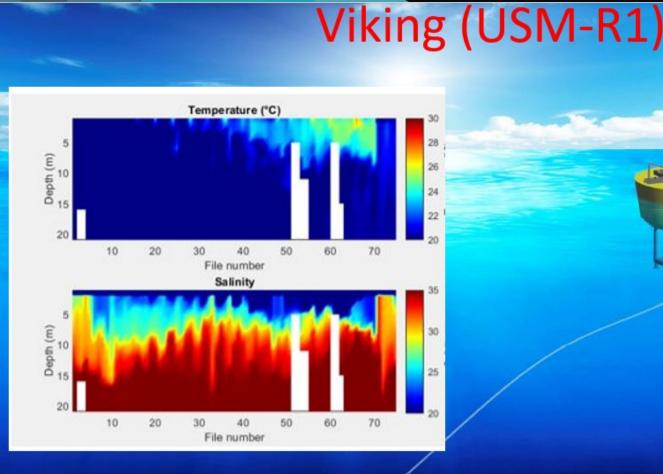
USACE INNOVATION SUMMIT 2021 LEADING FROM THE FUTURE . INNOVATION TO IMPACT

HIGH RESOLUTION IN-SITU OCEANOGRAPHIC AND METEOROLOGICAL DATA: THE 4-DIMENSION OCEAN CUBE NETWORK



Viking: The oceanographic and meteorological buoy equipped with a automatic CTD profiler. Meteorological parameters

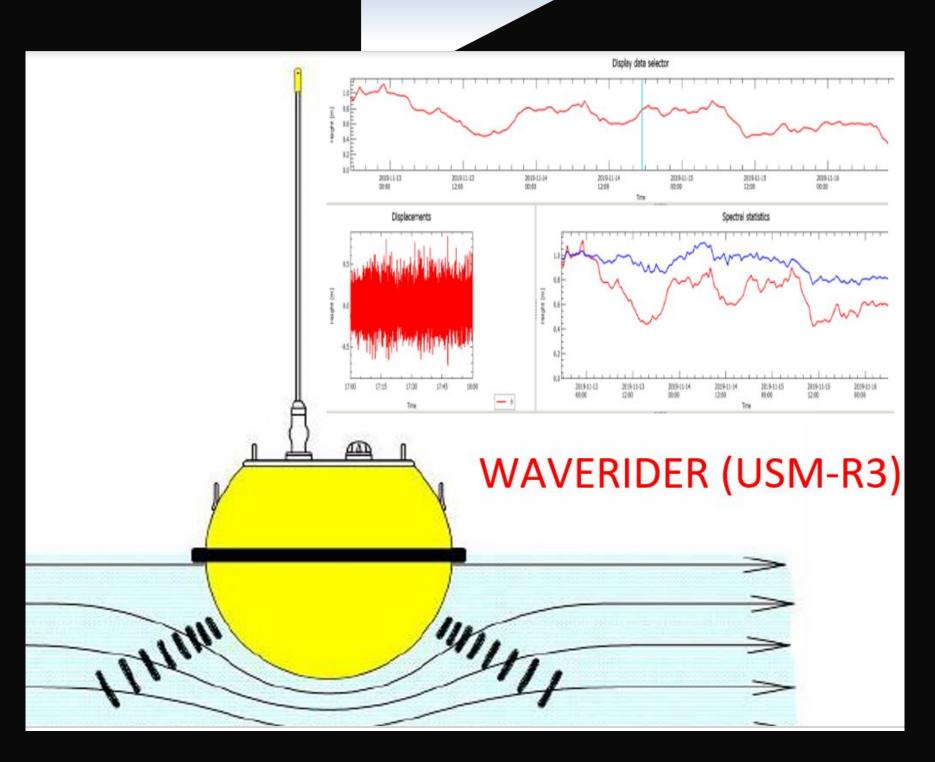
- Wind direction and speed
- Atmospheric temperature and humidity
- Atmospheric pressure

Oceanographic parameters

- Water temperature
- Water salinity, density and conductivity
- Measurement of the water flow at many programmable depths

WaveRider: Wave motion sensor based on a stabilised





platform, accelerometers, and magnetic compass

- Wave height, wave period, wave direction
- Sea Surface Temperature, surface current

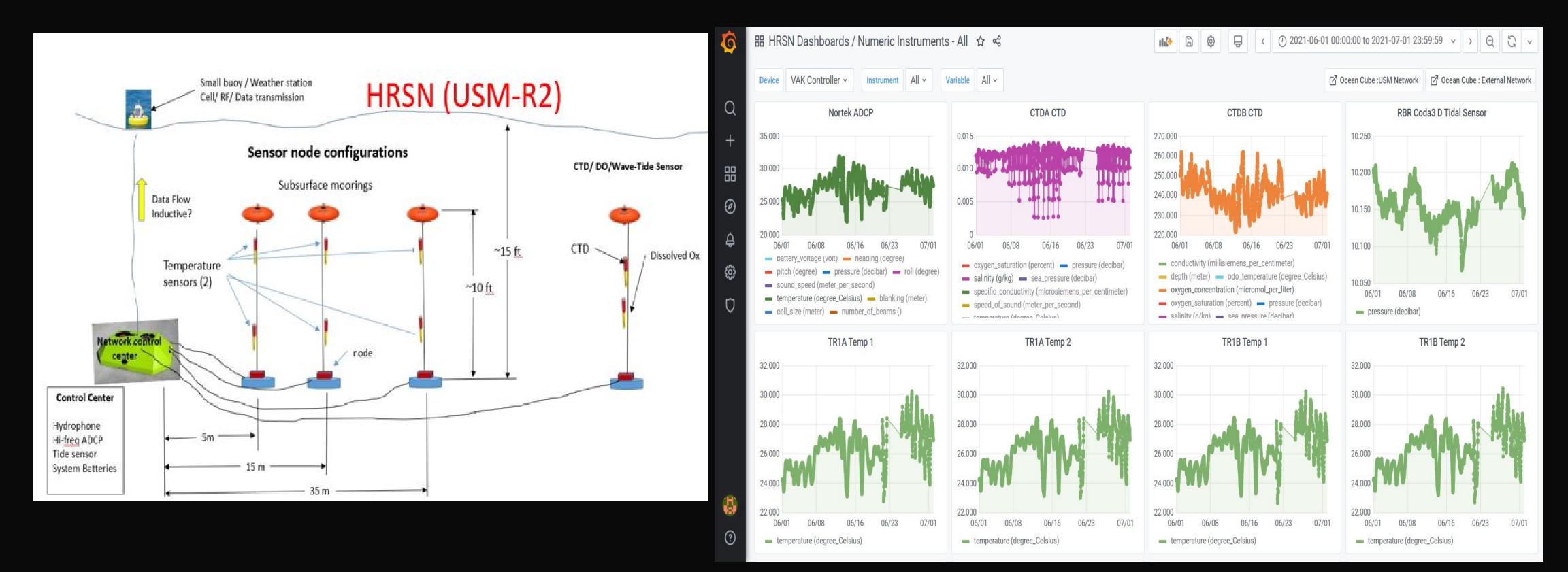
Sensor Network: High-resolution network of underwater instruments continuously monitoring underwater and surface conditions.

-18 temperature sensors, 2 CTD/DO, tide sensor, wave sensor, weather station, wind sensor, ADCP, and Hydrophone
-Water temperature, salinity, oxygen concentration
-Current speed and direction
-Wave height, direction and period
-Air temperature, humidity and pressure
-Wind speed and direction
-Acoustic data

Grafana: A multi-platform open source analytics and interactive visualization web application utilizing real-time data stored in the OceanCube database.

-Access real-time data and download

-Create user defined charts , graphs and alerts





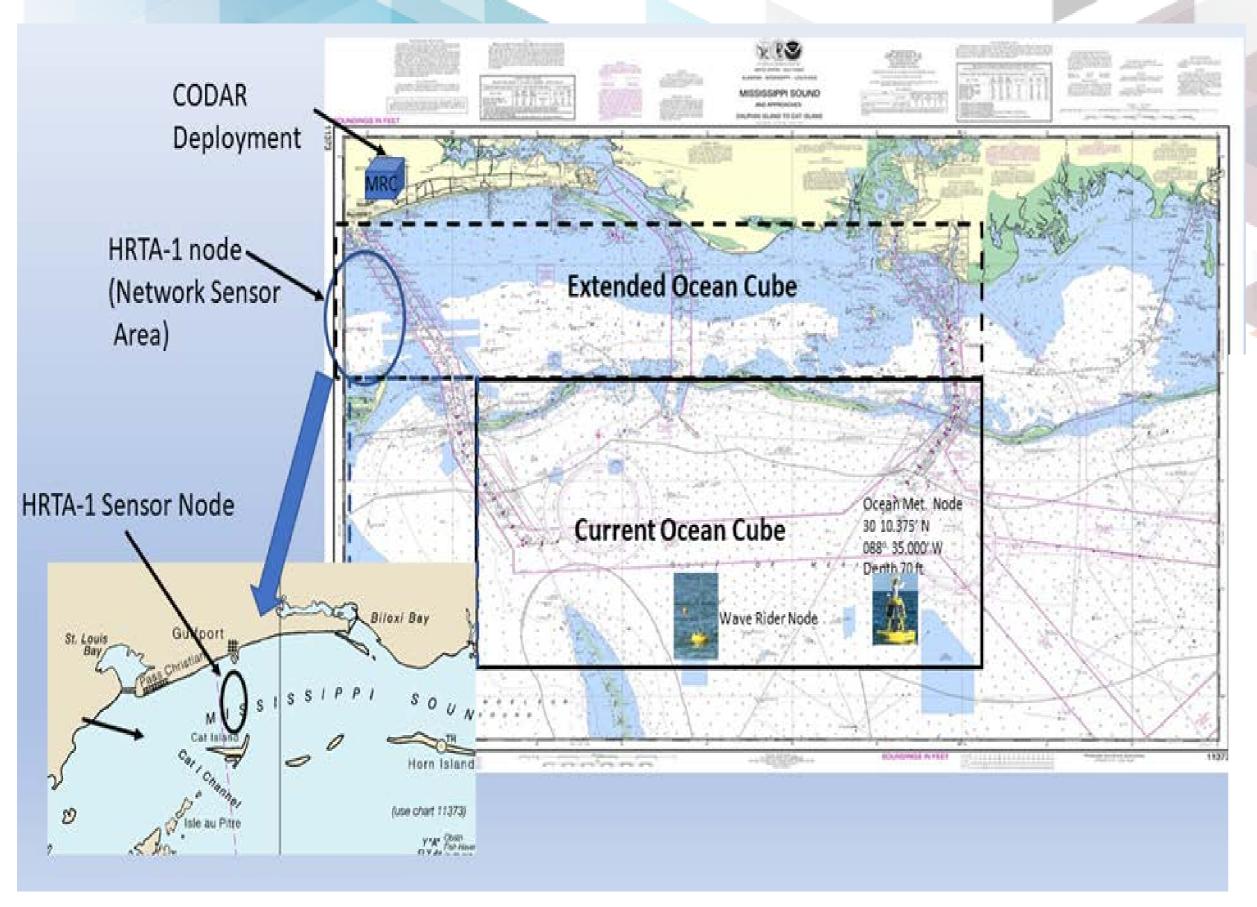
Vishwamithra Sunkara, Landry Bernard, Steve Stanic, Jason McKenna, and *James Braud University of Southern Mississippi,*Peraton

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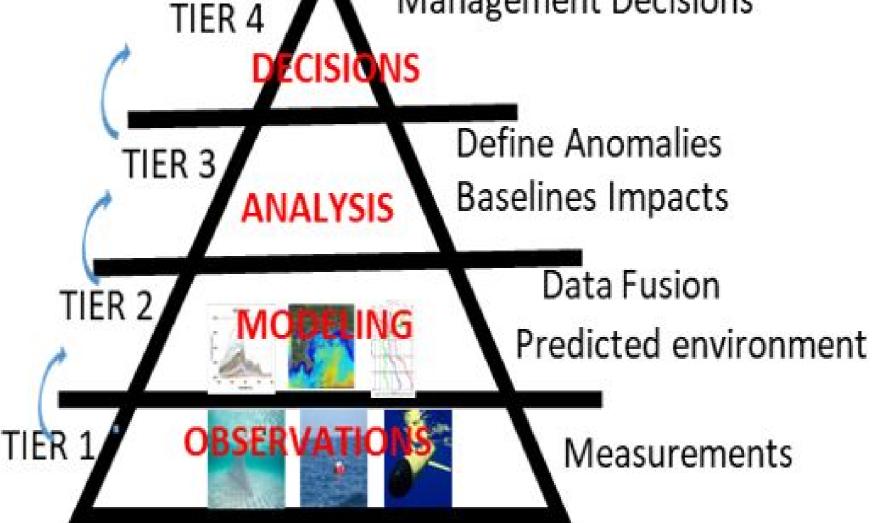
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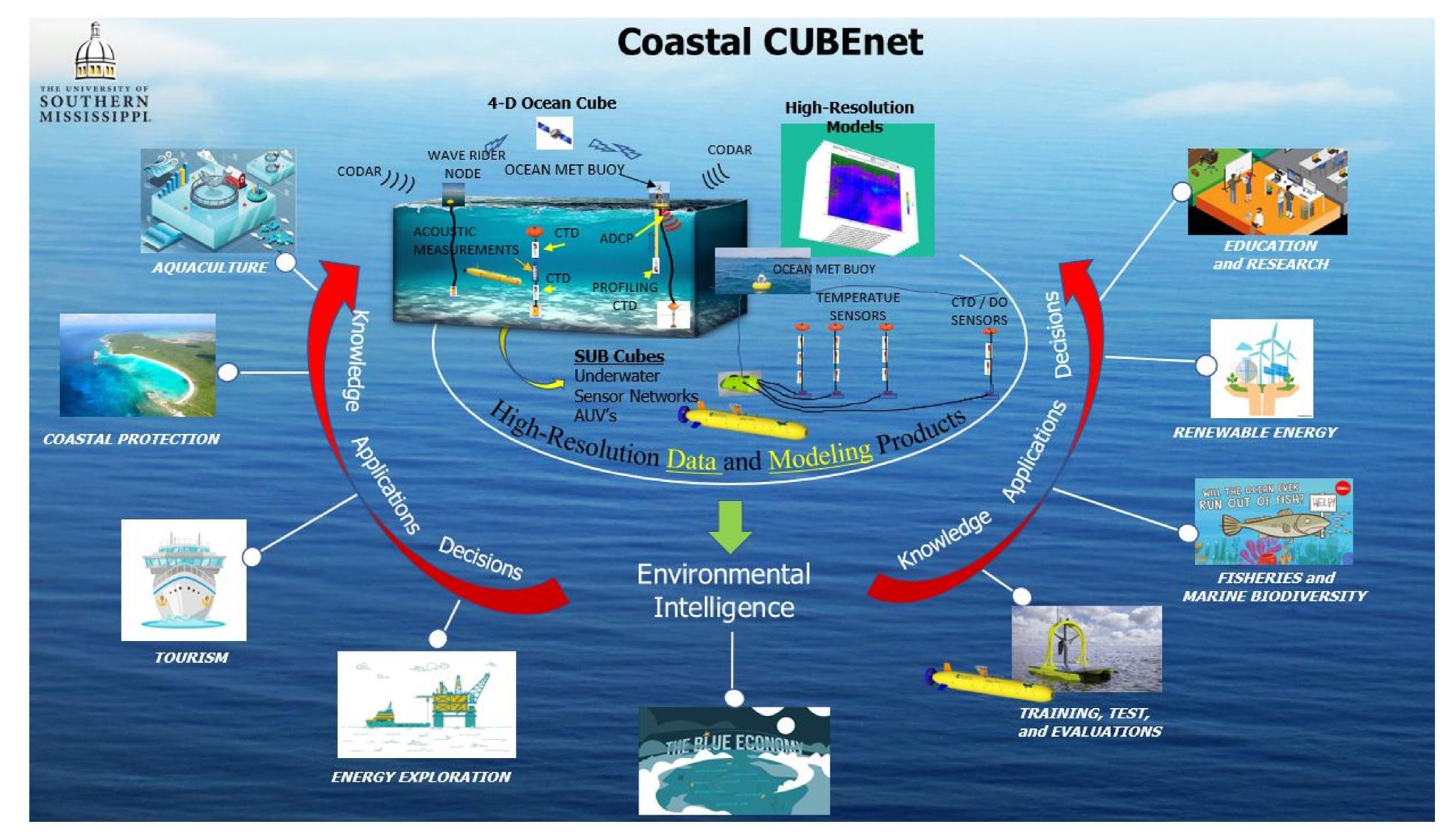


Web Link: oceancube.usm.edu

Linking Observations and Models to Informed Decisions

Management Decisions







Vishwamithra Sunkara, Landry Bernard, Steve Stanic, Jason McKenna, and *James Braud University of Southern Mississippi,*Peraton



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