

3515863435-63881-17145-188-235

From: "Roger N. Clark" <rclark@usgs.gov>
Sent: Thu, 02 Sep 2010 14:34:44
To: FOIA0105@usgs.gov
Subject: [Fwd: Re: surface oil volume]

----- Original Message -----

Subject: Re: surface oil volume
Date: Mon, 17 May 2010 19:48:34 -0600
From: Roger N. Clark <rclark@usgs.gov>
Organization: US Geological survey
To: Bill.Lehr@noaa.gov
CC: ira leifer <ira.leifer@bubbleology.com>, rclark@usgs.gov
References: <4BF1DA41.90400@noaa.gov>

Bill Lehr wrote:

> Dear Ira and Roger,
>
> While I admit the science is fascinating, we still have a response task,
> to provide an estimate of surface oil. I think we were going to do this
> iteratively. Does anyone have a first iteration?

>

> Bill

>

>

Hi Bill,

Several things have come together. It looks like today's flight was THE flight we have been waiting for. The pilot report says 95%+ clear. The low sun angle should mean no sun glint.

Further, our lab work was finally completed today, so we have the basic lab data to do the estimate. Here is what we are planning to do

3515863435-63881-17145-188-235

with this aviris data set:

With the AVIRIS data we intend to produce for each pixel, each of which is needed for volume estimate:

- 1) the oil/water ratio of the emulsion,
- 2) oil thickness,
- 3) sub-pixel fractional area of oil.

The spectral leverage of AVIRIS will allow us to do that. We will ultimately produce maps of surface oil calibrated in liters/pixel (or similar unit), then sum the pixels to get total volume in the aviris scenes. After that it is extrapolation to the areas not covered by aviris.

We will have at least 2 numbers, a conservative estimate which will be a lower limit and a higher number that is more probable.

I am writing the paper on this and it will have to be reviewed, but should be quick like the last one. With luck, by wednesday night, but more likely by Thursday. At least that is my plan.

Roger