



RE: to Marcia from Walter (Mooney): Gulf spill, message 2

Marcia K McNutt t Lori\_Caramanian, Constance.Rogers,  
o Anne\_Castle  
:

07/06/2010 12:03 PM

Cc: mark\_sogge

Connie had some minnions working on that CD.

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**From:** Caramanian, Lori <Lori\_Caramanian@ios.doi.gov> [mailto:Caramanian, Lori <Lori\_Caramanian@ios.doi.gov>]  
**Sent:** Tuesday, July 06, 2010 11:58 AM  
**To:** "McNutt, Marcia K" <mcnutt@usgs.gov>; "Rogers, Constance" <Constance.Rogers@sol.doi.gov>; "Castle, Anne" <Anne\_Castle@ios.doi.gov>  
**Cc:** "Sogge, Mark K" <mark\_sogge@usgs.gov>  
**Subject:** RE: to Marcia from Walter (Mooney): Gulf spill, message 2

Marcia—I'm doing some polishing on the memo to address typos. I note that it still says that a CD with a copy of incident reports will be included with the memo. Is that still the case? Connie, do you know whether such has been separately provided?

**From:** Marcia K McNutt [mailto:mcnutt@usgs.gov]  
**Sent:** Tuesday, July 06, 2010 11:07 AM  
**To:** Rogers, Constance  
**Cc:** Caramanian, Lori; Ray-Hodge, Vanessa; Jacobson, Rachel; Tompkins, Hilary C  
**Subject:** FW: to Marcia from Walter (Mooney): Gulf spill, message 2

Connie -

For some reason, after I edited the memo, I couldn't save it on my computer. I could save it in the email, so I just forwarded it on here. But then I pasted the whole thing into a new document, but lost all of the track changes in doing so. I also added a new memo that I wrote up recently that has some info from the recent review of shutting in the well.

Hope this is helpful.

Marcia

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**From:** Rogers, Constance <Constance.Rogers@sol.doi.gov> [mailto:Rogers, Constance <Constance.Rogers@sol.doi.gov>]  
**Sent:** Monday, July 05, 2010 11:18 PM  
**To:** "McNutt, Marcia K" <mcnutt@usgs.gov>  
**Cc:** "Caramanian, Lori" <Lori\_Caramanian@ios.doi.gov>; "Ray-Hodge, Vanessa" <vanessa.ray-hodge@sol.doi.gov>; "Jacobson, Rachel" <Rachel.Jacobson@sol.doi.gov>; "Tompkins, Hilary C" <Hilary.Tompkins@sol.doi.gov>  
**Subject:** RE: to Marcia from Walter (Mooney): Gulf spill, message 2  
Marcia -

I think I failed to finalize your memo to Bromwich based on the additional info you gave me. We need to have this completed tomorrow. Can you review this and either approve or make additional edits?

Thanks

Connie

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From: Marcia K McNutt [mcnutt@usgs.gov]  
Sent: Sunday, June 27, 2010 5:42 PM  
To: Rogers, Constance  
Subject: FW: to Marcia from Walter (Mooney): Gulf spill, message 2

Connie -

Maybe the email below will help with a summary of all of the science efforts I set up to address the Gulf spill. Not sure if you want to put any or all of these in the memo.

Marcia

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From: Marcia K McNutt/DO/USGS/DOI  
Sent: Sunday, June 20, 2010 12:38 PM  
To: Walter D Mooney  
Subject: Re: to Marcia from Walter (Mooney): Gulf spill, message 2

You won't be sitting by for long. Expect a call in the next few minutes.

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From: Walter D Mooney  
Sent: 06/20/2010 09:34 AM PDT  
To: Marcia McNutt  
Cc: Stephen Hammond; Marjorie Davenport; Suzette Kimball; Sonya Jones;  
gmachlis@uidaho.edu  
Subject: RE: to Marcia from Walter (Mooney): Gulf spill, message 2

Hi Marcia,

Wow. Thanks for your detailed response. I knew that the USGS response was far-reaching, but I really learned a lot from your detailed response to my message.

I will think carefully before contacting any of the various team leaders. I realize that everyone is very busy, including giving up their weekends and holidays, so I want to be sure I can potentially contribute rather than distract.

It was rather naive of me to think that acoustic imaging had not been tried. I'm pleased that progress is being made, even though I can see there are serious difficulties.

My hat is off to you and each of the team leaders for their efforts. The Gulf spill certainly is one of the most critical issues the USGS (and the rest of the country) has faced in decades. Like a lot of my colleagues, I sit up at night thinking about how we can reduce the impact. Watching that online seafloor camera with the oil gushing out is downright depressing.

So, thanks again, and I'll contact one of the team leaders if I feel I have a useful idea or insight to offer. It is frustrating to sit on the sidelines, but also difficult to know how to assist in a really substantive way.

Warm regards,

Walter

-----Marcia K McNutt/DO/USGS/DOI wrote: -----

To: Walter D Mooney/GD/USGS/DOI

From: Marcia K McNutt/DO/USGS/DOI

Date: 06/20/2010 08:44AM

cc: sehammon@usgs.gov, Marjorie S Davenport/WRD/USGS/DOI, suzette\_kimball@usgs.gov, Sonya A Jones/WRD/USGS/DOI, gmachlis@uidaho.edu

Subject: RE: to Marcia from Walter (Mooney): Gulf spill

Walter -

Q1: The USGS response to the Gulf disaster is being coordinated on a number of fronts with varying goals and time horizons. Where you should go and with whom you should coordinate depends on your interests. From the most immediate to the longer term, the various efforts are as follows:

(a) The GIRT (Geospatial Information Response Team) - Steve Hammond, principle contact. The GIRT was the first team we stood up when the crisis began, and it continues to coordinate interagency demands for geospatial products that help the response effort in the field.

(b) Oil Spill Response Team - Majorie Davenport, Team Leader. This group deals with the immediate, tactical needs in the response to the crisis. Many of their activities are on the ground and in support of the US F&WS and NPS as they anticipated impacts of the spill (e.g., establishing pre-spill baselines through sampling) and are directly impacted by oil ashore.

(c) Oil Spill Science Team - Sonya Jones, Team Leader. This team supports longer-term science needs associated with the spill, performing more in depth studies on mitigation strategies and broader integrated science questions.

(d) HREC (Hazard Response Executive Committee) - Chaired by Suzette Kimball. Has broad oversight over USGS science in this emergency. So HREC has jurisdiction over all of the above.

(e) Containment and well kill. I have been assigned by the Secretary to Houston to coordinate a federal team at BP to help with well containment and ultimately with killing the well.

(f) Strategic Sciences Working Group - Gary Machlis, chair - I set up this team, which included a number of distinguished scientists from the private and government sector, to work on scenario planning for cascading consequences for the oil spill considering the Gulf as one large coupled ecosystem from the phytoplankton up to humans. For each scenario, they looked at the likelihood of each event, its impact, what signs we would look for to know that it is happening. They considered events such as dispersed oil causing hypoxia in the midwater, leading to collapse of fisheries and economic ruin of select fishing communities over others, etc. Their work can potentially inform the Gulf Coast Restoration Plan.

Q2: You and everyone else. Such surveys have already been done, and more are in the works. Some of the data might already be up on the NOAA web site. The challenge has been to find the right frequency sonar to use, and to distinguish oil from the many biological layers in the Gulf. Most of the work that Holbrook and others have done has been in the open ocean, not in the coastal zone where life is rife. Jane Lubchenco showed a great image at a meeting a few weeks ago of a layer that had been interpreted as oil, but when dawn came, it dove down. Oops.

Marcia

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From: Walter D Mooney/GD/USGS/DOI

Sent: Sunday, June 20, 2010 10:46 AM

To: mcnut@usgs.gov  
Cc: mooney@usgs.gov  
Subject: to Marcia from Walter (Mooney): Gulf spill

Hi Marcia,

Great article about you in the NYT. That was a surprise! Keep it up.

I have two semi-related questions:

Q1. I've been to most earthquake disasters around the world since 2004 or so, most recently Haiti and Chile. I'd like to witness the situation in the Gulf to gain a better appreciation of the scientific and technical issues. Who at the USGS should I contact to coordinate a visit?

Q2. I've been thinking a lot about what geophysics can contribute to the response. One idea I had was to conduct repeated acoustic seismic surveys of the water column as an evaluation and monitoring system to complement other efforts. The background, Holbrook et al., Science, 2003, is appended. Such an effort would characterize the entire water column quite efficiently.

Warm regards,

Walter

appended: abstract from Steve Holbrook et al:

Thermohaline Fine Structure in an Oceanographic Front from Seismic Reflection Profiling (Science, 8 August 2003; Vol. 301, pp. 821-824)

W. Steven Holbrook, 1 \* Pedro Páramo, 1 Scott Pearse, 1 Raymond W. Schmitt 2

We present acoustic images of oceanic thermohaline structure created from marine seismic reflection profiles across the major oceanographic front between the Labrador Current and the North Atlantic Current. The images show that distinct water masses can be mapped, and their internal structure imaged, using low-frequency acoustic reflections from sound speed contrasts at interfaces across which temperature changes. The warm/cold front is characterized by east-dipping reflections generated by thermohaline intrusions in the uppermost 1000 meters of the ocean. Our results imply that marine seismic reflection techniques can provide excellent spatial resolution of important oceanic phenomena, including thermohaline intrusions, internal waves, and eddies.