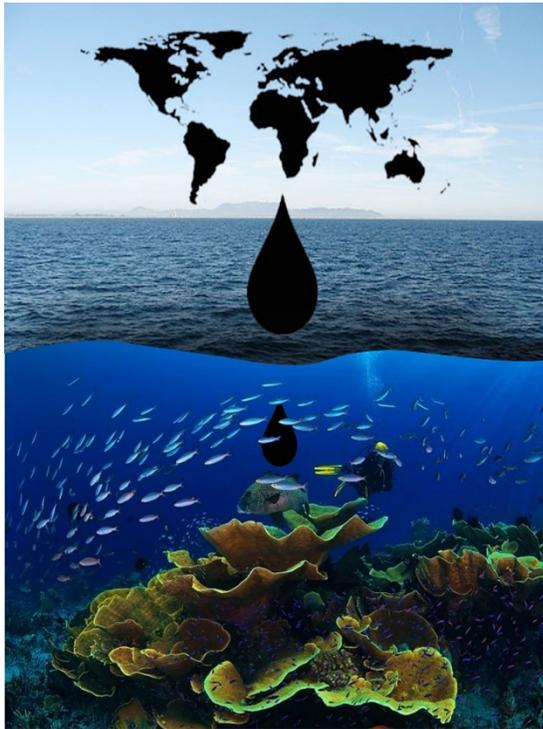




5.30.13



Over geologic time coral reefs throughout the world have survived several killing events like ocean warming, acidification, coral bleaching, silt transport, coastal development, tectonic and weather events. It is unlikely that reefs can survive all of these events when combined with an oil spill.

Somewhere in the world the “worst case scenario” already exists.

Hydrocarbon spills are the latest killing events that we need to be addressed. Many island nations around the world lack any formal (or informal) response program for such a disaster. Imagine, walking up to find your pristine beach and the coral reef right off the coast coated in an oil slick. Tourism dries up. Animals are dying on the beach, coated in oil. Your livelihood is ruined. There is an immediate need to raise awareness for the need for a first response program that can be used immediately by coastal constituents in developing and underserved island nations around the globe.

In many developing nations throughout the world, offending parties do not or will not take responsibility for their spills. When a company does not take the initiative to clean up the environment after an ecosystem-

destroying event, the burden and responsibility to save delicate coastal ecosystems, often falls on someone else who may not have the ability or resources to adequately mount a defensive posture for a devastating marine event like an oil spill.

We all live in the real world. We all know that nothing is perfect, accidents happen and leaks occur, all of which ends up in solution somewhere. Hydrocarbon spills are one event where we can have an immediate impact by sharing information with the rest of the world. And, for those of us who believe in evidence-based science, we have a responsibility to share what we know.

The World Federation for Coral Reef Conservation (WFCRC) is a philanthropic effort whose mission is to advance the understanding and conservation of coral reefs through integrated programs including data gathering and sharing, education, and outreach. WFCRC strives to build active and long-term partnerships with divers, conservationists, the scientific community and local island governments. Currently, WFCRC’s main focus is to help minimize the effects of a chemical spill as it affects coastal shallow water reefs by providing information and training to coastal communities.

The most effective avenue to minimize the damage of hydrocarbon spills is an early “first response” for cleanup. The WFCRC works with developing nations and coastal communities to develop formal first response plans and to train local authorities and locals within the communities. WFCRC puts critical first response clean up information, case histories and examples not only in the hands of the Managers of Marine Protected Areas (MPS’s), but also into the hands of effected individuals, which would ensure that local fisherman and coastal constituents around the globe know how to respond when a spill occurs. When these preventive measures are shared on a broad basis, the result would have a positive effect on coral reefs and coastal eco systems around the world. The best result will be to focus on events that we can have an impact on that can be measured in years, not lifetimes.



# GeoExPro

## The Dying Ecosystem

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In addition to local training seminars, deliverability of this strategic conservation information is enhanced by a live GIS dashboard and geo portal, which is housed in a virtual library based on location. Current drone technology with multi on-board spectral sensors makes visualization, coral inventory, change management, and beach erosion a more informed decision process. This GIS dashboard is not only useful for identifying large-scale threats to the reefs, but allows researchers to locate and identify those reefs that are in the most trouble.

With all of the media attention given to global issues like global warming, acidification, coral bleaching, and habitat loss, if we do not enact first response action and preparedness plans **now**, it is unlikely that coral reefs will be able to survive a marine disaster like an oil spill when combined with these *current* issues.

WFCRC ([www.wfrc.org](http://www.wfrc.org)) is the operational model for gathering and sharing first response information, via a GIS dashboard and web apps, which can be viewed by hand held devices by registered members.

WFCRC, an International 501 (c) (3) nonprofit Florida corporation, has developed several programs focused on coral reef conservation that not only uses current technology, but creates a worldwide coastal network of like-minded people. This grassroots, philanthropic organization was developed with the goal of increased awareness for the health, safety, and sustainability of coral reefs on a global scale. As an organization we feel that preserving our sub-aquatic environment is extremely important and something that we, as a global society, should take seriously for the benefit of future generations. We seek a balance between stewardship and development. We feel that by helping to preserve marine ecosystems we are doing a service to *everyone* in our global community, specifically those who rely on the ocean for their livelihood. We are also preserving these delicate ecosystems for future generations to experience and enjoy.



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