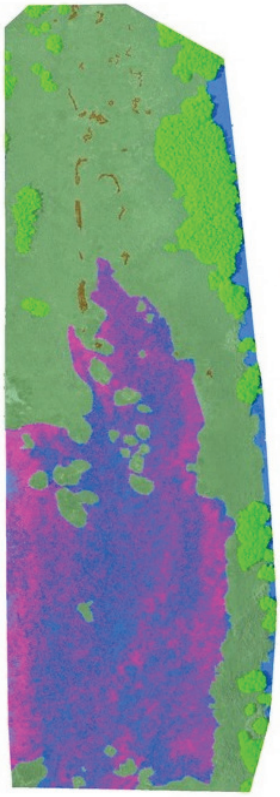
Aerial Footage of Wax Lake Delta: Using Middle School Math

Wax Lake Delta is a remote location that is only accessible via boat. Once there, it is equally hard to travel around since parts of the island are covered with water or squishy ground. To better study the islands, researchers have begun using Unmanned Autonomous Vehicles (UAVs or drones). The drone cameras capture images that then are processed in research labs. These tools represent a new way to think about coastal research.

Step 1:
In the Field

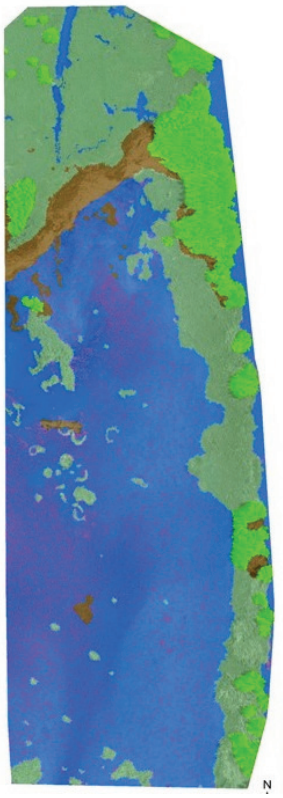
Take drone images back to the lab to be processed on a computer. Computer distinguishes between different types of vegetation, water, etc.

Step 2:
In the Lab



Go back to the field during different seasons or before and after events to compare those images with previous ones taken. Use this to document changes on the island.

Step 3:
Both



Things on Wax Lake Delta can change quickly. To demonstrate this students will use quadrants in a coordinate plane to obverve changes that have occured to the island's composition from June 2019 to July 2019. Students should complete the assignments in the following order:

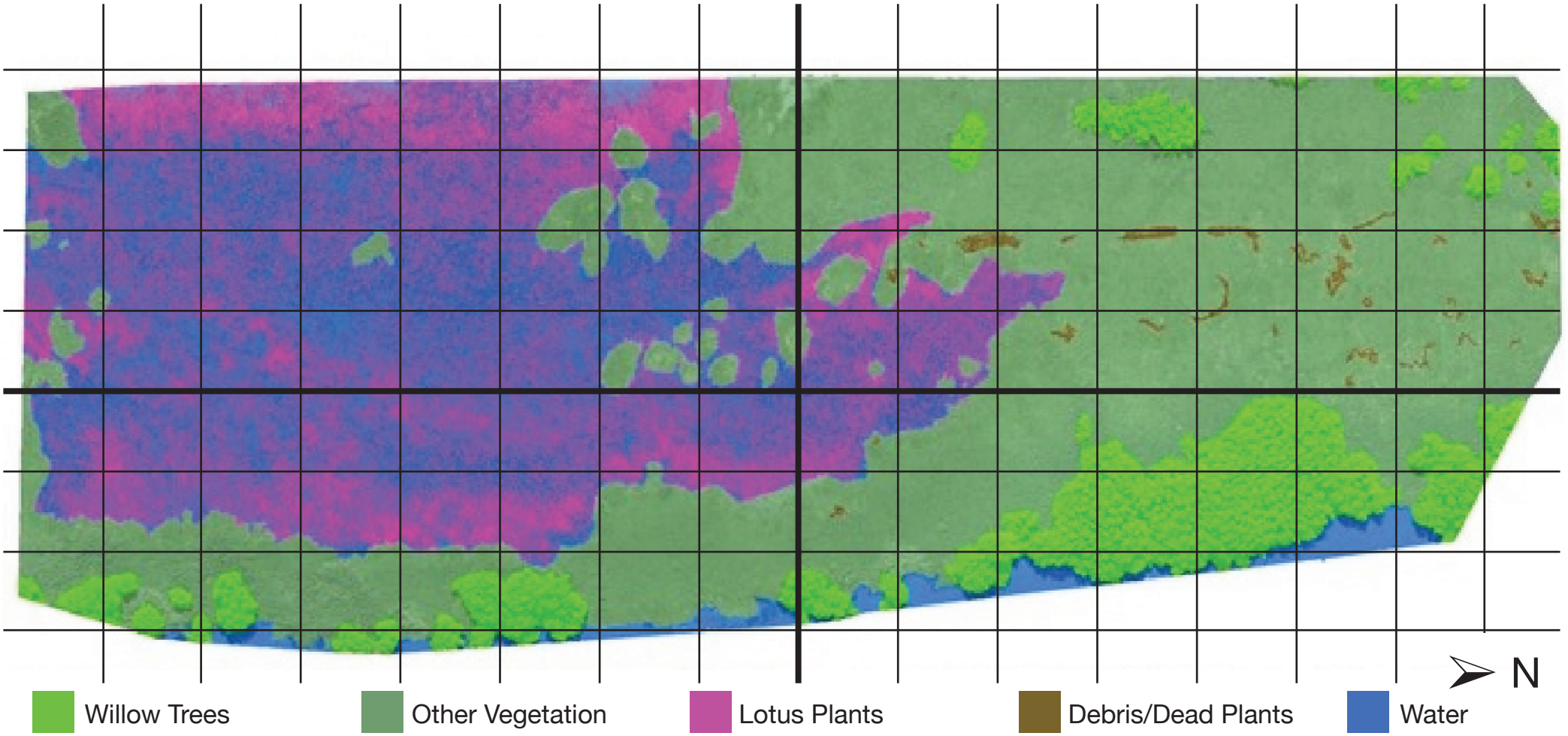
1) Middle 1A: June 2019

2) Middle 1B: July 2019

3) Summary Results

In addition to developing math skills, the goal is for students to obvserve the changes that have occurred on Mike Island over a month's time. Typically in July, the island has a lot of both lotus and other vegetation, but something happened during the month to change the normal course of events. Students should hypothesize and research what events could have happened to result in this change to Wax Lake Delta.

Portion of Mike Island - Wax Lake Delta
Middle School 1A: June 2019



Please identify the primary item in each of the following quadrants:

1. (-1, -1) _____

2. (0, 2) _____

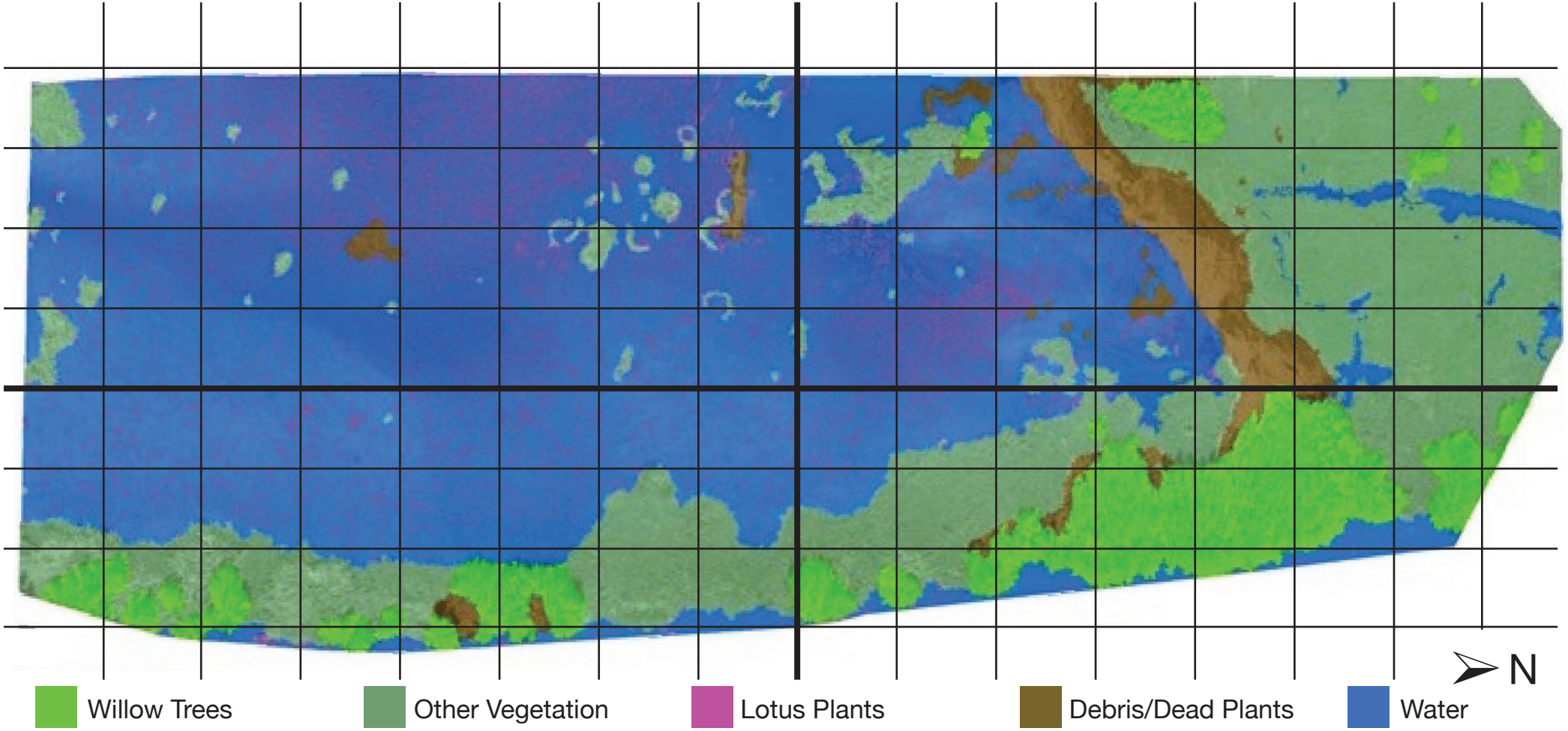
3) (4, 2) _____

4) (3, -2) _____

5) (-3, -2) _____

6) (2, 2) _____

Portion of Mike Island - Wax Lake Delta
Middle School 1B: July 2019



Please identify the primary item at each of the following points:

1. (-1, -1) _____

2. (0, 2) _____

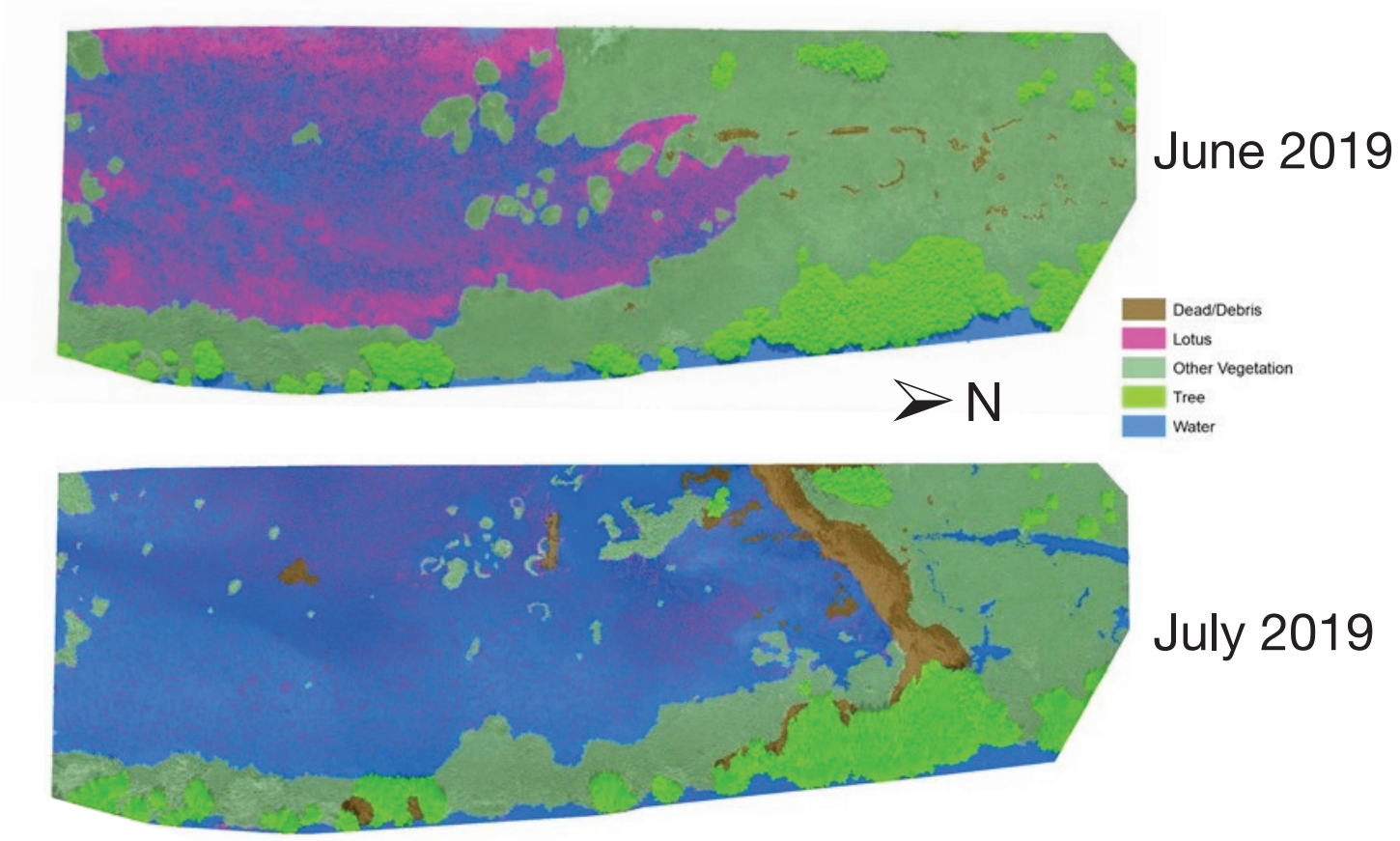
3) (4, 2) _____

4) (3, -2) _____

5) (-3, -2) _____

6) (2, 2) _____

Summary Results:
Changes to Wax Lake Delta and Potential Causes



1) What general changes did you observe between the coordinates from June (1A) to July (1B)?

2) Looking at the above images side-by-side, what general trends do you see regarding the following:

Dead Plants/Debris -

Lotus -

Other Vegetation -

Trees -

Water -

3) What do you think could be responsible for such dramatic change in a short period of time?