



The Impact of Climate Change on Hurricanes in The U.S

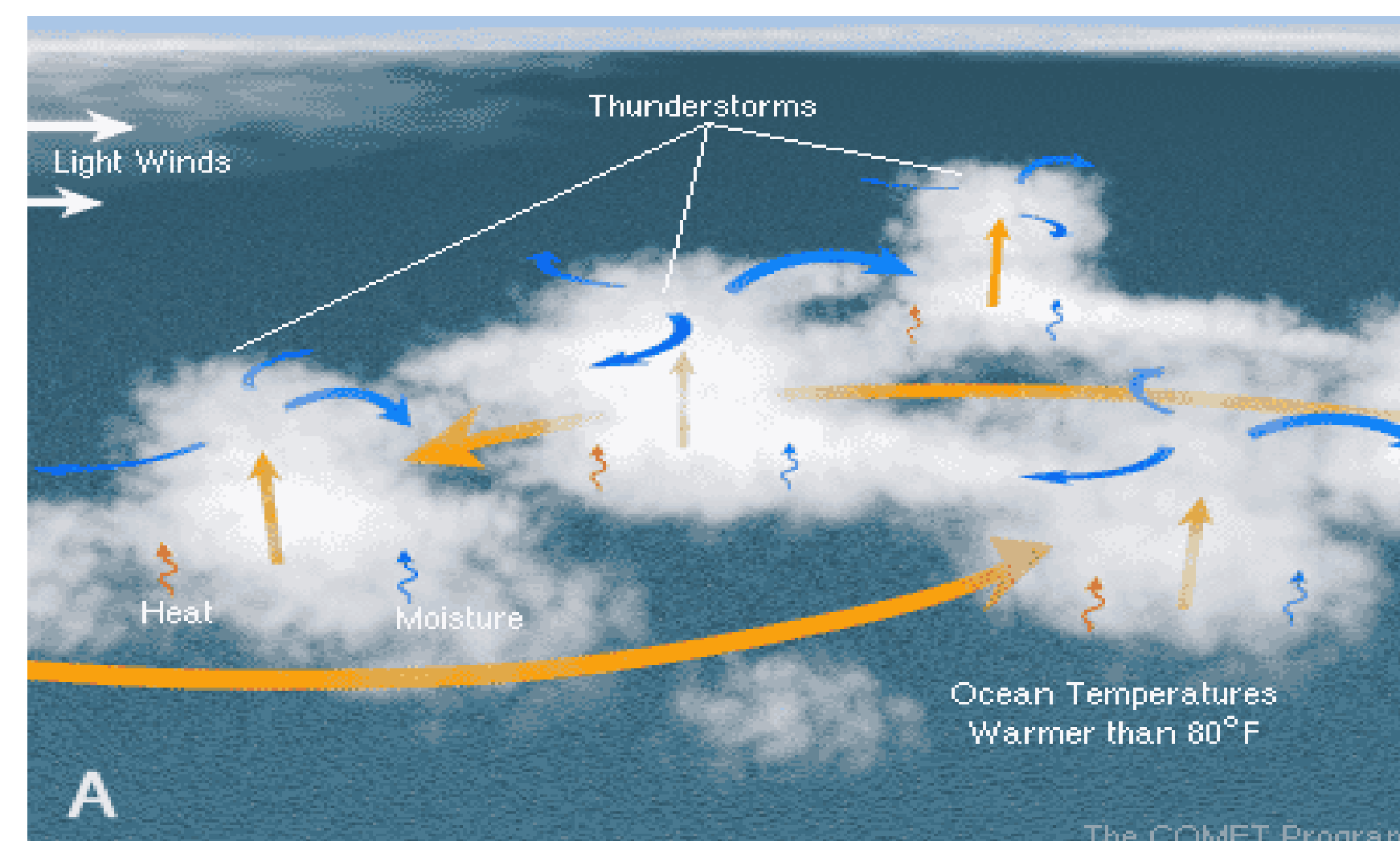
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ABSTRACT

The purpose of this research was to determine the effects of climate change on hurricanes in the U.S. The effects that hurricanes have on the environment include such things as strong winds, flooding, and rainfall. These can lead to the formation of tornadoes and rip currents. There are a variety of categories for hurricanes. Climate change causes the heating up of ocean waters. This may result in more powerful hurricanes, therefore changing the category.

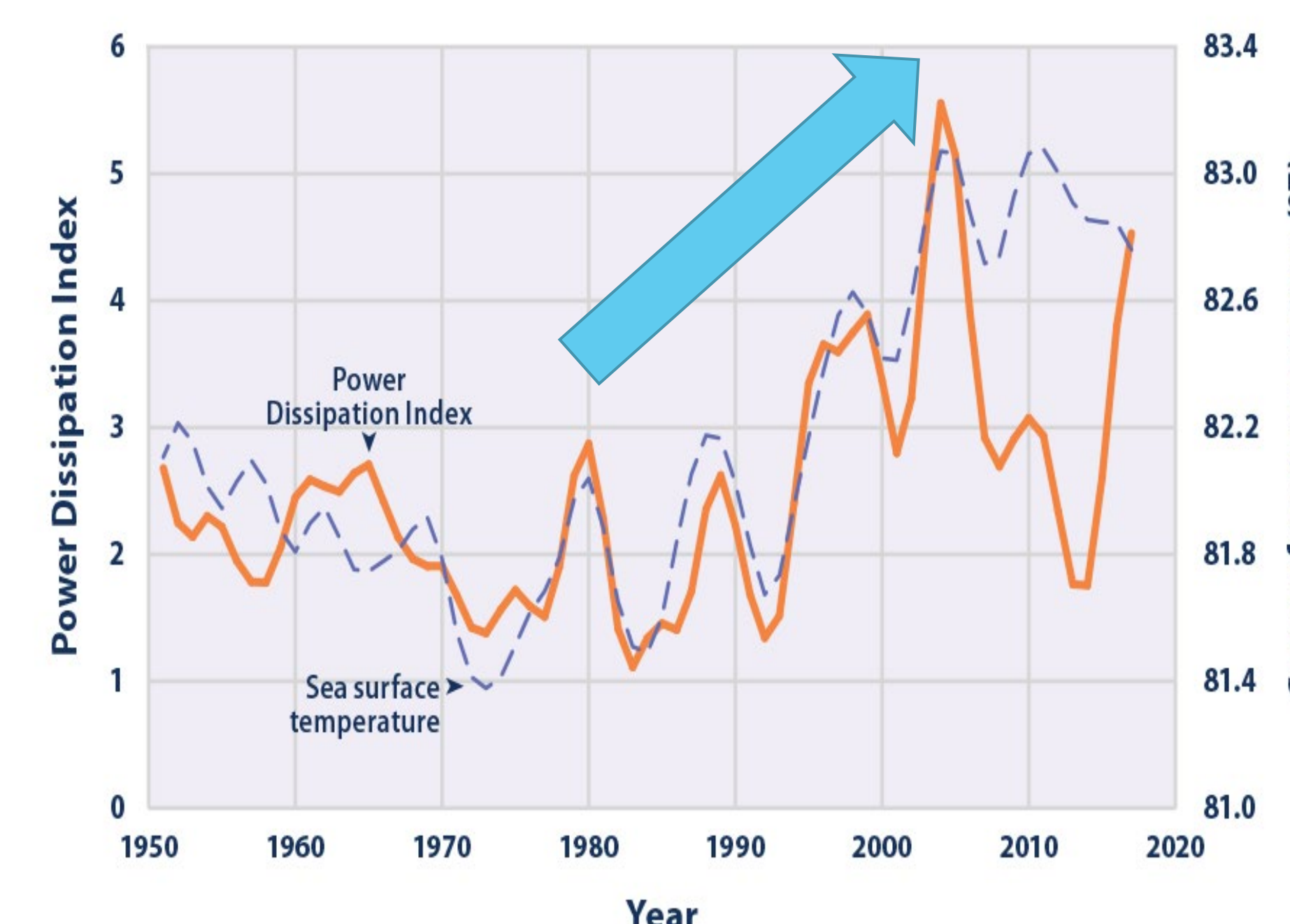
RESEARCH with Supporting VIIRS Satellite Images



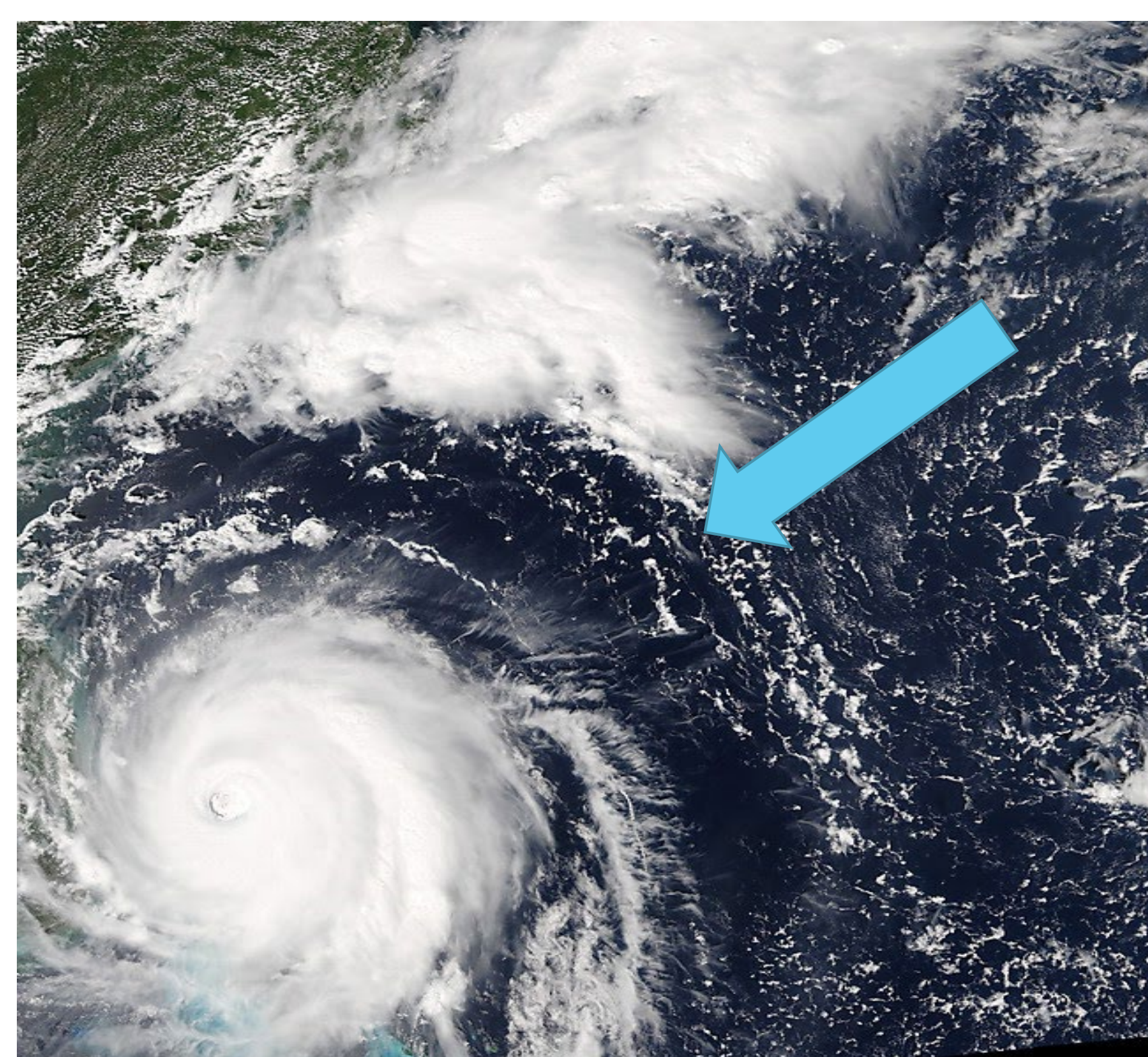
<https://scied.ucar.edu/learning-zone/storms/how-hurricanes-form>

Figure 1

a. Thunderstorms, light winds and warm ocean waters are what cause hurricanes.



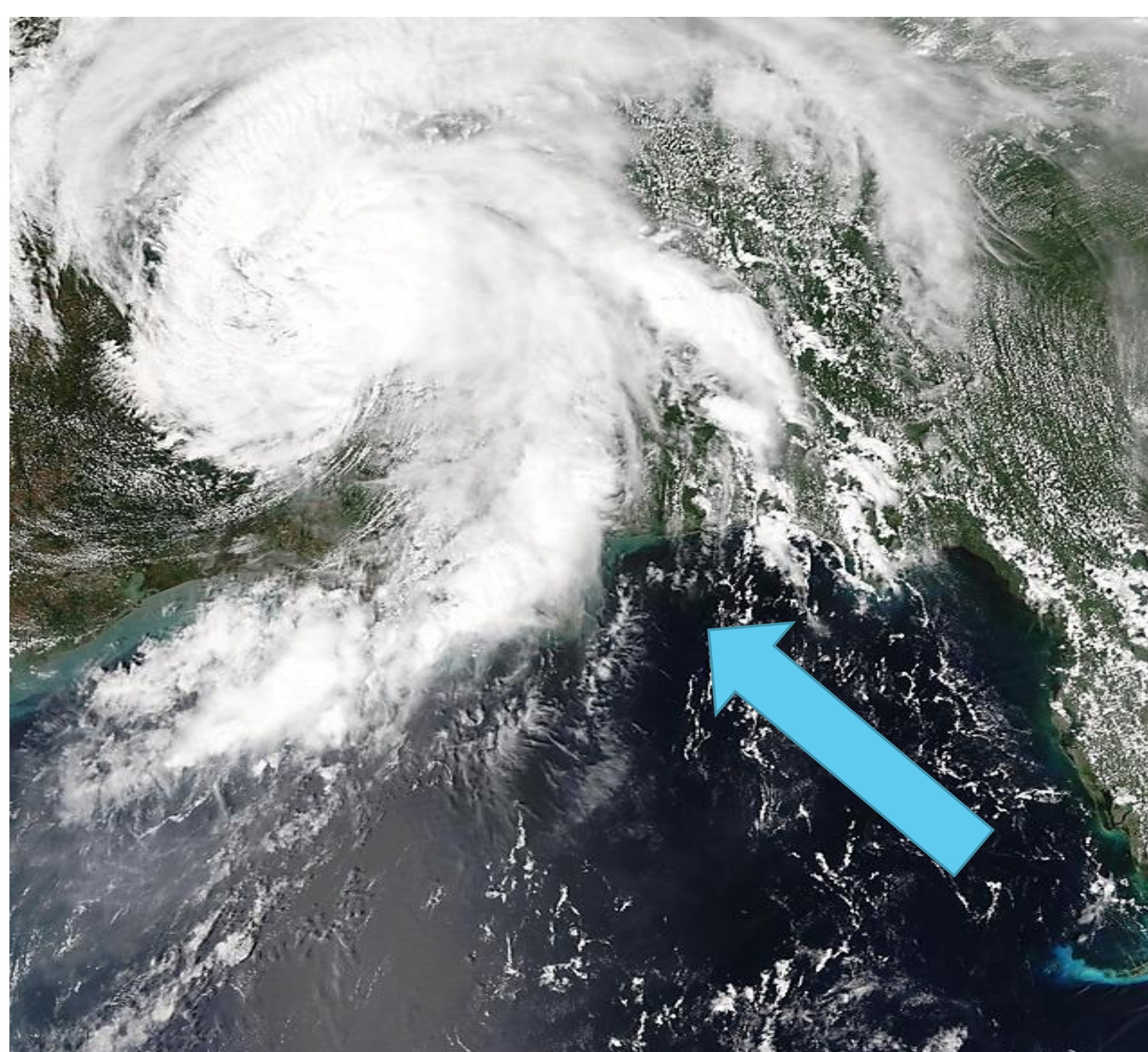
b. Sea surface temperature is affected by climate change. The energy the hurricane siphons from these high sea surface temperatures is shown.



<https://ge.ssec.wisc.edu/viirs-today/>

Figure 2

Hurricane Irma over the East coast in the beginning of September in 2017. The hurricane is gathering energy from the ocean water temperatures.



<https://ge.ssec.wisc.edu/viirs-today/>

Figure 3

Hurricane Laura made landfall on Florida's coast in August of 2020. Hurricane Laura's intensification between August 20-29th was due to climate change.

RESULTS and CONCLUSIONS

Climate change has an impact on the frequency and severity of hurricanes in the U.S.

VIIRS imagery shows how rising sea surface temperatures have resulted in more powerful and deadly hurricanes.

-**Figure 1** The diagram (a) illustrates the patterns of thunderstorms, light winds and other anomalies that, form hurricanes. The climate graph (b) demonstrates that climate change increases the intensity of hurricanes and also the development of hurricanes.

-**Figure 2** shows Irma's strength and intensity had fluctuated in the days to follow, and landed on Sept. 4, as a Category 4 hurricane.

-**Figure 3** demonstrates that climate change can significantly change the category of the hurricane because of warmer ocean waters.

RESEARCH QUESTION/BACKGROUND

What Effect Does The Atmosphere/Environment have on Hurricanes in the U.S?

- Warmer ocean temperatures have been shown to increase a hurricane's intensity
- Hurricanes acquire their energy from warm oceans
- Florida has been recorded to have 120 with around 37 recorded to be category 3 or category 5
- When storm systems strengthen to form hurricanes, the surface winds move constantly in a circular motion.

References

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