IASNFS Publications

- Ko, D.S., R.H. Preller, and P.J. Martin, 2003: An experimental real-time Intra-Americas Sea Ocean Nowcast/Forecast System for coastal prediction, Proceedings, AMS 5th Conference on Coastal Atmospheric and Oceanic Prediction and Processes, 97-100.
- Ko, D.S. and D.-P. Wang, 2014: Intra-Americas Sea Nowcast/Forecast System Ocean Reanalysis to Support Improvement of Oil-Spill Risk Analysis in the Gulf of Mexico by Multi-Model Approach, Department of Interior, Bureau of Ocean Energy Management, Herndon, VA, BOEM 2014-1003, pp. 55, http://www.data.boem.gov/PI/PDFImages/ESPIS/5/5447.pdf.

(Articles describe the IASNFS and the evaluations against satellite altimeter measurement, NOAA NDBC buoy SST, NOAA NOS coastal tide gauge data, satellite MCSST and current morning measurement.)

- Ko, D.S., P.J. Martin, C.D. Rowley, and R.H. Preller, 2008: A real-time coastal ocean prediction experiment for MREA04, *J. Mar. Syst*., 69, 17-28, doi:10.1016/j.jmarsys.2007.02.022.

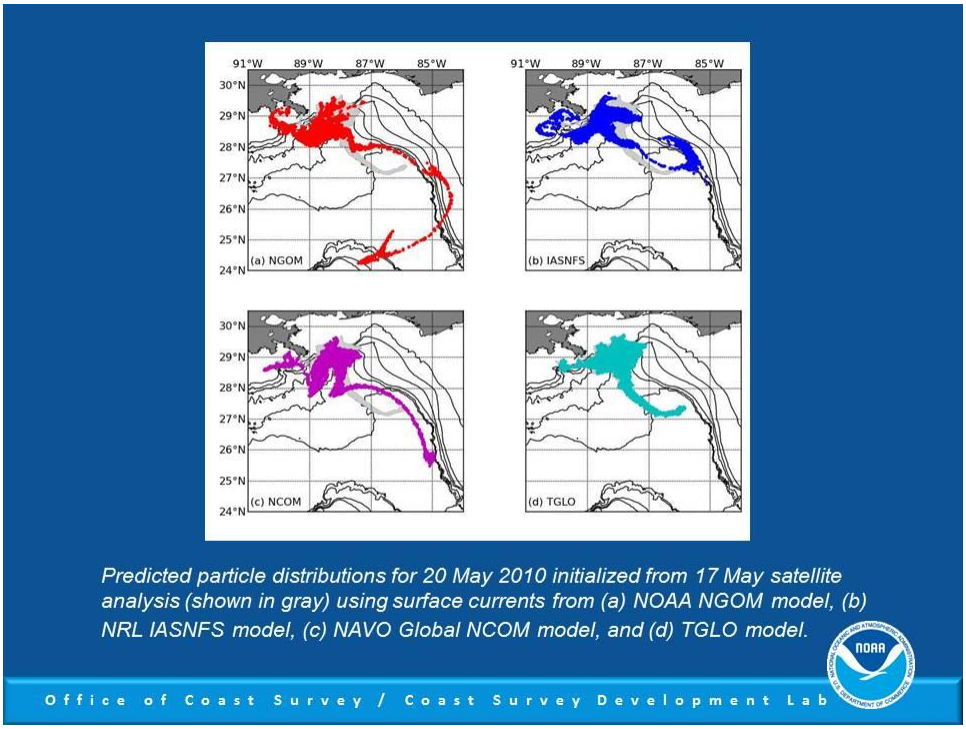
(This article describes the NRL Ocean Nowcast/Forecast System that is applied to the IASNFS.)

(The fallowing articles are applications of IASNFS and its nested high-resolution coastal ocean nowcast/forecast systems, e.g., NGOMNFS.)

- Jones, B.T., J. Gyory, E.K. Grey, M. Bartlein, D.S. Ko, R.W. Nero, and C.M. Taylor, 2015: Transport of blue crab larvae in the northern Gulf of Mexico during the Deepwater Horizon oil spill, *Mar. Ecol. Prog. Ser.*, 527, 143-156, doi: 10.3354/meps11238.
- Ko, D.S., and D.-P. Wang, 2015: A 10-year ocean reanalysis based on Intra-Americas Sea Nowcast/Forecast System, *Ocean Modeling*, submitted.
- Pauer, J.J., T.J. Feist, A.M. Anstead, P.A. DePetro, W. Melendez, J.C. Lehrter, M.C. Murrell, X. Zhang, and D.S. Ko, 2015: A modeling study examining the impact of nutrient loadings and boundary conditions on nutrient regime and primary production in the Louisiana continental shelf, *Cont. Shelf Res.*, submitted.
- Zaron, E.D, P. Fitzpatrick, S. Cross, J. Harding, F. Bud, J. Wiggert, D.S. Ko, Y. Lau, K. Woodard, and C.N.K. Mooers, 2015: Initial Evaluations of a U.S. Navy rapidly relocatable Gulf of Mexico/Caribbean ocean forecast system in the context of the Deepwater Horizon incident, *Front. Earth Sci.*, in press, doi:10.1007/s11707-014-0508-x.
- Zaron, E.D, P.J. Fitzpatrick, S.L. Cross, J. Harding, F.L. Bud, J.D. Wiggert, D.S. Ko, Y. Lau, K. Woodard, and C.N.K. Mooers, 2015: Initial Evaluations of a U.S. Navy rapidly relocatable Gulf of Mexico/Caribbean ocean forecast system in the context of the Deepwater Horizon incident, Naval Research Laboratory, Washington, D.C., NRL/MR/7320--15-9580, pp. 58.
- Allee, R.J., J.C. Kurtz, R.W. Gould, D.S. Ko, K.L. Goodin, and M. Finkbeiner 2014: Application of the coastal and marine ecological classification standard using satellite-derived and modeled data products for pelagic habitats in the northern Gulf of Mexico, *Ocean and Coastal Management*, 88, 13-20, http://dx.doi.org/10.1016/j.ocecoaman.2013.10.021.
- Chaichitehrani, N., E.J. D'Sa, D.S. Ko, N. Walker, C.L. Osburn, and R.F. Chen, 2014: Colored dissolved organic matter dynamics in the northern Gulf of Mexico from ocean color and numerical model results, *J. Coast. Res*., 30, 800-814, doi:10.2112/JCOASTRES-D-13-00036.1.
- Lehrter, J., D.S. Ko, M. Murrell, G. Richard, H. James, S. Blake, R.W. Gould, and B. Penta, 2013: Nutrient transports and source/sink dynamics on the inner Louisiana continental shelf, *J. Geophys. Res*., 118, 4822-4838, doi:10.1002/jgrc.20362.

- D'Sa, E., M. Korobkin, and D.S. Ko, 2011: Effects of Hurricane Ike on the Louisiana-Texas coast from satellite and model data, *Remote Sensing Lett.*, 2, 11-19, doi: 10.1080/ 01431161.2010.489057.
- Gould, R.W., M.D. Lewis, R. Smith, D.S. Ko, and J. Lehrter, 2011: Coupling Satellite Imagery and Hydrodyamic Modeling to Map Coastal Hypoxia, NRL Review, 2011, 206-209.
- Arnone, R.A., B. Casey, S. Ladner, D.S. Ko, and R.W. Gould, 2010: Forecasting the Coastal Optical Properties using Satellite Ocean Color, Oceanography from Space, eds. V. Barale et al., Springer Science+Business Media B. V., 335-348, doi:10.1007/978-90-481-8681-5_19.
- Nero, R.W., D.S. Ko, and I. McCoy, 2010: Assessment of the oceanic habitat of brown shrimp using dynamic linkages between offshore waters and estuarine nursery grounds, *Fisheries Oceanogr.*, submitted.
- Ko, D. S., 2009: IASNFS: An operational real-time nowcast/forecast system for Intra-Americas Sea, in *Proceedings: USA-Mexico workshop on the deepwater physical oceanography of the Gulf of Mexico, June 2007*, eds. C.N.K. Mooers and A. Lugo-Fernández, 95-106, U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA, OCS Study MMS 2010-001.
- Mendoza, W.G., R.G. Zika, J.E. Corredor, D.S. Ko, and C.N.K. Mooers, 2009: Developmental strategy for effective sampling to detect possible nutrient fluxes in oligotrophic coastal reef waters in the Caribbean, *J. Operational Oceanogr.*, 2, 35-47.
- D'Sa, E.J., and D.S. Ko, 2008: Short-term influences on suspended particulate matter distribution in the northern Gulf of Mexico: Satellite and model observations, *Sensors*, 8, 4249-4264, doi:10.3390/s8074249.
- Green, R.E., R.W. Gould, and D.S. Ko, 2008: Statistical models for sediment/detritus and dissolved absorption coefficients in coastal waters of the northern Gulf of Mexico, *Cont. Shelf Res.*, 28, 1273-1285.
- Arnone, R.A., B. Casey, D. Ko, P. Flynn, L. Carrolo, and S. Ladner, 2007: Forecasting coastal optical properties using ocean color and coastal circulation models, *Proc. SPIE*, 6680, doi:10.1117/12.737201.
- Haltrin, V.I., R.A. Arnone, P. Flynn, B. Casey, A.D. Weidemann, and D.S. Ko, 2007: Restoring number of suspended particles in ocean using satellite optical images and forecasting particle fields, *Proc. SPIE*, 6615, doi: 10.1117/12.740435.
- Chassignet, E.P., H.E. Hurlburt, O.M. Smedstad, C.N. Barron, D.S. Ko, R.C. Rhodes, J.F. Shriver, A.J. Wallcraft, and R.A. Arnone, 2005: Assessment of Data Assimilative Ocean Models in the Gulf of Mexico Using Ocean Color, Geophysical Monography 161 - Circulation in the Gulf of Mexico: Observations and Models, eds. W. Sturgers and A. Lugo-Fernandes, AGU, Washington D.C., 87-100.

- During 2010 Gulf of Mexico DWH oil spill the IASNFS/NGOMNFS was one of backbone models that provide daily forecast to NOAA HAZMAT, NESDIS for oil spill trajectory prediction to support Coast Guard and the Unified Command.



- Evaluation of 2 operational models (RTOFS and NGOM) and 3 semi-operational research models (IASROMS, MITGOM and IASNFS) against satellite altimeter SSHA from Jason-1 and Jason-2 by Ed Zaron/PSU (2011/07)

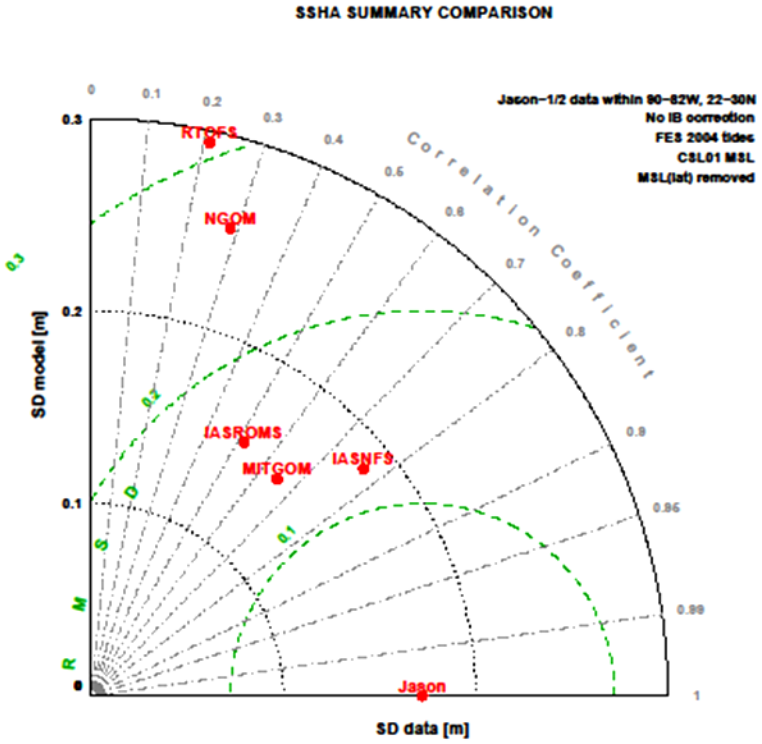


FIGURE 11. Notes: this Taylor diagram summarizes spatial and temporal variance.

- SSH variance of models is too high for NGOM and RTOFS.
- SSH variance of IASROMS, MITGOM, and IASNFS is similar to Jason.
- Best model (based on correlation) is IASNFS.
- RMS difference (green scale) should be compared with altimeter SSH rms error, about 5cm.