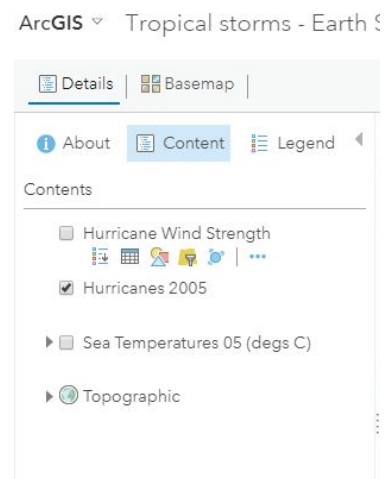


# Hurricane Tracking Activity

Go [HERE!](#)

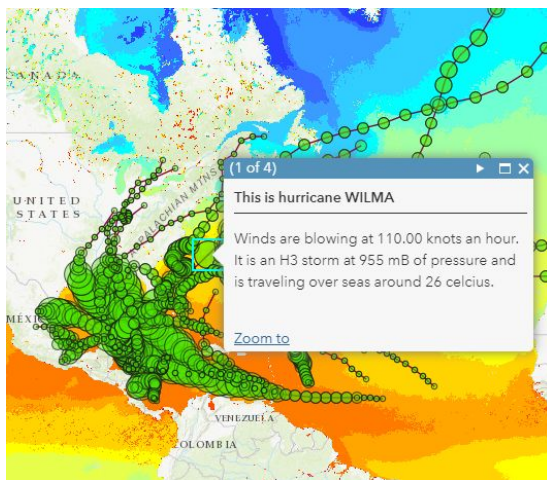
- On the left hand menu, Click on “Content”
- We want to compare look at specific data related to these storms:
  - First we want to look at the water temperature where they form
  - Next, we want to determine the relationship between wind speed and air pressure.

To do this we are going to need to do some serious clicking!

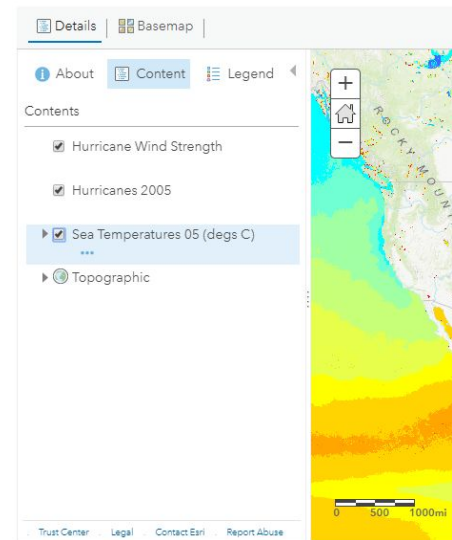


## Setting up the map:

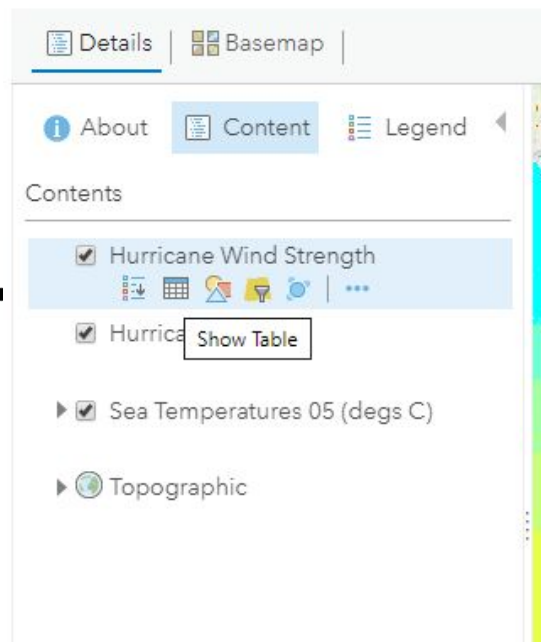
- On the content menu, check the boxes next to “Hurricane Wind Strength”, “Hurricanes 2005”, “Sea Temperatures”:
- The map should look very different now. The circles that you see on the map are data points. You can click on individual circles to see the information at that location! Give it a try!



- Now let's do something with the data! Check the “Show Table” Icon under “Hurricane Wind Strength”. A table will appear at the bottom of the screen that will have A LOT of information. Don't worry! We are only going to look at a few important details!



## ArcGIS Tropical storms - Earth S



Hurricane Wind Strength (Features: 1592, Selected: 0)

YEAR_	MONTH_	DAY_	AD_TIME	NAME	LAT	LONG_
2,005	6	8	1800Z	ARLENE	16.90	-84.00
2,005	6	8	1800Z	ARLENE	16.90	-84.00
2,005	6	9	0000Z	ARLENE	17.40	-83.90
2,005	6	9	0000Z	ARLENE	17.40	-83.90

- Let's make this a little simpler! First, click the three lines on the right:

YEAR_	MONTH_	DAY_	AD_TIME	NAME	LAT
2,005	6	8	1800Z	ARLENE	16.90
2,005	6	8	1800Z	ARLENE	16.90
2,005	6	9	0000Z	ARLENE	17.40
2,005	6	9	0000Z	ARLENE	17.40

- Click on "Show/Hide Columns" and Unclick every box EXCEPT "WIND\_KTS" and "PRESSURE". This will make sure that we are only looking at the data for Wind Speed (in Knots) and Pressure (in millibars).

WIND_KTS	PRESSURE
25.00	1,004
25.00	1,004
30.00	1,003
30.00	1,003
35.00	1,003

- Sort the data by clicking on the top of the column "WIND\_KTS" and clicking "Sort Ascending".

WIND_KTS	PRESSURE
10.00	1,009
10.00	1,009
10.00	1,009
10.00	1,009
10.00	1,010
10.00	1,010

As you scroll down the list, you should start to notice something about the pressure as the wind speed increases. Look and compare the pressure at 10, 50, and 100 knots

WIND_KTS	PRESSURE
10.00	1,009
10.00	1,009
10.00	1,009
10.00	1,009
10.00	1,010
10.00	1,010

WIND_KTS	PRESSURE
50.00	995
50.00	995
50.00	995
50.00	995
50.00	995
50.00	995

WIND_KTS	PRESSURE
100.00	971
100.00	971
100.00	971
100.00	942
100.00	942
100.00	948
100.00	948

## Analysis Questions:

Now that we have all our data and a map that shows the temperature of the surface water, let's do some thinking:

1. As the wind speed increases, what do you notice about the pressure? Is it increasing or decreasing?
2. Use your notes or other scholarly resources and research typical weather in high pressure areas and in low pressure areas.
3. All Hurricanes start near the equator, usually near the middle or eastern side of the Atlantic ocean. What do you notice about the temperature of the water at the beginning of the hurricane paths? Is it warm or cold?
4. The oceans at the equator get the most direct sunlight year round. What does this have on the temperature of the water near the equator? Does that warm water stay near the equator? Where does it go?
5. Use your notes and other scholarly resources to explain the formation of a hurricane over the warm ocean water. How does the heat and the warm ocean water create such a large storm in the atmosphere?