The Gulf oil spill illuminates two aspects of crisis response: the strength and the limits of its power to motivate reflexive, rapid action. Crisis can motivate too much or too little.

Consider first the limits of crisis as a driver of action. It's long been commonly thought that high-profile events were important in catalyzing the adoption of strong environmental legislation — killer smogs for air pollution regulation, the Santa Barbara oil spill for water pollution regulation and controls on offshore drilling, Love Canal for the Superfund hazardous waste clean-up law. Many environmentalists wish the Gulf oil spill would have a similar effect for climate change legislation. [Indeed, the transparency of that desire has brought Republican charges that Democrats are "exploiting" the spill, and even fueled insane right-wing ranting that the Obama administration and/or BP wanted the oil spill to happen and to cause tremendous damage to enhance the prospects for a climate law.]

But this particular crisis has not galvanized political support for stalled climate legislation. Although the Washington Post is making a big deal of that, it shouldn't surprise anyone. Crises motivate an emotional desire to respond quickly to the problem, and to prevent its recurrence. So the discovery of toxic waste beneath a neighborhood and school at Love Canal could and did trigger passage of Superfund, which provides a mechanism for cleaning up precisely that kind of problem. But climate change doesn't have that kind of direct connection to the Deepwater Horizon disaster. Climate legislation will not clean up the Gulf or prevent another spill. Perhaps it will make the next spill marginally less likely if it decreases demand for fossil fuel by increasing the cost, but that's a fairly tenuous connection.

As the Post concedes, it's not that there hasn't been a political response to the crisis. In fact, the political response has been exactly what should have been expected: a flurry of hearings, a volley of proposals to increase liability for spills and more closely regulate offshore drilling operations, the resignation of the former head of MMS, and a plan to break MMS up. Environmental advocates do need to keep the pressure on to make sure the legislative and regulatory response is more than window dressing, and that it extends not just to platform operations but also to large-scale planning and environmental review for the offshore drilling program. They should work hard to connect the spill to energy efficiency measures, which could decrease at least domestic demand for deepwater oil exploitation, and figure out ways to shine more daylight on the full life-cycle costs of fossil fuel reliance, including harm to workers and the environment. But they should not obsess over trying to tie climate legislation to the Gulf spill. The best reasons for passing a

climate bill have nothing to do with the Gulf tragedy, and everything to do with rapid and extreme climate disruption.

Looking beyond the political debate, the Gulf disaster shows how crisis can over-motivate, triggering action without sufficient deliberation. Once a disaster like the Deepwater Horizon blowout strikes, there is not time to study response techniques. So people rush to do what they can, using known tools developed for other situations or making up new ones on the fly. That can be a good thing — lots of people motivated to think hard about a new problem sometimes come up with creative and effective new solutions. But it can also be a bad thing — people motivated to solve one problem might inadvertently create another, worse, one.

Two aspects of the response to the massive quantities of oil in the Gulf waters illustrate the kind of decisionmaking that can be brought on by an intense desire to act in the face of a crisis.

The first is the use of massive quantities of chemical dispersants in an effort to reduce oil slicks on the surface and keep the oil from fouling the shore. In 2005, a National Research Council panel described the use of dispersants in the following terms:

> Dispersant application thus represents a conscious decision to increase the hydrocarbon load (resulting from a spill) on one component of the ecosystem (e.g., the water column) while reducing the load on another (e.g., coastal wetland). Decisions to use dispersants, therefore, involve trade-offs between decreasing the risk to water surface and shoreline habitats while increasing the potential risk to organisms in the water column and on the seafloor.

The volume of dispersants applied following the Deepwater Horizon blowout is nearly unprecedented, as is their use underwater rather than on the surface. Little is known about the long-term effects of dispersants, or of the oil load they divert to the water column, on aquatic organisms or on dissolved oxygen, which is essential for aquatic life. A group of scientists convened by NOAA in late May came out in favor of continued use of dispersants, judging the trade-offs to be worthwhile.

The second example is Lousiana’s fight to construct sand and rock barriers to

protect its shoreline from oil. Governor Bobby Jindal, who has been gung-ho on the idea since mid-May, has castigated the Army Corps of Engineers for not quickly greenlighting a series of such projects. Under substantial political pressure, the Corps did grant an emergency permit to build two sections of berm, despite criticisms from academic and agency scientists (*Science* story, subscription required) that the berms would provide little benefit at considerable ecological cost. It has so far refused to permit construction of a rock barrier at inlets to Barataria Bay.

My point is not that fears of unknown consequences should control response to the oil spill. It is rather that making trade-offs between known, suspected, and unknown harms is tough to do rationally once a crisis occurs. Ideally, responders would not be required to fly by the seat of their pants. The difficulties of doing so in the Gulf should remind us of the importance of planning, and gathering needed information, before a disaster. Before the next big spill, we need to know a lot more about dispersants and about protecting shorelines better than floating berms do. The accidental experiment in the Gulf should be mined for information about the behavior of oil in the water column, reactions to dispersants, etc. After the waters clear, research that will provide a better information base for decisionmaking in the next crisis should continue.

Taking advantage of the political mood, let’s make sure the legislative response includes creation of a fund paid for by the offshore oil industry to fund that kind of research.