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The calcium carbonate found in shells of tiny organisms record the carbon and oxygen isotope chemistry of the ocean they live in. I study these records to learn how the chemistry of the ocean changed between 35 and 65 million years ago. I do this by analyzing the chemistry of carbonate fossils buried in deep sea cores. Because the ocean and atmosphere "talk" to each other, tests tell us about how changes in the carbon cycle may have affected Earth's climate over millions of years. Earth's carbon cycle helps maintain a climate that supports liquid water and life, which is vital information to Astrobiologists searching for life.

Areas of expertise:

- Oceanography
- Climate change

How I first became interested in this profession:

I consider myself a late bloomer. When I was young, I only understood that I wanted adventure more than a career. I did not know that careers could be adventurous! After years of adventure that included living on a sailboat and crossing the Atlantic on a boat, I knew I wanted to study the Earth, especially the ocean. When I got the chance, I went back to school and got a degree in geology. I was very motivated. I never knew science was so much fun!

What helped prepare me for this job:

After I graduated from college, I worked for a biological oceanographer. He does very exciting work! He goes on deep-sea expeditions to study how tiny plants in the ocean help remove carbon from the atmosphere and bury it in the ocean. We thought a lot about how these plants help regulate our climate. We knew that in the past, Earth had been much colder at times and much warmer during other phases. I wanted to learn more about how the carbon cycle affects climate over Earth's history and what changes we can expect in the near future.

My role models or inspirations:

My wonderful professors at East Carolina and Penn State University and my boss are my role models. Teachers appreciate people that really want to learn and they go out of their way to nurture you along your way.

My education and training:

- B.S. in Geology, East Carolina University

My career path:

- Data technician/research assistant for a biological oceanographer at Duke University marine lab, 4 years
- Graduate student at Pennsylvania State University, 2 years

What I like about my job:

I've always liked stories. Earth science is all about the best stories. When I am researching, I am anticipating the story I'll get to tell.

What I don't like about my job:

Sometimes there are too many little details that need attention and I forget to zoom out.

My advice to anyone interested in this occupation:

The trick is finding what you want to do. Once that happens, the sky is the limit! Find a way to keep yourself scientifically connected with others in your field. Don't spend too much time alone in a lab or on a computer.

Additional Resources:

- American Institute of Biological Sciences
<http://www.aibs.org>
- American Physiological Society
<http://www.faseb.org/aps>
- American Society for Biochemistry and Molecular Biology
<http://www.biophysics.org/biophys/society/biohome.htm>
- American Society for Microbiology
<http://www.asmsusa.org>
- Astrobiology Summer Academy
<http://academy.arc.nasa.gov/>
- Biotechnology Industry Organization
<http://www.bio.org/welcome.html>
- Graduate Student Researchers Program
<http://spacelink.nasa.gov/Instructional.Materials/NASA.Educational.Products/Graduate.Student.Researchers.Program.Brochure/.index.html>
- MATHCOUNTS Competition
<http://mathcounts.org/>
- Minority University Research and Education Programs
<http://mured.nasaprs.com/>
- NASA Cooperative Education Program for college students
<http://spacelink.nasa.gov/Educational.Services/NASA.Education.Programs/Student.Support/NASA.Cooperative.Education.Program/.index.html>
- NASA Jobs
<http://nasajobs.nasa.gov/>
- NASA Office of Life and Microgravity Sciences and Applications
<http://www.hq.nasa.gov/office/olmsa/>
- NASA SHARP Internship Program for high-schoolers
<http://www.mtsibase.com/sharp/>
- NASA Student Employment
http://nasajobs.nasa.gov/stud_opps/employment/index.htm
- NASA Student Involvement Program student contests
<http://www.nsip.net/index.cfm>
- Order NASA career videos such as "Engineers: Turning Ideas into Reality," "Careers: Aerospace Engineer" or "Reaching for the Stars" from NASA CORE.
<http://core.nasa.gov>
- Student's Guide to Astrobiology
<http://www.astrobiology.com/student.html>
- Tech-Interns.com
<http://www.tech-interns.com/>

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