

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2009

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SENATE BILL 1222*

Short Title: Funds to Assess/Monitor NC Climate Change. (Public)

Sponsors: Senators Stein and Albertson.

Referred to: Appropriations/Base Budget.

May 19, 2010

A BILL TO BE ENTITLED

1 AN ACT TO APPROPRIATE FUNDS (1) TO ESTABLISH THE COASTAL ADAPTATION
2 RESOURCES MAPPING AND MONITORING PROGRAM AND (2) TO EXPAND THE
3 NORTH CAROLINA ENVIRONMENT AND CLIMATE OBSERVING NETWORK; IN
4 ORDER TO PROVIDE FOR MONITORING OF THE ENVIRONMENTAL IMPACTS
5 OF GLOBAL CLIMATE CHANGE IN NORTH CAROLINA AND FOR IMPROVING
6 WEATHER AND CLIMATE DATA COLLECTION IN NORTH CAROLINA, AS
7 RECOMMENDED BY THE LEGISLATIVE COMMISSION ON GLOBAL CLIMATE
8 CHANGE.
9

10 The General Assembly of North Carolina enacts:

11 **SECTION 1.(a)** The Coastal Adaptation Resources Mapping and Monitoring
12 Program (CARMAP) is established within the Department of Environment and Natural
13 Resources. This program shall be a cooperative program that utilizes the resources within the
14 Department and the constituent universities within The University of North Carolina. This
15 program shall provide the framework for mapping and inventorying the State's extensive
16 coastal and riverine resources, to include the land areas within the coastal zone; the ocean and
17 estuarine shore zones; and sub-aquatic bathymetry; sediments; and vegetation. This framework
18 shall include at least all of the following:

- 19 (1) A field survey and inventory of the geologic and ecologic character of the
20 entire shoreline system and maps that indicate the detailed distribution of
21 shoreline types.
- 22 (2) A field survey, inventory, and maps that indicate distribution of the
23 anthropogenic modifications of the entire shoreline system, such as any
24 hardened shoreline structures, piers, marinas, or channels.
- 25 (3) For each five-year period, a periodic coastal land survey that incorporates
26 high resolution, geo-referenced, infrared aerial photography, and LiDAR
27 topography of the entire coastal zone in order to monitor absolute changes in
28 shorelines, ecosystems, and land use.
- 29 (4) A bathymetric survey of the inland coastal waters that can be utilized for
30 detailed modeling of estuarine storm surge, water quality, and sea-level rise,
31 as well as supplying critical data for modeling shoreline erosion, distribution
32 of submerged aquatic vegetation, and ecosystem migration.
- 33 (5) The framework for establishing various types of permanent monitoring
34 stations within the State's coastal zone, which shall include at least all of the
35 following monitoring stations:
- 36 a. A system of estuarine and riverine stations to measure absolute
37 changes in sea-level rise, characterize the dynamics of storm surges



1 and tides, and monitor water flow and quality through the coastal
2 system.

3 b. A series of land-based sites in different ecosystems to monitor
4 ecological change of habitats through time, including growth rates,
5 structure and function, freshwater resources, saltwater intrusion,
6 sedimentation and erosion rates, and any other changes.

7 c. Define the critical sediment sources and their depositional sinks
8 within the State's riverine, estuarine, and barrier island systems.

9 d. Develop realistic sediment budgets and monitors for sediment
10 transport directions and rates.

11 **SECTION 1.(b)** The Department of Environment and Natural Resources shall
12 make the information collected under CARMAP, as established under this section, available to
13 the general public on the Internet.

14 **SECTION 1.(c)** There is appropriated from the General Fund to the Department of
15 Environment and Natural Resources the sum of five hundred thousand dollars (\$500,000) for
16 the 2010-2011 fiscal year to fund CARMAP, as established under this section.

17 **SECTION 2.(a)** There is appropriated from the General Fund to the State Climate
18 Office the sum of five hundred thousand dollars (\$500,000) for the 2010-2011 fiscal year to
19 expand the North Carolina Environment and Climate Observing Network (ECONet), a program
20 supported by the State Climate Office, the Department of Environment and Natural Resources,
21 the Department of Crime Control and Public Safety, and North Carolina State University, in
22 cooperation with federal agencies, for the purpose of providing a database that may be used to
23 improve severe weather management, weather forecasts, energy planning, and natural resource
24 management, as well as assisting agriculture, emergency response, natural resource
25 management, tourism, economic development, education, and other applications that affect
26 North Carolina's citizens.

27 **SECTION 2.(b)** The funds appropriated under this section shall be used to locate
28 automated weather and environmental observing stations to counties that do not currently have
29 such stations, thereby expanding ECONet and moving toward the ultimate goal of locating at
30 least one weather and environmental observing station in each county in North Carolina. Data
31 from these stations shall be provided to government agencies to improve severe weather
32 management, weather forecasts, energy planning, and natural resource management and shall
33 be made available to the general public on the Internet.

34 **SECTION 3.** This act becomes effective July 1, 2010.