Application for 2013 Innovations in Teaching Using Technology Grant:
Instructional Technology and Faculty Center for Excellence in Teaching and Learning

Title: Hometown Surface Water Investigation

Courses Involved

Water flow paths can be traced using GPS coordinates and FieldScope software, individual tributaries and entire watersheds can be mapped using the following FieldScope layers during a "trip down your tributary": Satellite Imagery, Street Map, Topographic Map, and Boundaries and Places. Students can list the names of the streams and rivers that connect their location to the Delaware Bay or Atlantic Ocean.

Students will investigate how water flows throughout a region and what defines water flow patterns. They will learn how physical geography impacts water flow paths. Using the polygon tool and terrain layer students will be able to identify watershed boundaries using maps and understand how the USGS delineates watersheds.

Maps of physiographic regions provide an overview of terrain variation. Geology and terrain variations delineate physiographic regions. Using the Physiographic Regions Layer in FieldScope students will look at water flow paths and consider how it follows boundaries of the physiographic regions. Students can then compare physiographic regions. Students will also investigate how people have shaped the landscape in their watershed. They will work with map layers in FieldScope to examine patterns of land development patterns and trends over time, in order to investigate why people settled where they did. The lesson can then be extended by analyzing the relationships between development patterns and variations in water quality.

Scalability and Adaptability:

The lessons learned from the Hometown Surface Water Investigation will be available to the wider community of citizen scientists and professionals via the FieldScope interface. This knowledge base will develop over time with data collectcal.4()11.(cal.-0.006 (r)5.7(/cal.4().-0.006 ()-6(c(o)6(v)2

university setting. FieldScope is maintained by National Geographic (including data hosting), no additional hardware or support from Rowan's technology office would be necessary.