



Concept for an African Great Lakes Remote Sensing and Physical Modeling Laboratory

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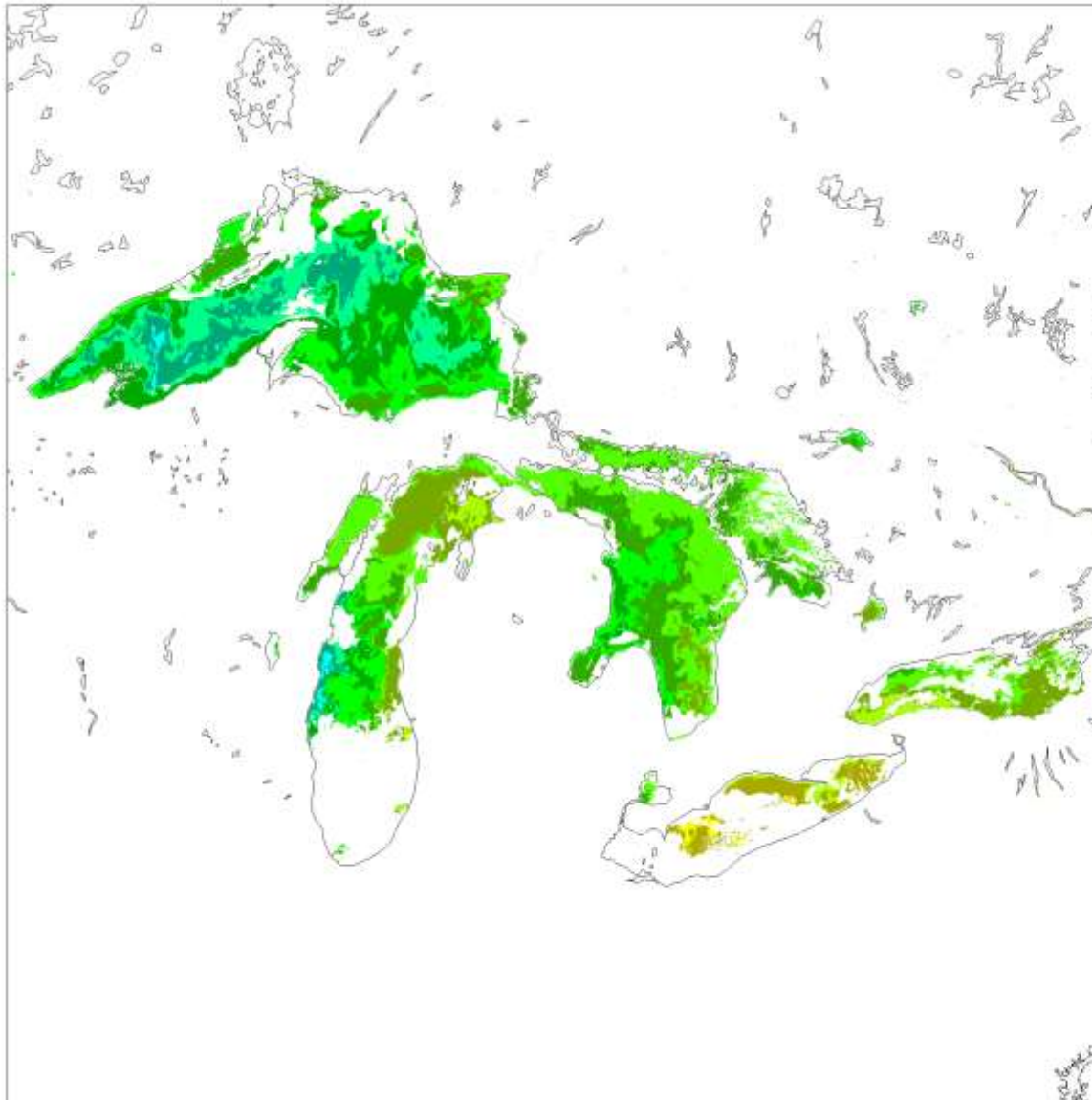


The screenshot shows the NOAA CoastWatch Great Lakes Node website. At the top, there is a navigation bar with links for Home, ERDDAP Server, and THREDDS Server. The main heading reads "Welcome to the NOAA CoastWatch Great Lakes Node". A central image displays a satellite-style map of the Great Lakes region with blue overlays. To the right of the map are logos for the Department of Commerce and NOAA. Below the map, contact information for the Great Lakes CoastWatch Node is provided, including the address at NOAA/Great Lakes Environmental Research Laboratory in Ann Arbor, MI, and the website URL <http://coastwatch.glerl.noaa.gov>. Staff members listed include George Leshkevich (Emeritus Scientist), Philip Chu (Manager), and Songzhi Liu (Operations Manager). A left sidebar contains a menu of data products such as SST Imagery, GLSEA, Contour Maps, GOES Imagery, SAR Data, MODIS Imagery, Ocean Color, Image Products, In Situ Data, GLCFS, and Statistics. A bottom navigation bar includes links for Privacy Policy, Information Quality, OAR, GLERL, Disclaimer, and Contact Us. The page footer indicates the last update was on 2019-09-06.

The North American model is called *CoastWatch*

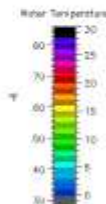
The many data products are free to download

<https://coastwatch.glerl.noaa.gov/>



CoastWatch
Water Surface Temperature
2018_239_0730_0820_09_57.PNG
10/26/2019 07:30 GMT

Satellite: JPSS1
Sensor: VIIRS
Projection type: Mercator
Map projection: 1.13 km/pixel
Pixel resolution: 0.8 km/pixel
Latitude: 35 N -> 52 N
Longitude: 93 W -> 75 W



One example product:
Surface
Temperature
26 Oct 2019
VIIRS data



Minimum Resources to reproduce the North American Model (provided by Dr. Philip Chu, NOAA)

1. **Hardware:** 4 high-end PC and servers, 2 for computation, 1 for storage, data management and web data distribution, 1 for satellite data ingestion and pre processing. A cluster with multiple nodes will be ideal, + backup and UPS.
2. **Software:** 2 hydrodynamic modeling systems, data analysis, visualization, and imaging processing software.
3. **Staff:** core team of 1 chief scientist, 1-2 modelers, 1 remote sensing specialist, 1 data manager, 1 computer programmer, 1 web developer, 1 system administrator/database manager, and 1 hardware technician (for buoy and instrumentation and sensors)
4. **In-situ measurement** for model development/forecasting validation: buoy with met sensors, CTD, ADCP and wave buoys, all with real-time reporting capability
5. **Satellite receiving/downlink** capability for data ingestion and processing.
6. **Dr. Chu estimates 3 years of effort to be operational**
7. **CoastWatch has training programs**

Why not add land cover/surface hydrology for all the basins?



To complement ACARE, GRSS can provide a great deal of assistance in capacity building, 79 GRSS chapters worldwide... but only 1 in Africa. We need 2, or 3, or 4...



16 Student branches (□)

11 Ambassadors (■)