

DR. JASMINE B. D. JAFFRES

Jasmine.Jaffres@jcu.edu.au

PhD 2006 to 2011

IPRS, AIMS@JCU

Supervised by:

Prof. Nick Oliver (JCU)

Dr. Gregg Brunskill (AIMS)

Dr. Michael Ridd (JCU)

The Oceanographic and Geochemical Effects of Mixed Layer Depth Variability and Increasing Anthropogenic CO₂ on the Inorganic Carbon System of the Coral Sea

Jasmine is originally from Switzerland and moved to Australia in 2002. She completed her BSc (Hons) in Marine Science and paleoclimatology with first class in 2005 and her PhD in 2011. In the PhD thesis, the upper ocean properties of the Coral Sea are investigated, including the seasonal and interannual characteristics of the mixed layer depth, CO₂ and pH.

Jasmine's research interests are very broad and include climatology, atmosphere-ocean interaction, groundwater quality and geospatial mapping. Her current research focuses on the wave and wind climate in the southern Great Barrier Reef (GBR). Research aspects include investigation into what extent data from various sources (models, scatterometers, radar, mooring, etc.) agree and whether the HF radar stationed in the southern GBR has the capability to detect tsunamis.

Jasmine is now part of the Marine Geophysical Laboratory group and is currently researching wave properties in coastal regions of Australia.



DR. JASMINE B. D. JAFFRES

Publications

- Heron, S. et al., 2010. Advancing Ocean Monitoring Near Coral Reefs. *EOS, Transactions, American Geophysical Union*, 91(41), pp.369–380.
- Jaffrés, J.B.D. et al., 2010. Evaluation of ADCP wave , WAVEWATCH III and HF radar data on the GBR Andrew Middleditch Study site. In *2010 Australian Wind Waves Symposium*. pp. 114–117.
- Jaffrés, J.B.D., 2013. Mixed layer depth seasonality within the Coral Sea based on Argo data. *PLoS one*, 8(4), p.e60985. Available at: <http://www.ncbi.nlm.nih.gov/articlerender.fcgi?artid=3623957&tool=pmcentrez&rendertype=abstract> .
- Jaffrés, J.B.D. & Heron, M.L., 2011. Wave climate in the Southern Great Barrier Reef, Australia - Evaluation of an ocean HF radar system and WaveWatch3. In *Oceans 2011*. Waikoloa, HI: IEEE, pp. 1–6. Available at: <http://ieeexplore.ieee.org/articleDetails.jsp?arnumber=6107042>
- Jaffrés, J.B.D., Shields, G. a. & Wallmann, K., 2007. The oxygen isotope evolution of seawater: A critical review of a long-standing controversy and an improved geological water cycle model for the past 3.4 billion years. *Earth-Science Reviews*, 83(1-2), pp.83–122. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0012825207000505>.
- Kasting, J.F. et al., 2006. Paleoclimates, ocean depth, and the oxygen isotopic composition of seawater. *Earth and Planetary Science Letters*, 252(1-2), pp.82–93. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0012821X06006832>.
- Wyatt, L.R., Jaffrés, J.B.D. & Heron, M.L., 2013. Spatial Averaging of HF Radar Data for Wave Measurement Applications. *Journal of Atmospheric and Oceanic Technology*, 30(9), pp.2216–2224. Available at: <http://journals.ametsoc.org/doi/abs/10.1175/JTECH-D-12-00206.1>.