

Common Ecological Threats

Diver operators and professionals are responsible for being stewards of the environment by working to protect it during all dive outings. To do that, it is important to understand what threatens marine, brackish*, and freshwater systems.

The following list is not comprehensive, but it highlights some of the most common threats that are faced by these systems

Threat	Description
Climate Change	Water temperatures are increasing due to global warming. Coral bleaching is occurring, oxygen content in the water is reducing, and the biodiversity and productivity of marine, freshwater, and brackish life is being altered.
Ocean Acidification	Many organisms (e.g., coral, mussels, etc.) build their shells and skeletons with calcium carbonate, but those structures are beginning to dissolve due to ocean acidification.
Eutrophication	Eutrophication occurs when an environment becomes enriched with nutrients, resulting in an overabundance of algae growth. After the algae dies, it will decompose and release carbon dioxide, lowering the pH of the water. This results in ocean acidification.
Pollution	Air and water pollution negatively impact human, plant and animal life, as well as make destinations unfavorable for traveling divers.
Land Development	As roads are constructed and beaches are regenerated, habitats are altered and removed. This could impact marine, freshwater, and brackish life, and it could result in disrupted natural drainage patterns for water and sediment.
Extraction of Resources	When organic and/or inorganic resources are removed, topography and the biodiversity of systems are changed. Habitats may also be destroyed.
Invasive Species	Invasive species (e.g., zebra mussels, lionfish, etc.) can disrupt or destroy ecosystems. Biodiversity can be impacted (e.g. competition for space and food), habitats can be altered, and diseases can be transmitted if invasive species are introduced into an environment in which they do not belong.
Humans	Humans are a significant threat to the environment. Divers disturbing sediment, fisheries using explosives, and swimmers choosing sunscreens containing toxins are just a few examples of how humans can negatively impact the environment.

*Brackish water is defined as a mixture of freshwater and saltwater.