

Assignment 3

(10%)

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Please send me before next class (Feb 12) an e-mail with all the answers for this assignment. All **R** code should be in one script. Please indicate which lines are associated with each exercise by including comments in your code. In addition, send me a copy of the figures in your e-mail. You can save the figures in .pdf or .jpeg format.

Exercise 1

Create one **SpatialPolygons** object identifying the study area from the Deployments.csv file from the Ocean Tracking Network (OTN) Arctic Cumberland Sound Array project data found at <http://members.oceantrack.org/data/discovery/ACS.htm>. This is the same file you used in assignment 1.

1. Import the deployment.csv and create a **SpatialPointsDataFrame** with it.
2. Use the **bbox** function to identify the spatial extent of this **SpatialPointsDataFrame** and create a matrix or data frame with the coordinates of the study area. See tutorial for an example on how to do this.
3. Use these coordinates to create a **SpatialPolygons**.

Exercise 2

1. Plot the **SpatialPolygons** create in the previous exercise. Plot the axes and make sure the y-axis is horizontal.
2. Add a map of Canada (again see assignment 1).
3. Add **SpatialPointsDataFrame** created in the previous exercise.
4. Add a North arrow.