

Student Activity

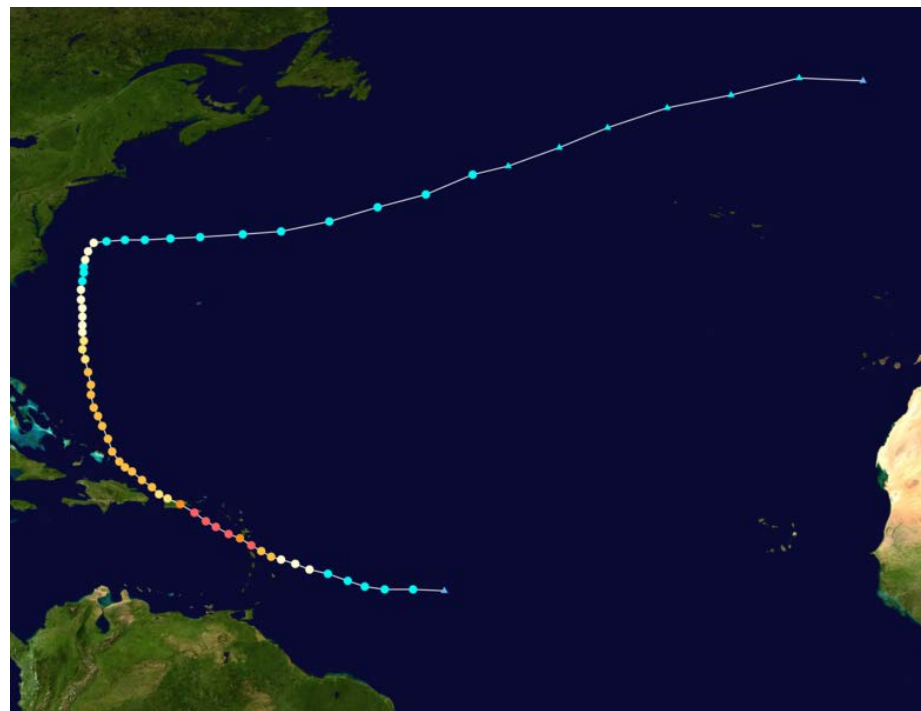
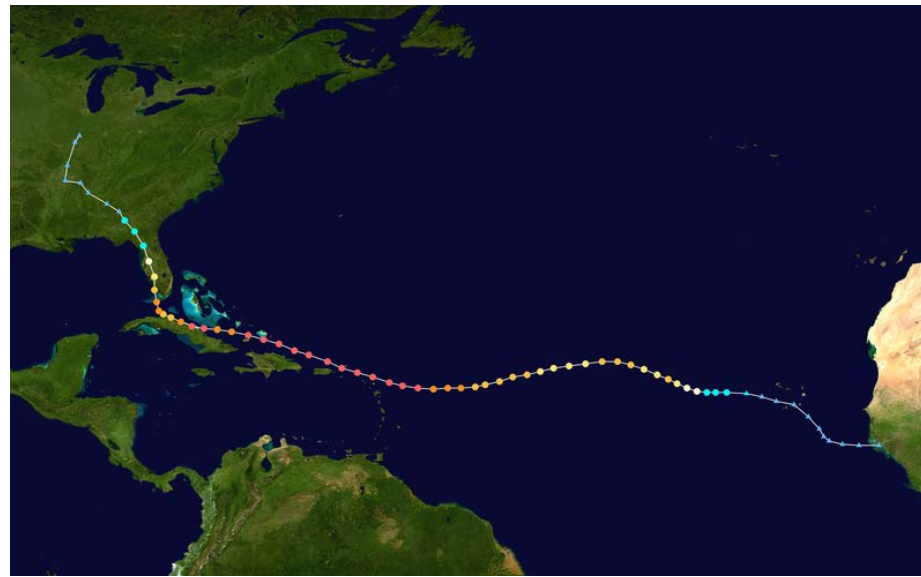
Continue from the last activity sheet

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20. Describe the distribution of cloud in the satellite image.



21. Describe the storm tracks for Hurricanes; Harvey; Irma & Maria.



22. With three such terrible storms within weeks of each other why might it be fair to describe these storms as a near miss?

23. Use the information in the three tables to rank the three hurricanes using:

- a. Wind speed
- b. Fatalities
- c. Cost
- d. Air Pressure

24. In your opinion which was the worst disaster?

- a. Explain your answer.

Hurricane Harvey	
Formed	August 17, 2017
Dissipated	September 3, 2017
Highest winds	1-minute sustained - 130 mph (215 km/h)
Lowest pressure	938 mbar
Fatalities	77 confirmed
Damage	Approximately \$70 billion USD (lowest) to \$180 billion USD (highest) – almost all in the USA.

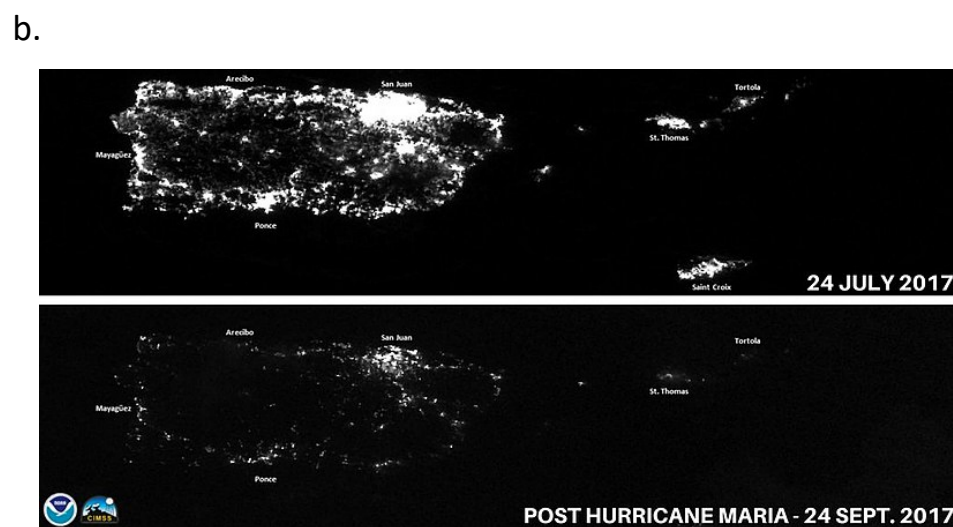
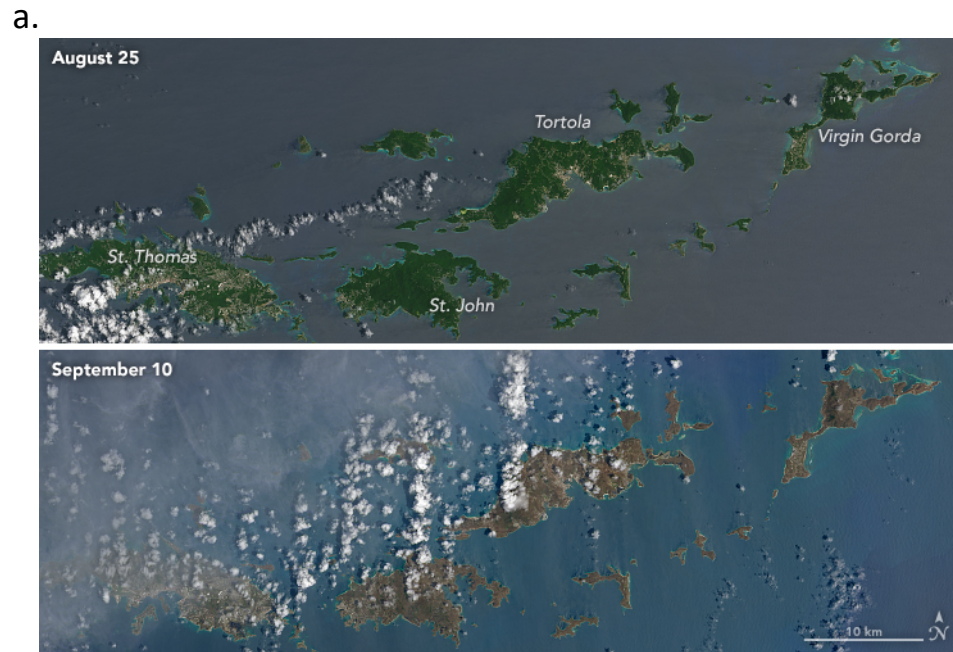
Hurricane Irma	
Formed	August 30, 2017
Dissipated	September 16, 2017
Highest winds	1-minute sustained - 185 mph (295 km/h)
Lowest pressure	914 mbar
Fatalities	132 confirmed
Damage	At least \$63 billion USD.

Hurricane Maria	
Formed	September 16, 2017
Dissipated	October 3, 2017
Highest winds	1-minute sustained - 175 mph (280 km/h)
Lowest pressure	908 mbar
Fatalities	81 confirmed
Damage	> \$51.2 billion USD

25. Using the before and after photographs describe:

- a. The Virgin Islands
- b. Puerto Rico at night.

Investigating Changing Climate Patterns - Activity Sheet Part 2 – Low Air Pressure



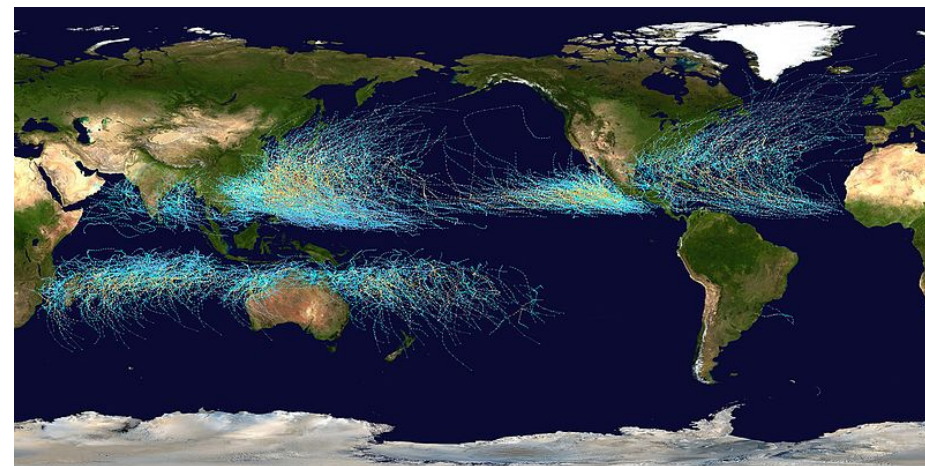
26. Draw a graph to show the wind speeds of different categories of Tropical storms.

Saffir-Simpson Hurricane Categories	
Category	Wind speeds
Five	≥157 mph, ≥252 km/h
Four	130–156 mph, 209–251 km/h
Three	111–129 mph, 178–208 km/h
Two	96–110 mph, 154–177 km/h
One	74–95 mph, 119–153 km/h
Tropical Storms	
Tropical storm	39–73 mph, 63–118 km/h
Tropical depression	≤38 mph, ≤62 km/h

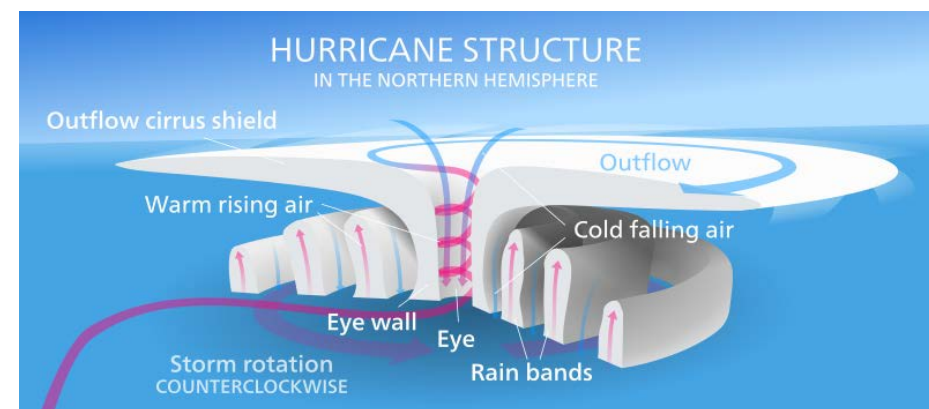
27. What are the three essential factors necessary for Hurricane formation?

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-
-

28. Why are the tropical storms in each hemisphere separated by the Equatorial region?



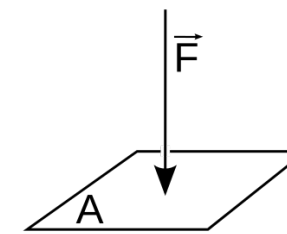
29. Draw your own sketch to show the main features of a hurricane.



30. Explain the following terms:

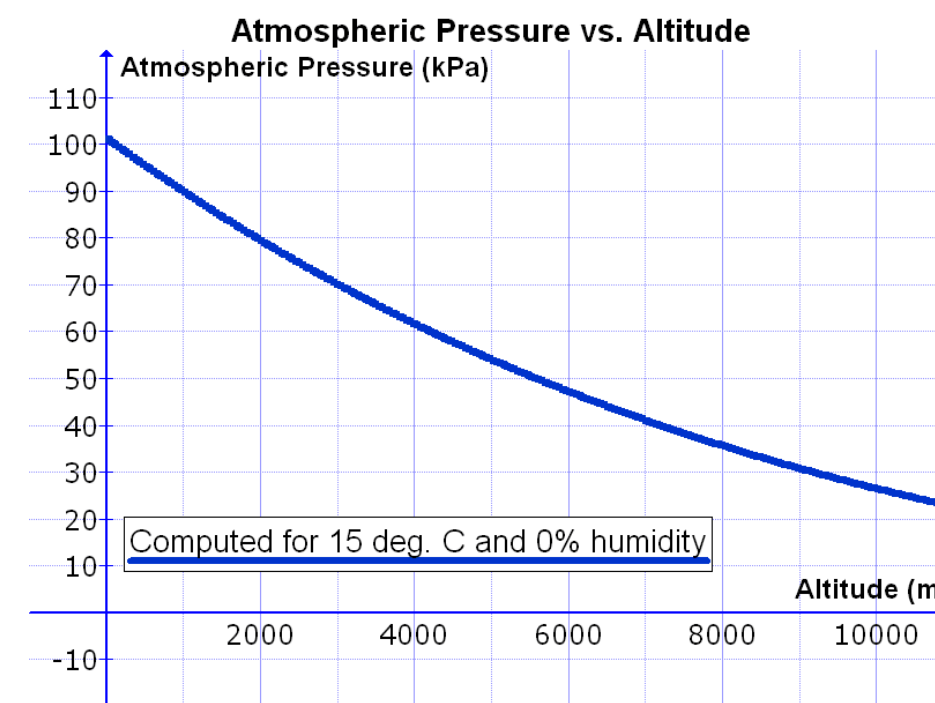
- Pressure
- Force
- A Newton
- A Pascal
- A Bar
- A Millibar

31. Use this sketch to help you to explain air pressure.



32. Use the graph below to describe what happens to air pressure as a person climbs from sea level to 10,000 metres.

- At 0 metres
- At 4,000 metres
- At 8,000 metres.



33. Why is there always a band of low air pressure close to the Equator?

- How can we see this on a satellite image?
- What kind of climate does this cause?
- What kind of ecosystem?

34. What happens where air in the convection cell descends?

- To the air pressure?
- To the climate?
- To the landscape?

Conclusions

35. Describe all of the ways that air pressure is important.