THE OFFICIAL MAGAZINE OF THE OCEANOGRAPHY SOCIETY

CITATION

Kappel, E.S. 2016. Silver linings: Disasters can produce good science. *Oceanography* 29(3):5, http://dx.doi.org/10.5670/oceanog.2016.64.

DOI http://dx.doi.org/10.5670/oceanog.2016.64

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Silver Linings

Disasters Can Produce Good Science

On April 20, 2010, an explosion on the Deepwater Horizon oil rig, working on the Macondo exploration well for BP in the Gulf of Mexico, killed 11 people and led to an estimated five million barrels of crude oil spewing into the water column from approximately 1,500 m depth. Four months later and six years ago this month, on September 19, 2010, the wellhead was declared permanently sealed. The scope and scale of the environmental disaster caused by the blowout was enormous. And yet, as with great tragedies throughout history, ranging from fires that destroyed large portions of London and Chicago to earthquakes that devastated Lisbon and San Francisco, great disasters often have a silver lining. In this case, work done in reaction to the massive Deepwater Horizon oil spill led to a substantial amount of good science that will improve the response to the inevitable next major spill. Numerous field programs, experiments, and modeling studies conducted in the aftermath of Deepwater Horizon by scientists from institutions in the United States and around the world added tremendously to the knowledge base. Hundreds of peer-reviewed articles have already been published on the Deepwater Horizon spill, including several special issues in specialized journals.

This special issue of Oceanography, generously supported by the Gulf of Mexico Research Initiative (GoMRI), supplements this literature by providing an accessible, multidisciplinary overview not only of results from scientific studies but also of the multifaceted outreach and database efforts supported under the GoMRI program. Twenty articles provide snapshots of how far oil spill science has come in the six years since the Deepwater Horizon oil spill. Their topics range from how crude oil weathers and spreads, to the environmental impacts of dispersant use, the short- and long-term effects oil spills have on coastal and marine ecosystems, and impacts on the health and livelihoods of the affected communities. Even with this silver lining, as articles in this special issue remind us, the story is not yet complete. The outcomes of studies that will be supported by GoMRI's final request for proposals, to be issued in October, will contribute further to the important knowledge base on how oil spills affect Earth's environment.

Ellen S. Kappel, Editor