Coastal Resilience: Managing the Threat to Our Coasts

Coastal resilience is both a science and an art. It relies on the talent of environmental engineers and other scientifically-minded professionals, plus it takes extensive expertise with a specific type of challenging ecological project management.

Here's a closer look at the types of professionals who are involved with managing the ever-present threats to our world's coasts and waterways. These ecological heroes are out in severe weather and hazardous environments doing the difficult day-to-day work of preserving the planet's coastlines.

What is Coastal Resilience?

Coastal resilience is a term that refers to helping coasts and waterways bounce back after natural disasters and human-made environmental crises. Dangerous circumstances like tsunamis, hurricanes, floods, erosion, over-harvesting, spills, and contamination can severely damage coastlines.

However, the concept of coastal resilience asserts that the damage doesn't have to be permanent. Humans can intervene to introduce processes and policies that remediate recent destruction and minimize the potential for future catastrophes.

Who are the World's Coastal Resilience Professionals?

Coastal resilience professionals are highly educated and thoroughly trained in fields like environmental engineering, environmental science, project management, project engineering, construction management, and construction quality assurance. Ideally, they have extensive experience working in coastal waters and harsh oceanic environments.

A company that succeeds in this field often has a wide range of other professionals on staff. In addition to the professionals listed above, a coastal resilience company may employ laboratory scientists, foresters, facility managers, statisticians, and data analysts, among others.

This team of professionals works together to explore target zones, conduct field and lab studies, gather information for analysis, and make recommendations to clients like municipal governments and military bases. In many cases, they also manage ongoing monitoring operations to ensure the continued health of coastal waterways.

Providing Key Insights and Innovations

Coastal resilience professionals are often hired to conduct impact studies, remediate environmental harm, and make recommendations for future projects. Their work often has far-reaching impacts beyond the initial studies they undertake. Below are a few examples:

The Nature Conservancy Coastal Resilience Project
The Nature Conservancy is the organization that coined the term “coastal resilience” and is the home base of its global presence, CoastalResilience.org. It’s also a direct participant in coastal resilience projects in 17 U.S. states, Mexico, Central America, and the Caribbean.

The Conservation Gateway
The Conservation Gateway is a growing digital archive of climate risk and coastal resilience studies. It serves as a library of completed research studies and thought leadership articles that inform ongoing work in the field.

Grenada’s Mangrove Preservation Project
Here’s an example of a local project with a global impact. Grenada’s lush mangrove coastline is inherently resistant to destructive environmental threats, which provides a window into natural solutions for coastal resilience. By studying this region, coastal resilience professionals are learning new techniques for saving coastlines around the world.

Kuwait Naval Base Breakwater Project
This project demonstrates the extreme flexibility and innovative thinking required in coastal resilience. At Kuwait’s Naval Base, Versar project engineers repaired crumbling foundations and constructed piers as part of a military harbor reconstruction project. Along the way, they faced damaging winter winds that threatened to halt the project. The Versar team devised innovative ways to hold back icy waters and keep the construction on schedule and under budget.

Maryland’s Power Plant Research Program
The Power Plant Research Program is one of the world’s longest-lived coastal resilience projects, founded in 1974. For 45 years it’s been managed and monitored by Versar. Among other projects, the team has conducted studies to ensure fragile coastal Atlantic underwater habitats will be safe from potential wind energy development projects.

Versar is Managing the Threats to Global Coastlines

Coastal resilience professionals are now more in demand than ever before. An enormous level of new funding has been allotted for programs to manage the impact of climate change. Versar is uniquely qualified to manage environmental programs that require a superior level of ecological risk management expertise.

For half a century, Versar has helped protect our planet through coastal resilience program management, engineering, staffing, construction, hazardous materials handling, munitions disposal, and ecological remediation activities. Our clients are in the governmental, municipal, military, and industrial sectors and we operate in some of the world's harshest environments and most dangerous zones.

At Versar, we're dedicated to fostering awareness and education about the emerging field of coastal resilience. Visit our site to learn more about how coastal risk mitigation is helping our planet's coastlines survive and thrive.

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