

NOAA Uses RS to Monitor Algae

Using remote sensing technology, scientists at NOAA have developed a way in which to identify and monitor harmful algal blooms. This monitoring will help detect HABs along the coastal areas of the US, where they are causing concern, while providing more information to managers on how to reduce the impact of these toxic blooms. Scientists from the NOAA National Centers for Coastal Ocean Science are monitoring HABs using a combination of ocean colour satellite imagery with field and meteorological data. Satellites from the Sea-viewing Wide Field of view Sensor (SeaWiFS) owned by Orbimage provide information on the colour of the water that can be used to determine characteristics of algae. This satellite data, in conjunction with analysis of wind data from the NOAA National Weather Service and NOAA National Data Buoy Center and field data from water samples, provide the team with enough information to predict bloom movement, landfall, persistence and intensity. SeaWiFS scientists previously had no means other than field sampling to monitor HABs and laborious and expensive sampling limited the ability of managers to determine the extent of the blooms. Currently, NOAA is routinely monitoring HABs in the Gulf of Mexico. On the Florida Coast, the satellite imagery, coupled with models, has provided advanced detection of blooms, allowing state and local officials to better direct resources for sampling. In Washington State, the technology has improved sampling and research on domoic acid, a neurotoxin produced by a diatom, which may cause permanent short-term memory loss in victims and is associated with Amnesic Shellfish Poisoning (ASP).

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