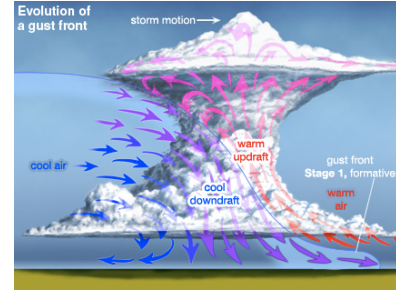


Homework–Module 4

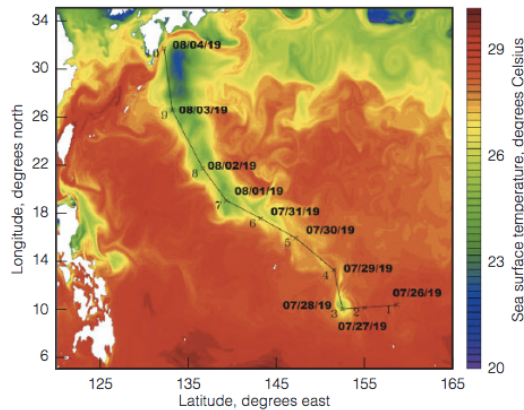
Name:

- 1) We learned in Module #3 that adiabatic compression always works to warm sinking air. Yet a thunderstorm downdraft is usually colder than the air surrounding it. Explain the apparent paradox based on concepts that are discussed in Chapter 10. There is a 600-character limit.

Cool downdraft in a severe thunderstorm.
Figure Credit: [Encyclopedia Britannica, Inc.](#)



- 2) Explain why the ocean surface water temperature is usually cooler after the passage of a hurricane. (Hint: The answer is not because the hurricane extracts heat from the water, a process that only accounts for a small portion of the cooling.) Think in terms of what the wind alone does to the ocean surface. There is a 600-character limit.



Cooler water over the western Pacific Ocean in the wake of a modeled typhoon.

Figure Credit:
[Lawrence Livermore National Laboratory](#)