005) Assessing the suitability of OSPAR EcoQOs for eutrophication vs ICES Criteria for England and Wales. *Marine Pollution Bulletin*, 50(12): 1569-1584

**Devlin, M.J** and J. Brodie (2005) Terrestrial discharge into the Great Barrier Reef Lagoon: Nutrient behaviour in coastal waters. Marine Pollution Bulletin, 51(1-4): 9-22

**Devlin, M.J** and M.Best (2004) Water Framework Directive –using marine plants as ecological classification tools. Estuaries and change - Estuarine Coastal Shelf Sea Association (ECSA), June, Ballina Australia

L. Smith, **M. Devlin**, D. Haynes and J. Gilmour (2005) A demographic approach to monitoring the health of coral reefs. Marine Pollution Bulletin, 51(1-4): 399-407

## **REFEREES**

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