Lesson Plan: Effects of Spartina Alterniflora Plantings

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**Summary**

After collecting data from several planting sites over a period of time, students will determine the overall effects of Spartina Alterniflora including deposition and erosion rates. Visual images collected through the Duke unmanned systems program will be utilized in data collection and comparisons.

**Key Concepts** - [NGSS](https://drive.google.com/a/carteretk12.org/file/d/0B7WQOS6YZ8d6Qy1KM2tBSzV4Nnc/view?usp=sharing)

**To be added**

Objectives

Students will be able to:

* ***Observe*** and ***identify*** changes in planting areas due to erosion and deposition.
* ***Record*** real-time data over a period of time using Drone technology
* ***Communicate*** results through a collaborative presentation.

North Carolina Essential Standards for Science:

* 6.E.2.4 Conclude that the good health of humans requires: monitoring the lithosphere, maintaining soil quality and stewardship.
* 6.L.1.1 Summarize the basic structures and functions of flowering plants required for survival, reproduction and defense.
* 6.L.1.2 Explain the significance of the processes of photosynthesis, respiration and transpiration to the survival of green plants and other organisms.
* 6.L.2.1 Summarize how energy derived from the sun is used by plants to produce sugars (photosynthesis) and is transferred within a food chain or food web (terrestrial and aquatic) from producers to consumers to decomposers.
* 6.L.2.2 Explain how plants respond to external stimuli (including dormancy and forms of tropism) to enhance survival in an environment.
* 6.L.2.3 Summarize how the abiotic factors (such as temperature, water, sunlight, and soil quality) of biomes (freshwater, marine, forest, grasslands, desert, Tundra) affect the ability of organisms to grow, survive and/or create their own food through photosynthesis.

Materials

* Google Earth
* Data from Drones - over the course of the year as able to assimilate

Procedure

1. (to be completed)

Assessment

* **Performance—**
  + Understanding of being a stakeholder in the community
  + Understanding of global changes from both man and nature
  + Collaboration between students in problem solving
* **Product—**
  + Presentation to “local stakeholders”
  + Graphing (line graph) of data
  + Culminating for unit/rate

Additional Resources

Please list any Websites, books, publications, or other resources that would be helpful for teachers or students preparing for this lesson.