Ryan Chouest daily data transmission and report

Period covered: 20.00 06/07/2010 – 14.00 06/08/2010

129.7 Nautical miles covered

Vessel science party:

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Cruise notes:

Departed Theadore on time (20:00 06/07) after delivery of supplies. Course set followed the Alabama and Florida coastline 5 nautical miles from the coast (figure 1). On advice from BP and looking at the latest situation reports from both BP and ERMA it was decided to deviate from the planned cruise track and head towards the leading edge of the northern identified possible edge of the slick. All of the systems on the vessel appear to be in good working order with little or no maintenance required.

Science results and preliminary interpretation:

The Ryan Chouset cruise 2 departed Theadore following the track displayed in figure 1. The results obtained by the Hydrocarbon Sensor Array are shown in figure 2 show that the concentration in Mobile Bay and along the coast to Orange beach (~5 ppb) were higher than the readings for the remainder of the data set. The data acquired on the eastern sector of the survey track represent baseline values for the sensors and we cautiously assign these to unaffected waters, however further water sampling is required to confirm this. At 08.30 - 09.00 orange pancakes were observed ranging in sizes but averaging ~ 30cm in diameter (30 07.6566N 088 04.7078 W). At 09.00-9.17 (30 12.35 N 087 28.85 W) the pancakes became smaller and were more infrequently observed and eventually were no longer observed at 09.17 (30 12.81 N 087 26.53 W). The start and end of this pancake field is marked in figure 2.

Please not that results presented from the fluorometer sensors yesterday were quoted in ppm this is an oversight and the results should have been quoted in ppb. In addition the fluorometer values of hydrocarbon concentration are based on previous calibration against single carbazole calibrant compounds not with dissolved hydrocarbon extract. We hope to remedy this in the near future by the calibration of all sensors with a dissolved hydrocarbon extract from the MC252 oil. This will allow us to recast the data with appropriate calibration.

Vessel science operations:

Work continues to occur to enhance the data interpretation, integration and reporting. Also we are working on the calibration and validation of the EPA validated solid phase extraction method for the

separation of hydrocarbons from seawater. These tests will allow us process water samples and present the gas chromatograph mass spectroscopy (GCMS) data on the next cruise and will help us with the calibration of the sensor instrumentation.

Planned versus actual route taken cruise 2:

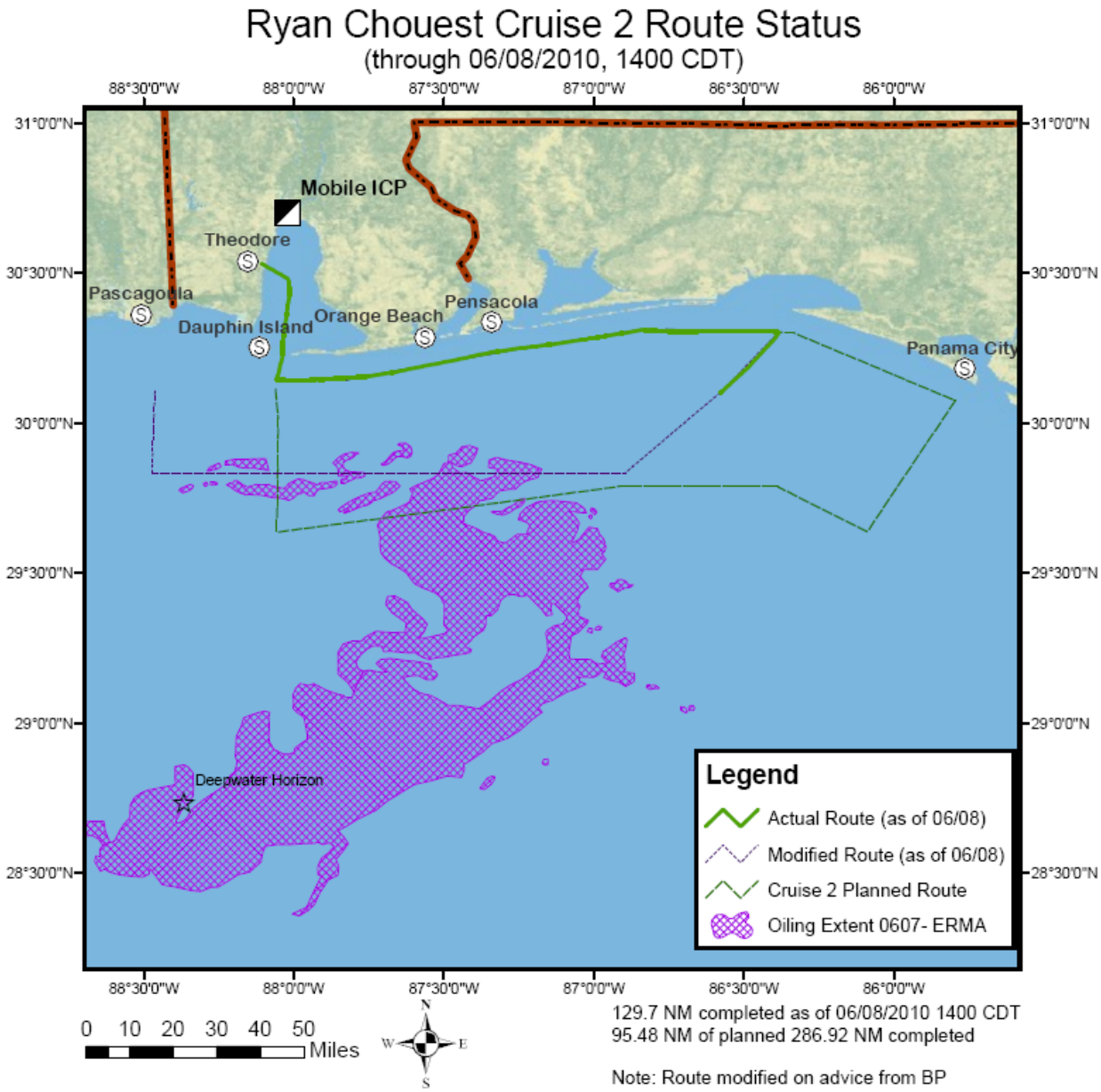

Figure 1: Actual route course plotted between 20:00 06/07 – 14:00 06/08. Purple shaded area represents outline extent of the slick from 06/08 ERMA composite.

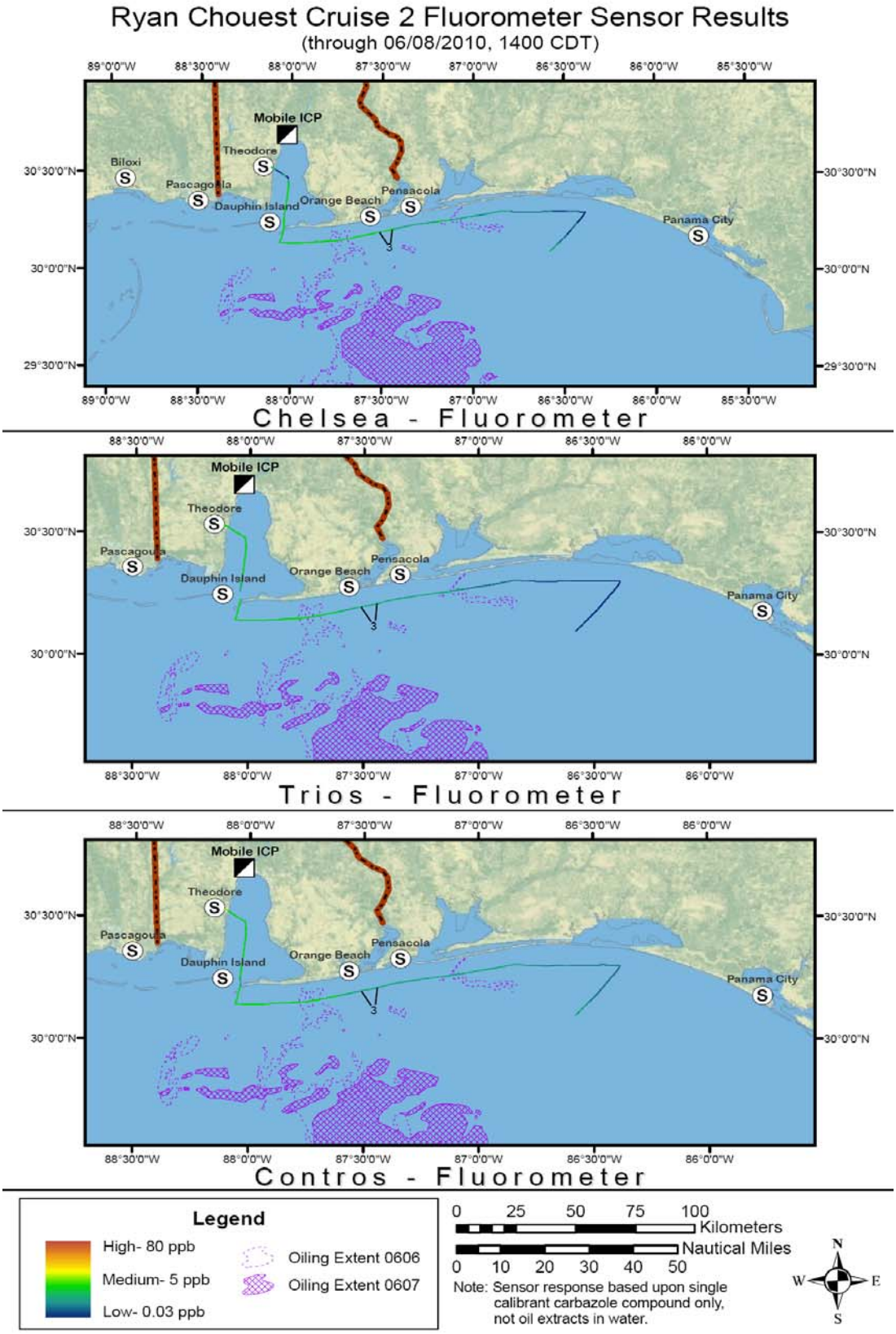

Figure 2: Chelsea, Trios, Contros, fluorometer results plotted with location on cruise 2 track. Breaks in data occur when either data quality is poor or the systems were turned off due to pump problems. The Slick observations and their type are marked by the pointers.

Problems/operational issues:

None

Planned activities for next 24 hours:

Continue on the planned survey line, although if time permits we may add additional sectors to the cruise plan in order to gain greater coverage of the northern extent of the possible slick. Anticipated arrival in Theadore 20:00 hrs 06/09. After arrival in Theadore we will load and install additional equipment. We will continue to run our hydrocarbon sensors array and also collect samples for subsequent GCMS in areas of high sensor response. No 150 m vertical profiles will be performed.