

# What is Coastal Resilience?

The Earth's coasts are vibrant ecosystems, thriving with natural activity and surrounded by human life. But during an ecological disaster, the coast is at risk of permanent damage.

In an instant, a vicious storm or industrial oil spill can destroy the delicate balance of a coastal zone. Now the coast is suffering and in need of immediate intervention to bring it back from the brink of destruction.

Coastal resilience is the idea that people can assist our struggling coasts and help them bounce back after dangerous events like tsunamis, hurricanes, floods, and human-made disasters. With expert insights and the right resources, coasts can regain their natural vitality.

## The Coastal Resilience Program

While the concept of coastal resilience has been around for more than 60 years, The Nature Conservancy formally established the [Coastal Resilience program](#) in 2007. The program takes a proactive approach to global coastline threats by formalizing plans for hazard mitigation and examining nature's role in reducing risks to coastal health.

In this spirit, the Conservancy created a robust set of coastal resilience processes and tools. They developed a coastal risk mitigation model, a web mapping tool, and a network of global experts in ecological risk management and climate adaptation planning.

It's a joint [public-private partnership](#) that welcomes an impressive variety of stakeholders into the process for diverse insights and resources. The program's partners include not only government and environmental authorities, but also energy companies, humanitarian organizations, tech innovators, insurance carriers, and private ecological management firms.

The Coastal Resilience program is vital to the Earth's survival. If humans fail to nurture and protect our planet's coastlines, we become more vulnerable to a cascade of [threats and losses](#) like environmental destruction, habitat loss, species loss, housing shortages, and natural resource contamination.

## The Many Types of Coastal Threats

When you think of a coastal crisis, your mind might immediately go to the [Deepwater Horizon oil spill](#) and other infamous environmental disasters that receive intense media coverage. However, our coasts face a vast range of threats, both human-made and naturally occurring:

- Tsunamis
- Hurricanes

- Tropical storms
- Floods
- Sedimentary buildup
- Erosion
- Rising sea levels
- Contaminations and chemical spills
- Bacterial/algal overgrowth
- Temperature disruption
- Agriculture and aquaculture
- Overfishing
- Population and coastal settlement expansion
- Trash and floating debris
- Munitions and warfare disruption and debris

Each of these threats requires a unique approach, plus an enormous influx of resources and expertise. From the moment the crisis is detected, through the complex remediation process, and onward into the future, a vulnerable coastline needs constant vigilance.

## What Our Coastlines Can Teach Us About Resilience

Although our planet's coastlines are constantly at risk of damage, they're also naturally resilient in the face of innumerable threats. A major goal of coastal resilience is to investigate the Earth's [natural solutions](#) to coastal maintenance, which can then guide our approach to restoring and preserving coastlines around the world.

For example, consider the lush coastal mangrove forest of the Sandy Island Oyster Bay Marine Protected Area at Carriacou, Grenada. Along this swampy coastline, the thick mangrove tree roots twist and tangle themselves directly into the sandy shores, creating a natural barrier to erosion and preventing marine disruption.

The Nature Conservancy and numerous other groups are collaborating on a [10-year coastal resilience project](#) to discover how Grenada's coastal mangroves have continued to thrive despite persistent ecological threats. The project's findings will not only help preserve Grenada's mangroves but also benefit other struggling coastlines around the world.

In addition, the results of this project are being added to a new digital risk and resilience archive called the [Conservation Gateway](#). It's a large and growing knowledge base that will support and inform successful global coastal resiliency projects for decades to come.

## Versar: Leading the Charge Toward Coastal Resilience

In the United States, tremendous funding is now allotted for programs to manage the looming threat of climate change. [Versar](#) is uniquely qualified to manage these environmental programs, which require a superior level of ecological risk management expertise.

For half a century, Versar has been a world leader in large-scale 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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