Day 13, Voyage 2, June 20, 2011

A quite day, lot's of work and looking, but not much else. We were visited by dolphins, a couple of ocean sunfish, the Coast Guard and not much else. Coast Guard said hi and not much else. The day ended quietly too with another grant sunset - only this time we saw the green flash! It's a bit of a misnomer really as you expect to see a quick green flash like lightning across the sky. Really, it is more of the green shrink because it is the last bit of sun shrinking away as a green color. There were some nice clouds adding texture to tonight's sunset. I have attached picture of the sunset and one Sandy caught of the green flash.

Since the events on the boat were standard, I thought I would begin to tell you about this oil crisis and what we learned and where we stand in our efforts. As we have reflected on the crisis, we have come to realize that it was, and is, at its core a giant marine toxicology experiment. In fact, it's the world's largest marine toxicology experiment! Here is why I say it is so…

The oil crisis releases at least 200 million gallons of oil into the Gulf. That oil began moving into inshore waters and onto coastlines. There it caused great concern as it impacted tourism and a number of economically valuable species like oysters. It was also fouling birds as it was on the surface of the water. These outcomes were undesirable, particularly during a national economic crisis.

British Petroleum (BP) made the decision that to decrease the toxicity of the oil crisis inshore, it would apply chemical dispersants and keep the oil offshore and in deep water. The dispersants would break the oil into small droplets and allow it to sink into the water column. The consequence of this decision is that it increases the toxicity offshore as the oil remains there longer and moves from the surface to throughout the water column and onto the ocean bottom.

There are three major groups of pollutants of concern in this crisis. There is the crude oil itself, metals in the oil and the dispersants applied to the oil. The toxicology of the dispersants themselves, and the dispersants mixed with oil or metals remain poorly understood and understudied. Thus, whether the decision was right or wrong, this approach was a giant experiment with dispersants that would hopefully work. Did it work?

Nobody knows yet, but progress so far depends on your perspective. On the one hand the oil is gone from the surface and the public, in general, believes the crisis is over. Thus, from a public relations perspective, the dispersants were a huge success and have become the way to deal with oil spills now.

However, from a toxicology/science perspective, we know nothing further about the toxicity of dispersants, dispersants mixed with oil and dispersants mixed with the metals from the oil. There has not been enough time yet for significant data to come forward. Preliminary results suggest that the dispersed oil has coated the bottom of the Gulf impacting the abundant life there; dispersed oil is still reaching the inshore waters and coastlines; and that dispersed oil is much more toxic than crude oil. But there is still much to do and much to learn so from a science perspective- the jury is still out. Let's hope there is no additional spills until we figure it out.

With that information as a backdrop, I will begin in future emails to tell you what we are finding interspersed of course with boat adventures!

I am pleased also to tell you that a video with us in it from last year was posted on Alexandra Cousteau's Facebook page. You can find it at: http://vimeo.com/16839012 Congrats to Alexandra and her team on a job well done!

John

p.s. Our current location is somewhere off of southern Florida in the Gulf. 28 degrees 53.9 minutes North and 85 degrees 38.8 minutes West, for those who want to track us as we go.