My name is Wendell Brown and I am a professor in the School for Marine Science and Technology at the University of Massachusetts Dartmouth. I am honored to be presenting testimony today on behalf of the Mid-Atlantic Coastal Ocean Observing Regional Association, or MACOORA. I sit on the MACOORA Board of Directors as the representative of the Massachusetts/Rhode Island subregion of MACOORA.

The MACOORA region spans the coastal ocean from Cape Cod Massachusetts to Cape Hatteras North Carolina. Sixty-six (66) million people are represented through 100 congressional districts in nine states. These citizens are concentrated along a coast that includes five major estuarine systems and incorporates sixty regional and national observing systems.

MACOORA's mission is to seek, discover, share and apply new knowledge and understanding of our coastal ocean. More lives will be saved, more livelihoods preserved, and new livelihoods created through the knowledge we gain from understanding the ocean. The more we know about the coastal ocean and its processes, the better we can respond to citizens' needs, plan for now, and plan for the future.

MACOORA's ocean observation system – the Mid Atlantic Regional Coastal Ocean Observing System or MARCOOS - features a 30-element array of high frequency radars for the hourly mapping of surface currents out to about 100 nautical miles, a fleet of autonomous ocean gliders that regularly map coastal ocean properties, a facility for the satellite mapping of surface water properties, and moored buoys that collect time series information on ocean water properties and meteorology. An ensemble of computer ocean models provide real-time information and forecasts of ocean conditions. Such information supports a new generation of tools for US Coast Guard and local search and rescue operations, fisheries resources, port operations and security, power company infrastructure repair, storm flooding, waste water management, and local and state management of beach safety.

We in MACOOORA have embraced the Ocean Commission's position on ocean observing that states: …"Recognizing the enormous national benefits that have accrued from the weather observing network, it is time to invest in a similar observational and forecasting capability for the oceans". We echo the positions of the Pew Commission report and both Ocean Commission reports that .." ocean observations play a distinct, critical role that should be augmented and funded". Without greater understanding of coastal ocean dynamics and processes, wise use and management of coastal ocean resources cannot be achieved.

First, we urge the adoption of a national policy that supports the continued implementation and maintenance of a robust coastal ocean observing system that is far less vulnerable to the vagaries of

politics or economic downturns than what presently exists. The long-term data and information acquired though an established coastal ocean observation system are essential to a nation that must face the policy challenges associated with increased population growth along our coasts and emerging climate change issues. We are at a critical juncture where consistency in ocean observations is a necessary component to understanding society's impact on the ocean and the ocean's impact on society.

Second, we support a national policy framework that has a strong regional approach to research and management. We endorse the Ocean Commission's report that states… "Focusing efforts within whole ecosystems, rather than arbitrary political boundaries, provide an opportunity for decision makers at all levels to coordinate their activities, reduce duplication of efforts, minimize conflicts, and maximize limited resources. It also promotes a sense of stewardship among government, private interests, and the public by encouraging a shared feeling of connection to a specific area".

MACOORA has clearly demonstrated that with a regional approach, local community needs are more readily identified and decision-makers' information needs and advice are more easily established. In response to needs, we can tailor regional products --such as offshore ocean conditions for local inundation forecasts and the local impact of ocean waves and flow on beaches. We have uncovered new opportunities for leveraging regional assets that might otherwise have remained untapped by scientific, academic and local government communities.

An example of the application of MACOORA local knowledge and assets occurred this summer when the New York Harbor Observing and Prediction System – or NYHOPS- provided immediate assistance in the search and rescue operations made necessary in the aftermath of the collision of a small plane and a sightseeing helicopter above the Hudson River in New York. During the first hour after the collision, authorities including New York and New Jersey State Police, FBI Dive teams and Coast Guard aerial search teams called upon NYHOPS personnel with their models to help with the analysis of currents and plan for the search and rescue operation.

We also believe that a regional approach to research and management optimizes our capability to capture the data necessary to understand the regional impacts of climate change. A robust regional coastal ocean observing system will minimize future data and information gaps in the long-time series. It is essential that we understand regional and local trends so that we can implement wise strategies for mitigating climate change outcomes.

Lastly, we believe that a national ocean policy framework must explicitly include ocean observations in the development of marine spatial planning. Marine spatial planning, as a tool to understanding the complexities of coastal ocean dynamics and competing coastal ocean uses, can only be fully utilized incorporating the knowledge and information ascertained by ocean observations.

To quote Sir Isaac Newton, “What we know is a drop; what we don’t know is an ocean”.

Thank you for your time and consideration.