

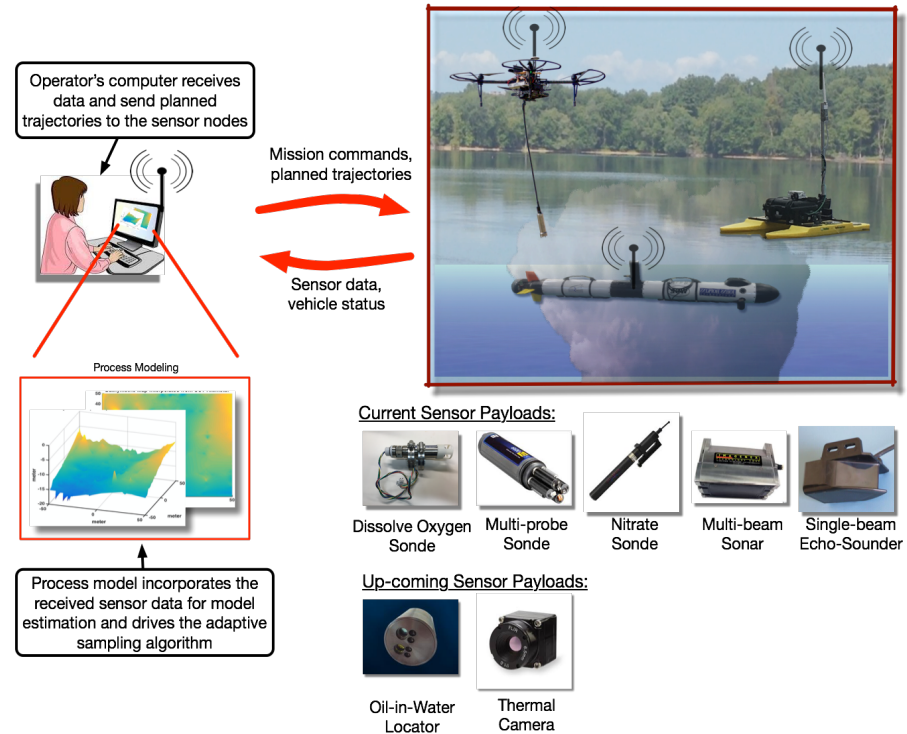
Adaptive Water Quality Sampling with Autonomous Vehicles with Applications to Nitrate Deposition

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Description

Goals of This Project

- discover and understand processes affecting water quality
- water sampling and monitoring is currently very sparse and cannot capture key pollution factors
- leverage autonomous aquatic vehicles and human guidance for faster and more precise intelligent data gathering



Findings

- For the first time we demonstrated a system capable of real-time adaptive sampling in 3D, to track hypoxia in Chesapeake Bay



DO Sonde

Nitrate Sonde

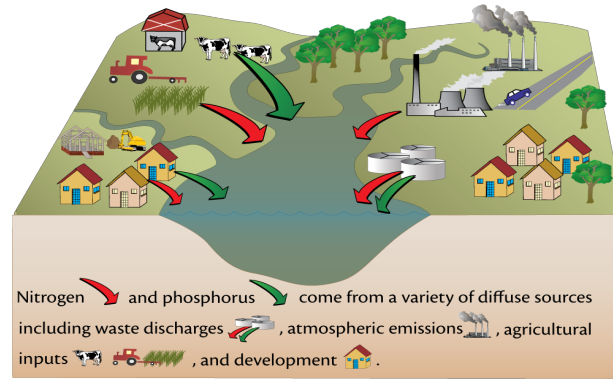


Diagram courtesy of the Integration and Application Network (ian.umces.edu), University of Maryland Center for Environmental Science. Source: Lano, H., J.L. Woerner, W.C. Davidson, C. Hall, C. Wilson, M. Elliott, M. Shively, J. Graine, and B. Johnson, 2007. Defending our National Treasure: Department of Defense Chesapeake Bay Restoration Partnership 1998-2004. Integration and Application Network, University of Maryland Center for Environmental Science, Cambridge, MD.

