Comments (July 23, 2007 SAB draft)

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- With the area of the GOM hypoxic zone better correlated to river discharge than anything else used in the predictive nutrient-based models (Hetland and DiMarco, 2007), can the panel address the concern that attaining the N and P reduction goals will not result in reaching the hypoxia area goal without a simultaneous reduction in river discharge? That a 21.1% reduction in annual N losses, with only a simultaneous 5.8% reduction in flow for the 2001-2005 period did not affect the hypoxic area; and the recent report that fresh water pouring into the Gulf of Mexico from the swollen Brazos River after weeks of flooding in Texas has created an oxygen-depleted 1750 square-mile "dead zone" about 35 miles off the coast of Texas are two examples that this is a real concern.
- On a related issue, there is the very real potential that climate change will increase river discharge which could significantly reduce the probability of reaching the goal of a five-year running average of a 5,000 square-kilometer hypoxic area (as was noted by Justic in his presentation at the New Orleans Gulf Hypoxia workshop last year). To avoid setting us up for continued "failure," should not this goal be rewritten in a flow-weighted mode to take into account any changes in flow due to climate change?
- Emphasis is given to potential advantages of adaptive management, but the cost and complexities of the "assessment" phase through research and monitoring are enormous, and this fact is still not given enough weight. Along with that is the need for "survey data" as expressed in one of the recommendations (p. 189); but this need is also great, and costly and complex to meet, and deserves more attention (e.g., no details on what data are needed are given with the recommendation).
- One recommendation on nutrient management is for adoption of what are described as "proven technologies" in the way of urease and nitrification inhibitors. Relative to that description, there is only one study cited related to a nitrification inhibitor, while much more data exist, both pro and con. Another issue is that extrapolating results, such as on controlled-release fertilizer, for shallow-rooted crops to deep-rooted corn can be a problem.
- On the related issue of timing of N applications, the data are not conclusive on expected nitrate loss reductions by avoiding fall application (some studies have shown no effect), therefore the call for watershed-scale evaluations of timing (in the recommendation on p. 190) is logical. The recommendation for "reducing or discontinuing fall N application for corn" (p. 214) would be directionally correct, and is logical if there were no costs associated with this change. However there would be large costs, so this recommendation is premature and should instead build on the earlier recommendation and including a call for the need for a cost-benefit analysis so that timing can be better compared to other nitrate loss reduction practices.