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

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ACARE AGL Workshop
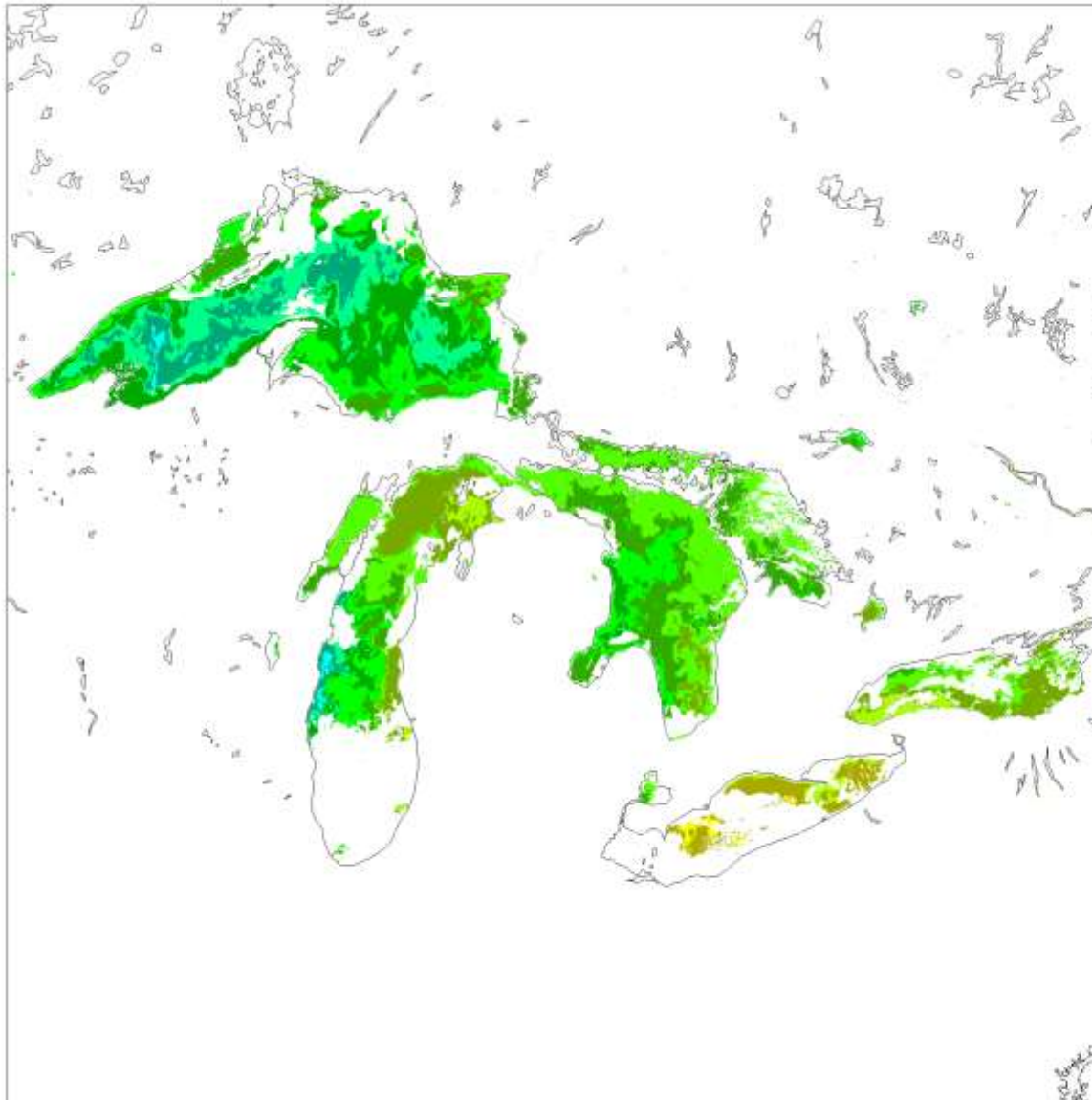## November 2019

The North American model is called *CoastWatch*

The many data products are free to download

https://coastwatch.glerl.noaa.gov/
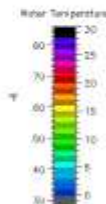
One example product: Surface Temperature 26 Oct 2019 VIIRS data

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 (▪)