

new approaches to addressing freshwater harmful algal blooms and are not duplicative of existing research and development programs authorized by this chapter or any other law.

**(i) Integrated Coastal and Ocean Observation System**

The collection of monitoring and observation data under this chapter shall comply with all data standards and protocols developed pursuant to the Integrated Coastal and Ocean Observation System Act of 2009 (33 U.S.C. 3601 et seq.). Such data shall be made available through the system established under that Act.

(Pub. L. 105–383, title VI, §603A, as added Pub. L. 113–124, §4, June 30, 2014, 128 Stat. 1379.)

REFERENCES IN TEXT

The Integrated Coastal and Ocean Observation System Act of 2009, referred to in subsec. (i), is subtitle C (§12301 et seq.) of title XII of Pub. L. 111–11, Mar. 30, 2009, 123 Stat. 1427, which is classified generally to chapter 49 (§3601 et seq.) of this title. For complete classification of this Act to the Code, see Short Title note set out under section 3601 of this title and Tables.

**§ 4003. Comprehensive research plan and action strategy**

**(a) In general**

Not later than 1 year after June 30, 2014, the Under Secretary, through the Task Force, shall develop and submit to Congress a comprehensive research plan and action strategy to address marine and freshwater harmful algal blooms and hypoxia. The Action Strategy shall identify—

- (1) the specific activities to be carried out by the Program and the timeline for carrying out those activities;
- (2) the roles and responsibilities of each Federal agency in the Task Force in carrying out the activities under paragraph (1); and
- (3) the appropriate regions and subregions requiring specific research and activities to address harmful algal blooms and hypoxia.

**(b) Regional focus**

The regional and subregional parts of the Action Strategy shall identify—

- (1) regional priorities for ecological, economic, and social research on issues related to the impacts of harmful algal blooms and hypoxia;
- (2) research, development, and demonstration activities needed to develop and advance technologies and techniques for minimizing the occurrence of harmful algal blooms and hypoxia and improving capabilities to detect, predict, monitor, control, mitigate, respond to, and remediate harmful algal blooms and hypoxia;
- (3) ways to reduce the duration and intensity of harmful algal blooms and hypoxia, including deployment of response technologies in a timely manner;
- (4) research and methods to address human health dimensions of harmful algal blooms and hypoxia;
- (5) mechanisms, including the potential costs and benefits of those mechanisms, to protect ecosystems that may be or have been

affected by harmful algal bloom and hypoxia events;

(6) mechanisms by which data, information, and products may be transferred between the Program and the State, tribal, and local governments and research entities;

(7) communication and information dissemination methods that State, tribal, and local governments may undertake to educate and inform the public concerning harmful algal blooms and hypoxia; and

(8) roles that Federal agencies may have to assist in the implementation of the Action Strategy, including efforts to support local and regional scientific assessments under section 4001(e) of this title.

**(c) Utilizing available studies and information**

In developing the Action Strategy, the Under Secretary shall utilize existing research, assessments, reports, and program activities, including—

- (1) those carried out under existing law; and
- (2) other relevant peer-reviewed and published sources.

**(d) Development of the Action Strategy**

In developing the Action Strategy, the Under Secretary shall, as appropriate—

- (1) coordinate with—
  - (A) State coastal management and planning officials;
  - (B) tribal resource management officials; and
  - (C) water management and watershed officials from both coastal States and non-coastal States with water sources that drain into water bodies affected by harmful algal blooms and hypoxia; and
- (2) consult with—
  - (A) public health officials;
  - (B) emergency management officials;
  - (C) science and technology development institutions;
  - (D) economists;
  - (E) industries and businesses affected by marine and freshwater harmful algal blooms and hypoxia;
  - (F) scientists with expertise concerning harmful algal blooms or hypoxia from academic or research institutions; and
  - (G) other stakeholders.

**(e) Federal Register**

The Under Secretary shall publish the Action Strategy in the Federal Register.

**(f) Periodic revision**

The Under Secretary, in coordination and consultation with the individuals and entities under subsection (d), shall periodically review and revise the Action Strategy prepared under this section, as necessary.

(Pub. L. 105–383, title VI, §603B, as added Pub. L. 113–124, §5, June 30, 2014, 128 Stat. 1382.)

**§ 4004. Northern Gulf of Mexico hypoxia**

**(a) Initial progress reports**

Beginning not later than 12 months after June 30, 2014, and biennially thereafter, the Administrator, through the Mississippi River/Gulf of