



## NZOAC Newsletter – June 2021

We are pleased to announce the date of the 2022 NZOAC conference: 2-3 November 2022. The 2022 conference will be hosted by [Cawthron Institute](#) in sunny Nelson. [Norman Ragg](#) is gauging interest in a 1-day shellfish industry stakeholders workshop on 1 or 4 November. Contact Norman directly if you have any thoughts or ideas about a stakeholders workshop.

### Ocean acidification in New Zealand

- Dr. Chris Cornwall's [recent article](#) in PNAS presents a grim outlook for the world's coral reefs unless we reduce ocean warming and acidification. This work has been highlighted around the world, including on the USA's [National Public Radio](#), [The Conversation](#), [Stuff.co.nz](#), and [Newshub.co.nz](#).
- The [Moana Explorer](#) project, led by University of Otago filmmaker Dr Gianna Savoie, gave year 9 and 10 Pasifika students an opportunity to learn - [and share stories](#) - about climate change and ocean acidification.
- DOC highlighted ocean acidification in their [World Oceans Day: Taking the heat out of global warming](#) blog post.

### Acidification, fisheries, and aquaculture

This month, we turn our attention to pāua, which plays an important role in maintaining a healthy ecosystem. The impacts of ocean acidification on pāua are expected to include both direct effects (e.g. reduced growth) and indirect effects (e.g. changes to food and habitat availability).

- Researchers in California found that larvae from wild [red abalone](#) were more tolerant to ocean acidification than larvae from farmed red abalone.
- In an [Otago Daily Times](#) interview, Otago's Professor Abby Smith and NIWA's Vonda Cummings discuss the etching of shells that occurs when pāua is grown in low-pH seawater.
- Stuff.co.nz produced a [short video](#) that features Dr. Cliff Law discussing NIWA's work to understand the impact of ocean acidification on pāua.
- For links to scientific articles, see [Ocean acidification in New Zealand waters: trends and impacts](#) which summarises the impacts of ocean acidification on many New Zealand species, including pāua.

### Resources

- The [Ocean Image Bank](#) is a free ocean imagery resource developed to support ocean science and conservation communication. The Image Bank is an official part of the UN Ocean Decade.
- UNESCO's Intergovernmental Oceanographic Commission (IOC) has just published the [Integrated Ocean Carbon Research Report](#). The report includes the current gaps and future directions for integrated ocean carbon cycle research.
- Chapman University's Ocean Acidification team created [an infographic, a presentation, and a poster to communicate ocean acidification](#) to the layperson.
- The University of St Andrews is hosting an [acid ocean online art workshop](#). Create your own piece of art while being guided by an expert, **9 June 2021**.

### Upcoming webinars

- [10 years of ocean acidification science at NOAA: Reflections and opportunities](#), Dwight Gledhill, Deputy Director, NOAA Ocean Acidification, **3 June 2021**.
- [Implementing UN SDG 14.3: Protecting Communities and Livelihoods from the Threat of a Changing Ocean](#), invited speakers from the Pacific Coast of North America, **New Zealand**, Mediterranean and Latin America, hosted by the [OA Alliance](#), **9 June 2021**
- [Advancing Climate and Ocean Action Through Art, Education and Outreach](#), presentations from the Seattle Aquarium, SPREP, Woods Hole, Gullah/Geechee Nation, and Oceano Azul, hosted by the [OA Alliance](#), **11 June 2021**
- [Arctic-African collaborative OA research on the Canary Current and Benguela Current upwelling systems](#), Dr. Mohammed Idrissi, Dr. Melissa Chierici, and Dr. Chibo Chikwililwa, hosted by [GOA-ON](#), **11 June 2021**.

### Recent webinars (now available for streaming)

- [Communities of Ocean Action on Ocean Acidification](#), UN DESA Sustainable Development, led by David Osborn and Bronte Tilbrook.
- [Big Data and the value chain of CO<sub>2</sub> measurements](#), presented by Dr. Dorothee Bakkler and hosted by the European Marine Board.
- [Ocean Acidification Research Center](#), presented by CFOS researcher Natalie Monacci as part of the 2021 Arctic Research Open House.
- [Climate is Changing our Coastal & Marine Ecosystems: Building awareness on how climate is changing our marine and coastal ecosystems](#), presented by the Climate Change Commission (CCC).

### Articles from our members

- [Effects of crushed mussel \(\*Perna canaliculus\*\) shell enrichment on seawater carbonate buffering and development of conspecific larvae exposed to near-future ocean acidification](#), Ericson J.A. and Ragg N.L.C., Journal of the World Aquaculture Society.
- [Global declines in coral reef calcium carbonate production under ocean acidification and warming](#), Cornwall, C.E., Comeau, et al, Proceedings of the National Academy of Sciences of the United States of America.
- [Testing the climate intervention potential of ocean afforestation using the Great Atlantic Sargassum Belt](#), Bach, L.T., Tamsitt, V., Gower, J., Hurd, C.L., Raven, J.A., Boyd, P.W, Nature Communications.
- [Capacity of an ecologically key urchin to recover from extreme events: Physiological impacts of heatwaves and the road to recovery](#), Minuti, J.J., Byrne, M., Hemraj, D.A., Russell, B.D., Science of the Total Environment.
- [Microplastic ingestion induces asymmetry and oxidative stress in larvae of the sea urchin \*Pseudechinus huttoni\*](#), Richardson, C.R., Burritt, D.J., Allan, B.J.M., Lamare, M.D., Marine Pollution Bulletin.
- [Energetic lipid responses of larval oysters to ocean acidification](#), Gibbs, M.C., Parker, L.M., Scanes, E., Byrne, M., O'Connor, W.A., Ross, P.M., Marine Pollution Bulletin.
- [Rapid multi-generational acclimation of coralline algal reproductive structures to ocean acidification](#), Moore, B., Comeau, S., Bekaert, M., Cossais, A., Purdy, A., Larcombe, E., Puerzer, F., McCulloch, M.T., Cornwall, C.E., Proceedings of the Royal Society B: Biological Sciences.
- [Effects of ocean acidification on growth, pigment contents and antioxidant potential of the subtropical Atlantic red alga \*Hypnea pseudomusciformis\* Nauer, Cassano & M.C. Oliveira \(Gigartinales\) in laboratory](#), Nauer, F., Borburema, H.D.S., Yokoya, N.S., Fujii, M.T., Brazilian Journal of Botany.

### ECOPs (early career ocean professionals) and outreach happenings

- **Outreach:** Rebecca Zitoun, Habibeh Hashemi, and Wayne Dillon chaired two sessions at the ECOPs event during the International Ocean Visions Summit (18-21 May). NIWA's Dr. Kim Currie discussed the importance of bridging social sciences with natural sciences. Cawthron's Heni Unwin discussed the Maori perspective of ocean health and the importance of interweaving indigenous knowledge and ocean science to improve sustainable and long-term ocean solutions.
- **Outreach:** Rebecca Zitoun will represent the ECOP Ocean Literacy Task Team at V.ECOP Day Virtual Early Career Ocean Professional Day talking about "Ocean literacy - Why, what, and who?" in the session "Ocean and society: An accessible ocean", **1 June 2021**.
- **Opportunity:** [Winds of Change: Future leaders in climate change resilience](#). Current postgraduate students and recent graduates with demonstrated leadership skills and an interest in sustainability are encouraged to [apply](#). Deadline **18 June 2021**.
- **Article:** [How junior scientists can land a seat at the leadership table](#), by Kendall Powell (published in Nature). As an early-career researcher, you have a lot to contribute in a leadership position. In this article, you will learn how you can land a leadership role.

### Conferences, events, and workshops

- **ECOP** - First [Virtual Early Career Ocean Professional \(V.ECOP\) Day](#) (Virtual Event), **1 June 2021**.
- [First International Conference of the United Nations Decade of Ocean Science for Sustainable Development - 1 June 2021 – July 2022](#).
- [Sustainability Research and Innovation Congress 2021 \(SRI2021\)](#) (Hybrid Event), Brisbane, Australia, **12-15 June 2021**
- [ASLO 2021 Aquatic Sciences Annual Meeting](#) (Virtual Meeting), **22-27 June 2021**.
- **In New Zealand** - [New Zealand Marine Science Society Conference](#). Tauranga, New Zealand, **5-8 July 2021**.

- [Advances in Marine Ecosystem Modelling Research \(AMEMR\) Symposium](#) (Virtual Conference), **12-15 July 2021**.
- [8th International Conference on Fisheries and Aquaculture 2021 \(ICFA 2021\)](#), (Virtual Conference), **19-20 August 2021**.
- [In New Zealand - Physiomar 2021 Conference](#). Nelson, New Zealand, **7-10 September 2021**.
- [ECOP - International Conference for YOUNG Marine Researchers \(ICYMARE\)](#) (Online Event), **21-24 September 2021**.
- [The 5th International Symposium on the Ocean in a High CO2 World](#) has been postponed until **13-16 September 2022**.

#### International opportunities

- [ECOP - Scientific Diving Summer School](#) to learn - monitoring techniques and experimental protocols for sampling both in and around shallow hydrothermal vents. The summer school is organized by the University Sapienza (Rome), OGS (Trieste), CO2GeoNet and Diving Center AMPHIBIA.

#### New Zealand opportunities for collaboration on climate change

- Physical Oceanography Research Group (PORG) - Students and faculty within the Dept. of Marine Sciences at the University of Otago meet semi-regularly in person and online to share research, ask questions and get feedback. For more information, contact [Rob Smith](#).

#### Jobs

- [Administrative Officer](#) with the Australian Institute of Marine Science at James Cook University in Townsville, Australia, Closes 7 June.
- [Business Development Officer](#) at the Australian Institute of Marine Science, in Townsville, Australia. Closes 3 June
- [Coral Specialist and Aquarist](#) with Ocean Reefs Marine Aquariums in Perth, Western Australia.
- [Ecologist](#) with Boffa Miskell in multiple locations, New Zealand. Closes 9 June
- [Environment & Approvals Coordinator, Marine](#), with Star of the South in Melbourne, Australia.
- [Laboratory Technician](#) with Edith Cowan University, School of Science, Bunbury Campus, Bunbury, Western Australia. Closes 7 June
- [Managing Aquarist](#) with Advanced Aquarium Technologies in Northern Queensland, Australia.
- [Oceanographic Instrument Technician](#) with the Australian Institute of Marine Science in Townsville, Australia. Closes 14 June
- [People & Capability Coordinator](#) with the National Institute for Water and Atmospheric Research (NIWA) in Auckland, New Zealand. Closes 31 May
- [Project Manager, Reef Restoration and Adaptation Sub-program](#) at the Southern Cross University, based at the National Marine Science Centre in Coffs Harbour, NSW, Australia. Closes 31 May
- [Postdoc - Acoustics](#) with Cornell University in Ithaca, NY, USA.
- [Postdoc - Carbon Chemistry](#) with the State of Louisiana in Chauvin, LA, USA. Closes 8 June.
- [Postdoc - Coastal Marsh Ecology & Geomorphology](#) with the University of South Carolina in Columbia, SC, USA.
- [Postdoc - Shellfish](#) with Stony Brook University, School of Marine and Atmospheric Sciences, in Stony Brook, NY, USA. Closes 10 June
- [Postdoc - Metabolomics of Algae](#) with the Cawthron Institute in Nelson, New Zealand. Closes 13 June
- [Postdoc - Aquaculture](#) with Plant & Food Research in Nelson, New Zealand. Closes 7 June
- [Postdoc - Freshwater and Coastal Carbon Cycling](#), with the Louisiana Universities Marine Consortium in Chauvin, LA, USA.
- [Postdoc - San Francisco Bay River Plume](#) with Rutgers University, Dept. of Marine & Coastal Science in New Brunswick, NJ, USA.
- [Postdoc - Marine Symbiosis](#) with the University of New Hampshire in Durham NH, USA.
- [Postdoc - Microbial Ecology](#) with the University of Southern California, Marine and Environmental Biology Section within the Dept. of Biological Sciences in Los Angeles, CA, USA.
- [Postdoc - Microbial Ecology](#) with Clark University in Worcester, MA, USA.
- [Postdoc - Optics & Biogeochemistry](#) with University of South Florida, the Optical Oceanography Lab at the College of Marine Sciences in Saint Petersburg, FL, USA. Closes 18 July
- [Postdoc Research Fellow - Aquatic Ecology](#) with Edith Cowan University, School of Science and Mathematics, Joondalup Campus in Perth Western Australia. Closes 13 June

- [RRAP Indigenous Partnerships Coordinator](#) with the Australian Institute of Marine Science in Townsville, Australia. Closes 9 June
- [Senior DevOps Engineer](#) with the Australian Institute of Marine Science in Townsville, Australia. Closes 7 June
- [Senior Microbiology Technician](#) with the Cawthron Institute in Nelson, New Zealand. Closes 6 June
- [Senior Operations Officer](#) with Fulcrum Robotics in Hobart, Tasmania, Australia.
- [Senior Project Officer - Reef Restoration](#) with NRM South in Hobart, Tasmania, Australia.
- [Social Scientist](#) with the Cawthron Institute in Nelson, New Zealand. Closes 20 June

If you have news, opportunities, resources, or a published article you'd like included in the next newsletter, let us know by replying to this e-mail.

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Cheers,

Christina McGraw, Habibeh Hashemi, Jesse Vance, Rebecca Zitoun, and the NZOAC Council