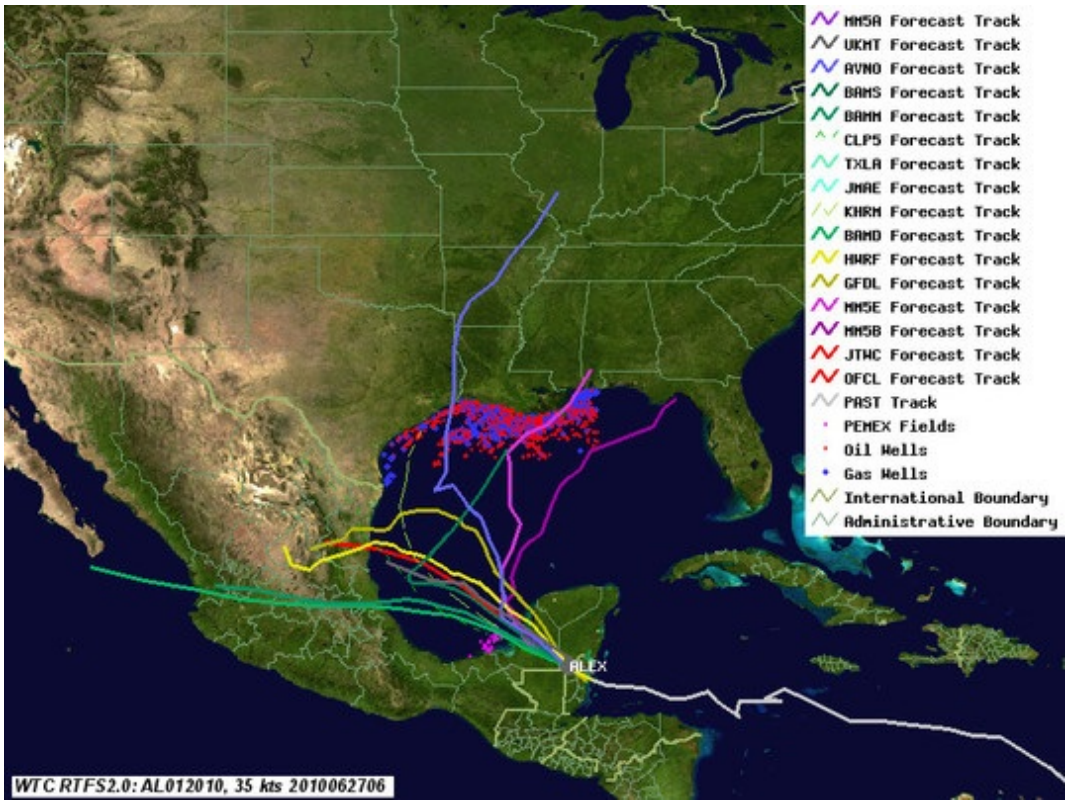
The Oil Drum
DISCUSSIONS ABOUT ENERGY AND OUR FUTURE

Storm Watch, 27 June 2010

Posted by methaz on June 27, 2010 - 10:42am
Topic: Supply/Production
Tags: alex, deepwater horizon, gulf of mexico, hurricanes, oil spill [list all tags]

Sunday Morning Update

Well, Alex isn't a done deal yet. Last night one of the main global models, the GFS, showed the ridge of high pressure that is supposed to keep Alex confined in the Bay of Campeche breaking down. This morning, the GFS, Canadian, as well as our in-house MM5 models (which use GFS for boundary conditions) are showing the ridge that is keeping Alex headed in a westerly direction weakening and allowing the storm to curve north - right into the central Gulf as a Cat 2 storm. Other guidance, such as GFDL, HWRF, UK, as well as our in-house WRF runs, let Alex creep north a bit before turning it back towards Mexico. NHC is following the latter guidance, which is still more likely for a variety of reasons, but notes in the latest discussion the potential for the northward turn. Here are the latest (8am ET) track maps. Red line is the 5am NHC track, blue line the GFS low-tracker, purple lines the scary (but lower probability) scenarios.



As for the Deepwater Horizon site, forecast wave heights are creeping up as well, as the storm will probably reach a peak intensity of 75-80 knots even if it stays on the southerly course. We're looking at 10 foot waves at least at the Deepwater Horizon site. This bodes ill for the near shore cleanup operations, even if it doesn't impact the operations at the well.

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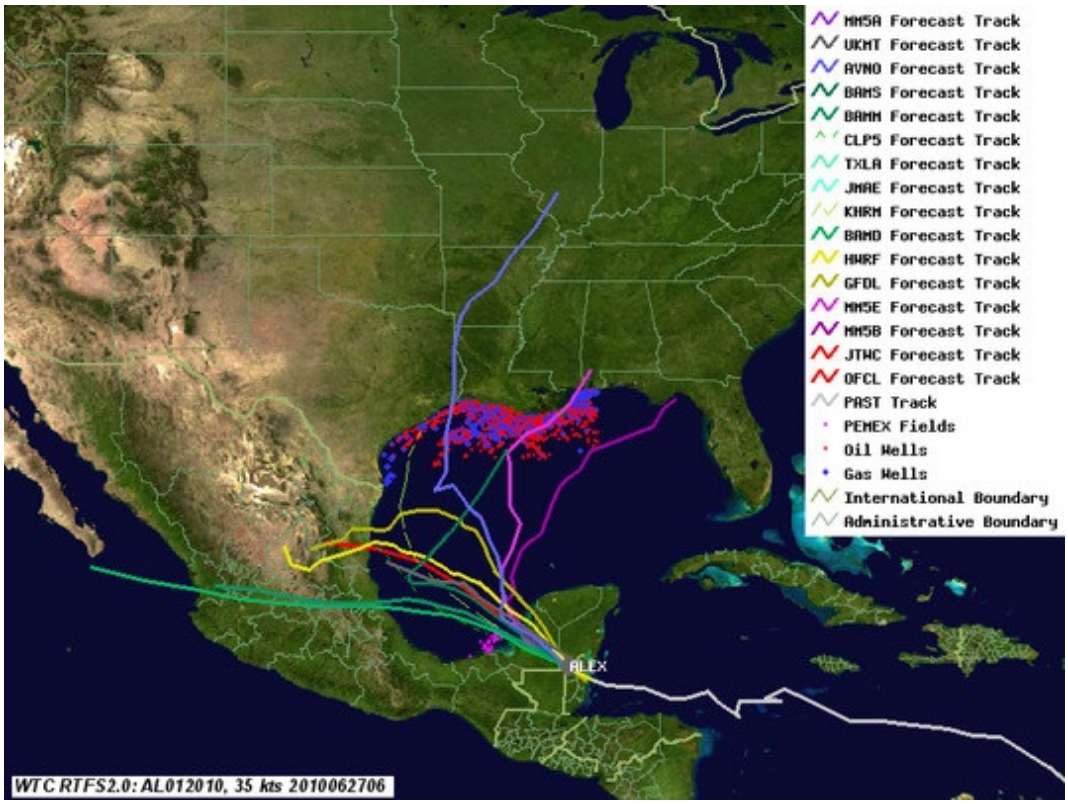

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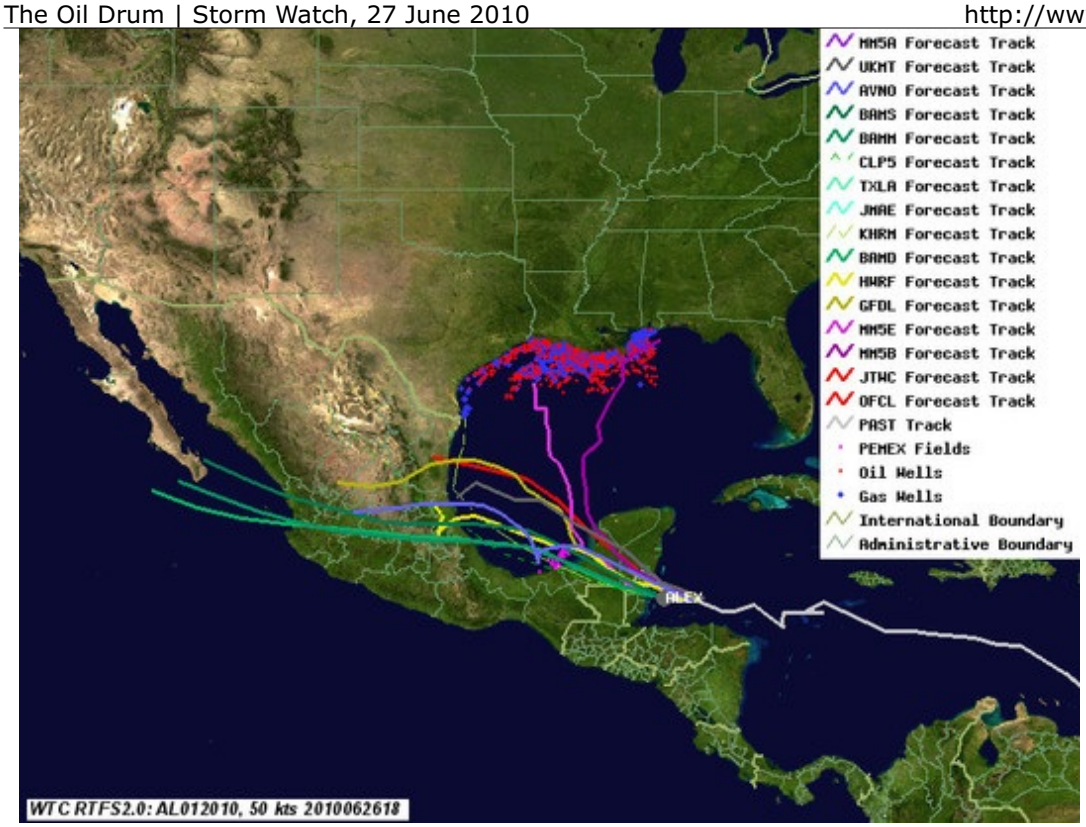
Discoverer Enterprise, the drill ship on-site, can theoretically operate in waves up to 10m (33 feet), but I bet they will bug out before it gets anywhere near that height. Our current bad-case scenario (our MM5E run) is showing 100mph winds and 36 foot waves - and currently, it is #2 in 24 hour forecast track accuracy - 58 miles and decreasing; only HWRF, at 51 miles, is better (NHC is 72 and increasing). My guess is the folks out there are getting nervous. But long term (3-4 days) errors are in the 300-400 mile range for all of the models. Remember that these forecasts, especially for weak storms, are pretty uncertain. *It's far from time to panic - these scenarios are just that - possible scenarios!* We will have a better picture when Alex emerges tonight.

Original Post

As of 4pm this afternoon, Alex continues to intensify, although it is starting to suffer from some interactions with land, and will probably top out below hurricane strength before it hits the Yucatan and Belize. The big question now is how organized it will be when it re-emerges over the gulf, and how quickly it builds after that. As can be seen from the latest track map, guidance is converging on the central Mexico coast. Below the fold is an analysis of the potential impact of the storm on both the Deepwater Horizon site and current Gulf of Mexico production, along with links to additional resources. Next update will be after the storm exits the Yucatan Peninsula.



Deepwater Horizon Site Impacts
On these tracks, the biggest risk is from waves in the form of swells. Even these should be moderate, 6ft or less, although one model shows 10 ft. EIther way, that's not too bad for the response ships. However, the waves could be a problem near shore, where breaking waves are tough on protective barriers like booms, and may cause overtopping and currents to transport the oil in to areas currently not oiled. While this isn't as bad as it could be with a stronger storm, it won't help, that's for sure.

US GOM Shut In Production Forecast
As noted in the original Alex discussion, there are many factors that go into forecasting shut in production. For a storm like Alex, the biggest is the decision whether to shut down a platform/rig and evacuate. We probably won't see many evacuations, although facilities off the southern Texas coast may do so. Assuming normal evacuation procedures are followed (which, for a weaker storm, often are not as managers decide to wait it out), we might see a period of 10% shut in for a day or two. No significant damage is expected.

PEMEX impacts
Alex is unlikely to cause much impact on the PEMEX fields, as it should be on the weak side of a storm weakened by transiting over land. I'd be surprised if they shut down anything, but it is possible - the PEMEX decision process remains a bit obscure.

Other energy asset impacts
The current tracks don't have any significant impacts on refineries or electrical generators.

Tracking Resources

- National Hurricane Center
- NOAA real time weather and wave data from Thunder Horse complex, about 50 miles south of the Deepwater Horizon site

- South FLorida WMD graphics, including model tracks
- CIMS/UW Tropical Cyclone Tracking Site