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November 14, 1994

Dick Litton
PMB
3000 Post Oak Blvd.
19th Floor
Houston, TX 77056

Subject: Hurricane Andrew Hindcast for MMS

Dear Dick,

I am enclosing selected results from our recently completed hindcast of Andrew for MMS.

Attachment # 1 gives the cover, title page, ABSTRACT and Table of Contents and Summary and Conclusions sections of our final report submitted to MMS last week.

Attachment # 2 gives selected figures from our report. 2.1, 2.2 and 3.5 show the adopted storm track relative to measurement sites and storm fixes. 3.7 gives the adopted history of central pressure. 4.1 is the hindcast grid system. 3.10 and 3.11 are selected wind fields. 3.12 through 3.16 are comparisons of hindcast and measured winds. 4.15 is a snapshot of a hindcast wave field. 4.16 through 4.19 are comparisons of hindcast and measured wave heights at all available offshore measurement sites. 4.20 shows the skill in the wave hindcasts of height and period histories. 5.1 shows the hydrodynamic model grid. 5.3b is a snapshot of the hindcast surface current field. 5.7d is a snapshot of the comparison between hindcast wind fields and the measured surface currents at available measurement sites, 5.9d is a snapshot of the comparison between hindcast surface currents and the measured surface currents. The report includes snapshot plots of winds, waves and currents at 3-hourly intervals.

Of great interest to the group will be the comparison of this new hindcast with the earlier JIP hindcast. Attachment 3 shows the envelope of hindcast maximum significant wave height (meters) for each hindcasts. The map projection is different so the figures do not overlay exactly (you could try to scan them into a pc and change the aspect ratio if you have the software). Despite the changes in storm track (slight), wind fields (slight) and wave model (third generation versus first generation) the pattern is quite similar attesting to the robustness of our hindcast methods. Closer comparison notes some differences. The 3G hindcast seems to put a bit more energy to the left of the track, up to 1 meter more in places, and the area of 12 meter waves and greater is larger in the new hindcast. However, the decay in very shallow water along the track is much greater for 3G. At any given platform site, there will be some changes to height,