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## Gulf Model Analysis for Dec. 6 Hypoxia Task Force

Arnaud Laurent <arnaud.laurent@dal.ca>  
To: katja.fennel@gmail.com

Mon, Nov 7, 2016 at 12:09 PM

Hi Katja,

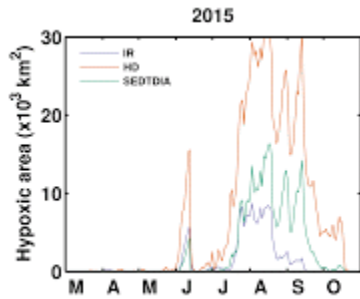
Thanks for the information. I have results from 3 simulations now: with IR, H&D and with the relationship that I used in the GRL paper. I did this extra one over the week end because we use the Kd parameterization and the low drag coefficient so I thought H&D would overestimate the hypoxia with this setup. The comparison on hypoxic areas for 2015 and 2016 are attached. As expected H&D has by far the largest hypoxic area but even with H&D the hypoxic area is much smaller in 2016, about half that of 2015. So the model consistently simulates low hypoxia in 2016. This difference may be explained by the high river discharge in June and July in 2015. I am analyzing the forcing and the results to explain the hypoxia results for 2016, I'll keep you updated as I get results from this analysis. FYI, according to the 2015 cruise (Jul 28-Aug 3), the 2015 hypoxic area was 16.8 km<sup>2</sup>, so H&D seems to overestimate it, whereas it is underestimated with the GRL parameterization.

Cheers,

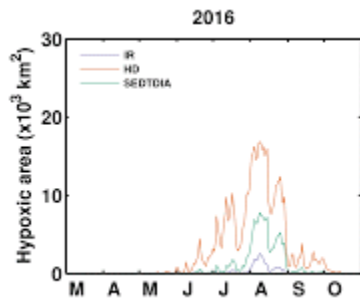
Arnaud

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### 2 attachments



Hypoxic\_area\_2015.gif  
39K



Hypoxic\_area\_2016.gif  
27K