



Jeffrey A. Maynard, PhD

Manager, SymbioSeas
Research Faculty, EPHE-CNRS & CRIOBE,
France and French Polynesia

Contacts: E: symbioseas@gmail.com
E: maynardmarine@gmail.com
P: +1 910 6161096

--

Summary of research interests: My primary working interest is applying research advances to build capacity among coastal managers to address climate change threats. My colleagues and I work collaboratively with managers to identify and then meet information needs using: climate models, ecological community models, statistical and analytical frameworks and molecular techniques.

Recent activities (2011-2016) as Manager, SymbioSeas and while holding research fellowships : As an applied research scientist, I have served as the PI or co-PI on competitively awarded grants and contracts with/from all of the following agencies and organizations (total exceeding \$1,500,000 in research funding): Pacific Islands Climate Science Center of the USGS, Pacific Islands Climate Change Cooperative, NOAA Coral Reef Conservation Program, NOAA Pacific Islands Fisheries Science Center, US Department of Interior, NOAA Climate Program Office, Great Barrier Reef Marine Park Authority, The Nature Conservancy, the Secretariat of the Pacific Community, CNMI Division of Environmental Quality, the World Bank, The International Union for the Conservation of Nature, Western Pacific Coral Reef Institute, AusAID, World Wildlife Fund, Wildlife Conservation Society and UNEP.

EDUCATION

2008 – 2010 PhD - *Global Change Biology and Environmental Risk*; School of Botany, University of Melbourne, Parkville, Melbourne, 3000, Australia.

Thesis title: *Improving resilience-based management of coral reef areas.*

Thesis supervisor (Professor Mark Burgman, current Editor-in-Chief of *Conservation Biology*). Graduated *cum laude* with 10 peer-reviewed papers published during PhD thesis tenure.

2000-2004 BSc and MAppSc –*Tropical Marine Biology and Fisheries Ecology*; James Cook University of North Queensland, Townsville, QLD 4810 Australia. Graduated with Honors.

PREVIOUS EMPLOYMENT

2004-2008 Project Manager, Great Barrier Reef Marine Park Authority of Townsville, Australia

RECENT/ONGOING RESEARCH GRANTS

Note: These are as PI or Co-PI and are from last 2 years and ongoing only with total budgets across all partners >\$50K

2016-2018 – Adapting to long-term ecosystem change in the Gulf of Maine, NOAA NMFS

2016-2017 - Climate change impacts on the Central North Pacific green sea turtle population: sand temperature projections and population viability analyses, NOAA PIFSC.

2016-2017 – Outlook reporting in CNMI and Guam, NOAA CRCP.

- 2016-2017** – Climate impact summaries and outlook reporting for the Flower Garden Banks National Marine Sanctuary, NOAA CRCP.
- 2016-2017** – Climate impact summaries and outlook reporting for American Samoa, US Department of the Interior Coral Reef Advisory Group.
- 2016-2018** - Coral bleaching vulnerability assessments to inform coral reef conservation under climate change, TOTAL Fondation.
- 2015-2016** – Vulnerability assessment frameworks for Florida that combine maps of historic and projected future exposure to disturbances with resilience assessments, NOAA CRCP.
- 2015-2016** – Integrating vulnerability to climate change into marine protected area planning in Pohnpei, FSM, US-NFWF
- 2015-2017** – Assessing the relative resilience of coral reefs and herbivorous fish communities to climate change in U.S. territories to inform ecosystem-based fisheries management, Saltonstall-Kenney NOAA NMFS.
- 2015-2017** – Assessing the sustainability of culturally important marine sites in Guam & CNMI, USGS-PICSC.
- 2014-2015** – Science for management and stewardship: addressing priority needs for MPA management in the Eastern Caribbean, US-NFWF
- 2013-2014** – Coral reef resilience to climate change in CNMI; field-based assessments and implications for vulnerability and future management. PICSC and NOAA CRCP.
- 2013/2014** – Thermal history metrics and tools for coral reef managers. US NFWF.
- 2013-2014** – Integrating detailed assessments of climate threats on Pacific coral reefs and responses of traditional Hawaiian communities into management planning, PICCC.

Updated February, 2016

SELECTED PEER-REVIEWED PUBLICATIONS (20 most cited)

Stats: ~65 peer-reviewed publications, current h-index is 20 with an associated m-value (h-index divided by years since first publication) of ~3 (≥ 2.5 is ‘extraordinary’). These publications have attracted 1400 citations as of September, 2016. This list includes very recent papers and the 20 most cited, presented in the order of first author, second author, and co-author. A complete publications list is available at my [Google Scholar](#) page.

Featured recent publications (excludes ‘in press’ papers at *PNAS* and *Nature Scientific Reports*)

Mourier J, **Maynard JA**, ...Planes S (2016) Extreme Inverted Trophic Pyramid of Reef Sharks Supported by Spawning Groupers, *Current Biology* (2016), <http://dx.doi.org/10.1016/j.cub.2016.05.058>

Keith SA, **Maynard JA**,... Baird AH (2016) Coral mass spawning predicted by rapid seasonal rise in ocean temperature. *Proc. R. Soc. B* 283: 20160011. <http://dx.doi.org/10.1098/rspb.2016.0011>

Maynard JA, van Hooidek R, Harvell CD, Eakin CM, Liu G, Willis BL, Williams GJ, Groner M, Dobson A, Heron SF, Glenn R, Reardon K, Shields JD. (2016) Improving marine disease surveillance through sea temperature monitoring, outlooks and projections. *Philos T Roy Soc B*. <http://dx.doi.org/10.1098/rstb.2015.0208>

Groner M*, **Maynard JA***...Harvell CD (2016) Managing marine disease emergencies in an era of rapid change. *Philos T Roy Soc B*. <http://rstb.royalsocietypublishing.org/content/371/1689/20150364>
*Co-first author

Marshall, P.A., Dowd, A.M., Luder, C., **Maynard, J.A.**, Beeden, R. (2015). *A Reef Manager's Guide to Fostering Community Stewardship*. Gland, Switzerland: IUCN.

Eisenlord, M. E., Groner, M. L., Yoshioka, R. M., Elliott, J., **Maynard, J.**, Fradkin, S., ... & Harvell, C. D. (2016). Ochre star mortality during the 2014 wasting disease epizootic: role of population size structure and temperature. *Phil. Trans. R. Soc. B*, 371(1689), 20150212.

Maynard JA, McKagan S, Raymundo L, Johnson S, Ahmadi G, Johnston L, Houk P, Williams GJ, Kendall M, Heron SF, van Hooidonk R, Mcleod E, Tracey D, Planes S. (2015) Assessing relative resilience potential of coral reefs to inform management. *Biological Conservation*. DOI: 10.1016/j.biocon.2015.09.001

Maynard JA, Beeden R, Puotinen M, Johnson J, Marshall P, van Hooidonk R, Heron SF, Devlin M, Lawrey E, Dryden J, Ban N, Wachenfeld D, Planes S (2015) Great Barrier Reef no-take areas include a range of disturbance regimes. *Conservation Letters*. DOI: 10.1111/conl.12198

van Hooidonk R, **Maynard JA**, Yanyun L, Ki-Lee S (2015) Downscaled projections of Caribbean coral bleaching that can inform conservation planning. *Global Change Biology*. DOI: 10.1111/gcb.12901

Maynard JA, van Hooidonk R, Eakin CM, Puotinen M, Garren M, et al. (2015) Projections of climate conditions that will increase coral disease susceptibility and pathogen virulence. *Nature Climate Change*. DOI: 10.1038/NCLIMATE2625

1. **Maynard JA**, Anthony KRN, Harvell CD, Burgman MA, Beeden R, Lamb JB, Heron S, Willis BL (2011) Predicting climate-driven coral disease outbreaks in the Great Barrier Reef. *Coral Reefs*.
2. **Maynard JA**, Marshall PA, Johnson JE, Harman S (2010) Building resilience into practical conservation: targeting management responses to climate change in the southern Great Barrier Reef. *Coral Reefs*.
3. **Maynard JA**, Anthony KRN, Afatta S, Dahl-Tacconi N, Hoegh-Guldberg O (2010) Making models meaningful to coral reef managers in developing nations. *Conservation Biology*.
4. **Maynard JA**, Johnson JE, Marshall PA, Eakin CM, Goby G et al. (2009) A strategic framework for responding to coral bleaching events. *Environmental Management*.
5. **Maynard JA**, Anthony KRN, Marshall PA, and Masiri I (2008) Major bleaching events can lead to increased thermal tolerance in corals. *Marine Biology*.
6. **Maynard JA**, Turner PJ, Anthony K, Baird AH, Berkelmans R, et al. (2008) ReefTemp: An interactive monitoring system for coral bleaching using high-resolution SST and improved stress predictors. *Geophysical Research Letters*.
7. **Maynard JA**, Baird AH, Pratchett MS (2008) Revisiting the Cassandra syndrome; the changing climate of coral reef research. *Coral Reefs*.
8. van Hooidonk, **Maynard JA**, Manzell D, Planes S (2014) Opposite latitudinal gradients in projected ocean acidification and bleaching impacts on coral reefs. *Global Change Biology*.
9. van Hooidonk R, **Maynard JA**, Planes S (2013) Temperature refugia for coral reefs in a warming world. *Nature Climate Change*.
10. Delrieu-Trottin E, **Maynard JA**, Planes S (2014) Endemic and widespread coral reef fishes have similar genetic diversity. *Proceedings of the Royal Society of Biological Sciences*.
11. Vignaud TV, **Maynard JA**, Leblois R, Meekan MG, Vazquez-Juarez R, et al. (2014) Genetic structure of populations of whale sharks among ocean basins and evidence for their historic rise and recent decline. *Molecular Ecology*.
12. Beeden R, **Maynard JA**, Marshall PA, Heron S, BL Willis (2012) A framework for responding to coral disease outbreaks that facilitates adaptive management. *Environmental Management*. 49: 1-13.

13. Anthony KRN, **Maynard JA** (2011) Coral reefs in the emergency room: continued carbon emissions will increase the need for intensive care. *Carbon Management*.
14. Vignaud TV, Mourier J, **Maynard JA**, Leblois R, Spaet J, Clua E, Neglia V, and Planes S (2014) Blacktip reef sharks have high genetic structure and varying demographic histories in their Indo-Pacific range. *Molecular Ecology*.
15. Anthony K, ...**Maynard JA**, et al. (2014) Operationalising resilience for adaptive coral reef management under global environmental change. *Global Change Biology*.
16. Fuentes M, Fish MR, **Maynard JA** (2012) Management strategies to mitigate the impacts of climate change on sea turtle's terrestrial reproductive phase. *Global Adaptation and Mitigation Strategies*.
17. Campbell SJ, Hoey AS, **Maynard JA**, Kartawijaya T, Cinner J, et al. (2012) Weak Compliance Undermines the Success of No-Take Zones in a Large Government-Controlled Marine Protected Area. *PLoS ONE*.
18. McClanahan TR, Donner SD, **Maynard JA**, MacNeil MA, Graham NAJ, et al. (2012) Prioritizing Key Resilience Indicators to Support Coral Reef Management in a Changing Climate. *PLoS ONE*.
19. Guest JR, Baird AH, **Maynard JA**, Muttaquin E, Edwards AJ, Campbell SJ, Yewdall K, Affendi YA, Ming Chou L (2012) Changing patterns of coral bleaching susceptibility suggest an adaptive response to thermal stress. *PLoS ONE*.
20. Beeden RJ, Turner MA, Dryden J, Merida F, Goudkamp K, ... and **Maynard JA** (2014). Rapid survey protocol that provides dynamic information on reef condition to managers of the Great Barrier Reef. *Environmental monitoring and assessment*, 186(12), 8527-8540.

Professional Referees:

Dr. Paul Marshall, Director – Reef Ecologic, E: paul.marshall00@gmail.com

Prof. Mark Burgman, Director of ACERA and Editor-in-Chief of *Conservation Biology*,

E: markab@unimelb.edu