Featured Geo Data Portal Applications

This page will catalog publications and projects that have used the Geo Data Portal for their data access and summarization needs. These can be used as case studies to help understand what the GDP is capable of and how it is being used.

- Surface Water Modeling:
- Beach Water Quality Modeling and Prediction:
- Forest Ecosystem Modeling
- Stream Temperature Modeling
- Landscape Scale Lake Temperature Modeling
- Coastal Wetland Modeling
- Example Access of NLDAS and GLDAS Data:

Surface Water Modeling:


LaFontaine, J.H., Hay, L.E., Viger, R.J., Regan, R.S., and Markstrom, S.L., 20XX. Effects of climate and land cover on hydrology in the Apalachicola-Chattahoochee-Flint River Basin: Potential impacts to watershed planning. JAWRA (submitted to Journal)


Beach Water Quality Modeling and Prediction:

Developing and implementing the use of predictive models for estimating water quality at Great Lakes beaches


Human and bovine viruses in the Milwaukee River watershed: Hydrologically relevant representation and relations with environmental variables


Forest Ecosystem Modeling


Stream Temperature Modeling


Landscape Scale Lake Temperature Modeling


Coastal Wetland Modeling


Why I think the Climate Geo Data Portal is useful:

Ecologists and resource managers are increasingly challenged to build models that help us better understand and anticipate the ecological effects of climate variability and climate change. The development of such models requires access to the relevant ecological and climate data at appropriate temporal and spatial scales. Ecologists often already have access to the "ecological" data but lack access to the climate data and/or a colleague that can help them get such data. As a result, there are many models that use substitute climatic variables rather than the climatic variables that matter. For example, there may be hundreds of models and articles in the ecological literature that use latitude rather than the relevant climatic variable that is correlated to latitude (often a winter-based metric). The climate geo data portal makes it easier for ecologists to access climate data in a format that they can use to build models that improve of our understanding of the important of climate as a driver of ecosystem function, goods, and services.

Example Access of NLDAS and GLDAS Data:

GES DISC – USGS collaboration for hydrological assimilation model data

The usefulness of NLDAS and GLDAS data has now been enhanced by a recent collaboration between the NASA GES DISC and the United State Geological Survey (USGS). The collaboration makes NLDAS and GLDAS areal statistics data available for download via the USGS Geo Data Portal (GDP). Users can access and acquire the data from GDP for specific geographical areas, such as states or countries, or they can input their own area of interest as a “shapefile” and acquire the data for just that specific area. This enhancement makes the data more compatible with Geographical Information Systems (GIS) and more easily incorporated into GIS analyses.