

Impacts of Ocean Acidification on Calcifying Marine Organisms

Training Summary:

Through this experience, I worked in Dr. Christopher Sabine's lab in the Oceanography Department to develop proper seawater chemistry analysis skills. I was trained and directly involved in the measurement of total alkalinity through automated open-cell potentiometric titration, along with analysis of certified reference material. In addition, spectrophotometric determinations of pH on the total scale were measured using m-cresol purple dye via spectrophotometer. Both total alkalinity and pH were important to accurately characterize seawater carbonate chemistry. These skills were applied in an experimental mesocosm setup to manipulate carbonate seawater chemistry through the addition of CO_2 , HCl, and Na_2CO_3 , both independently and in combination. Utilizing the mesocosm setup, I developed my skills and techniques to measure the growth and metabolic responses of corals to OA. This experience has definitely equipped me with the skills to monitor the impacts of OA in my home country and contribute to the global scientific effort.



What's Next?

With the training, I am equipped with the necessary skills to properly use the equipment that the IAEA had given us. This training enabled me to properly collect seawater samples, prepare them for storage, and to analyze them in the lab. I am more confident in my skills than ever before but I will still continue to learn and expand my arsenal in seawater carbonate chemistry analysis. With the knowledge acquired, my colleagues and I can now integrate seawater carbonate chemistry findings into our monitoring projects to have a better picture of what is going on. We plan to conduct new experiments and OA monitoring projects in Palau to have good data in the long run.

McQuinnley M. - Palau

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