2015 Coastal GeoTools: Tool Technology Showcase

Detenbeck, N.E., T. Plessel, and M. Buchholtz ten Brink. Estuary Data Mapper: A virtual portal to coastal data informing environmental management decisions

The Estuary Data Mapper (EDM) is a free, interactive graphical application under development at the US EPA that allows environmental researchers and managers to quickly and easily retrieve, view and save subsets of online US coastal estuary-related data. Accessible data include coastal, estuarine, and watershed boundaries; tidal, hydrologic, and weather time series; water and sediment quality; atmospheric deposition; habitat; coastal exposure indices; historic and projected land-use and population; and historic and projected future nitrogen sources and loads. Data selection is custom-defined by the user or pre-defined to support common usage scenarios such as for obtaining input data for widely-used models and decision-support tools. The graphical user interface allows users to easily define the spatial and temporal bounds of the region of interest. EDM issues Web Coverage Service Interface Standard queries (WCS; simple, standard one-line text strings) to a public web service to quickly obtain streams of selected data subsetted by variable, with bounding box and date-time range. These queries are saved for the user to illustrate how other applications can access the same data. Recent additions include a comprehensive suite of nitrogen source and loading data for coastal systems and inputs needed to support the application of a modeling approach for seagrass habitat. Additions planned for the near future include 1) support for Integrated Water Resources Management cost-benefit analysis, specifically the Watershed Management Optimization Support Tool and 2) visualization of the combined effects of climate change, land-use and green infrastructure on habitat and biotic integrity for a series of pilot projects across the United States. A series of tutorials will be available to cover both basic needs and specific use cases. Tool Technology Showcase attendees will also have the opportunity to try EDM live. Are there specific modeling or decision-support tools for which you would like to develop custom data input queries? Come by and discuss your needs.