

Melanie Vianna Alencar's Marine Debris Internship at the IPRC

My name is Melanie, and I am a Brazilian exchange student at Monterey Bay California State University. My career plan is to become an Oceanographer. I am being financed by the Brazilian government in a program called "Ciências sem Fronteiras" (Science Without Borders).

When I found out I had to apply for a summer internship to complete my program in the US, I decided to work with marine debris. I wrote to some professors and institutions and I had some good answers. But I was convinced that the best opportunity for me was to work with Nikolai Maximenko and Jan Hafner at the IPRC. I found their work with marine debris on the IPRC website that is kept by Gisela Speidel, and it caught my attention.



From left, Jan Hafner, Melanie, Nikolai Maximenko, and Kin Lik Wan g.

When I got the chance to come to Hawaii to work with marine debris, I had no more doubts about my summer: it was exactly what I wanted. I have no regrets. Work at the International Pacific Research Center was a big opportunity that absolutely will make all the difference in my career.

With Nikolai and Jan I had the opportunity to learn about the kind of marine debris that arrives on Hawaii's coastlines, with emphasis on material coming from Japan after the 2011 tsunami. During surveys of the Oahu's windward I found new pieces that are likely from the tsunami and that will be added to the IPRC dataset. I also had the opportunity to acquire some skills on MATLAB with Angel Maimo's help and on GrADS with Jan's orientation. These programs can be used to analyze ocean currents and to develop

models about the marine debris patches in the oceans. Kin Wang introduced me to imagery analysis on marine debris using image processing.

I also sorted marine debris samples from Kamilo Beach on Hawaii Island, to determine the density of plastic debris and its sizes in different layers of the beach. We noted some very interesting things after sorting. These findings can be useful in developing a computer program for analyzing microplastic. This will be a great step for understanding and combating plastic propagation in the oceans.

I would like to say thank you to each one of the people who worked with me. The two months I spent at the IPRC were really valuable for me. I am grateful for having this experience that gave me the knowledge and inspiration to continue working with marine debris when I am back in Brazil. I hope to do scientific research that contributes to my country and to studies of plastic pollution in the oceans.

Mahalo,
Melanie Vianna Alencar

