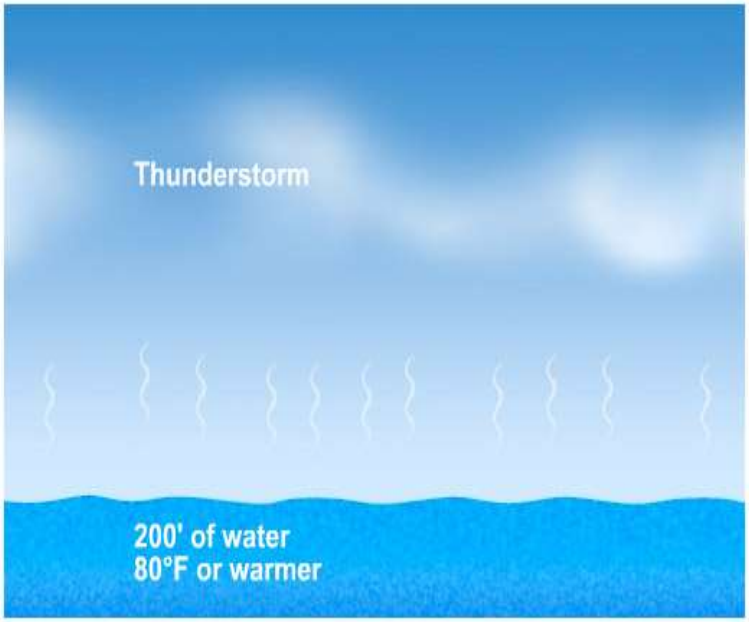
Storm

- Seen from above the Earth, a hurricane has a soft, serene beauty but its has a relentless and terrifying violence in side.

- These storms are spawned by the interaction of the sea and the air.

- Storms forming over tropical oceans between 5 and 20 degrees latitude, defined by high velocity winds that rotate around a central, low-pressure core.

Hurricanes start simply with the evaporation of warm seawater, which pumps water into the lower atmosphere.



This humid air is then dragged aloft when converging winds collide and turn upwards. At higher altitudes, water vapor starts to condense into clouds and rain, releasng heat that warms the surrounding air, causing it to rise as well.

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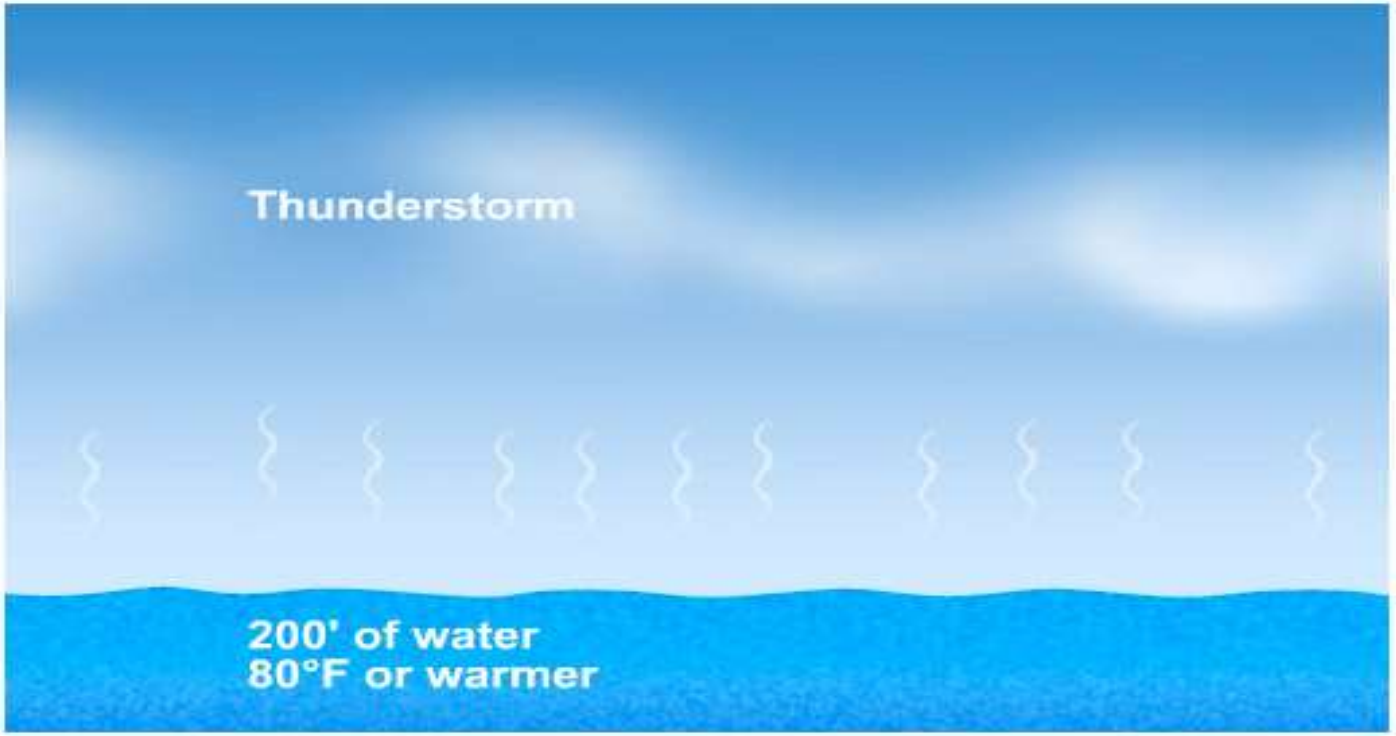

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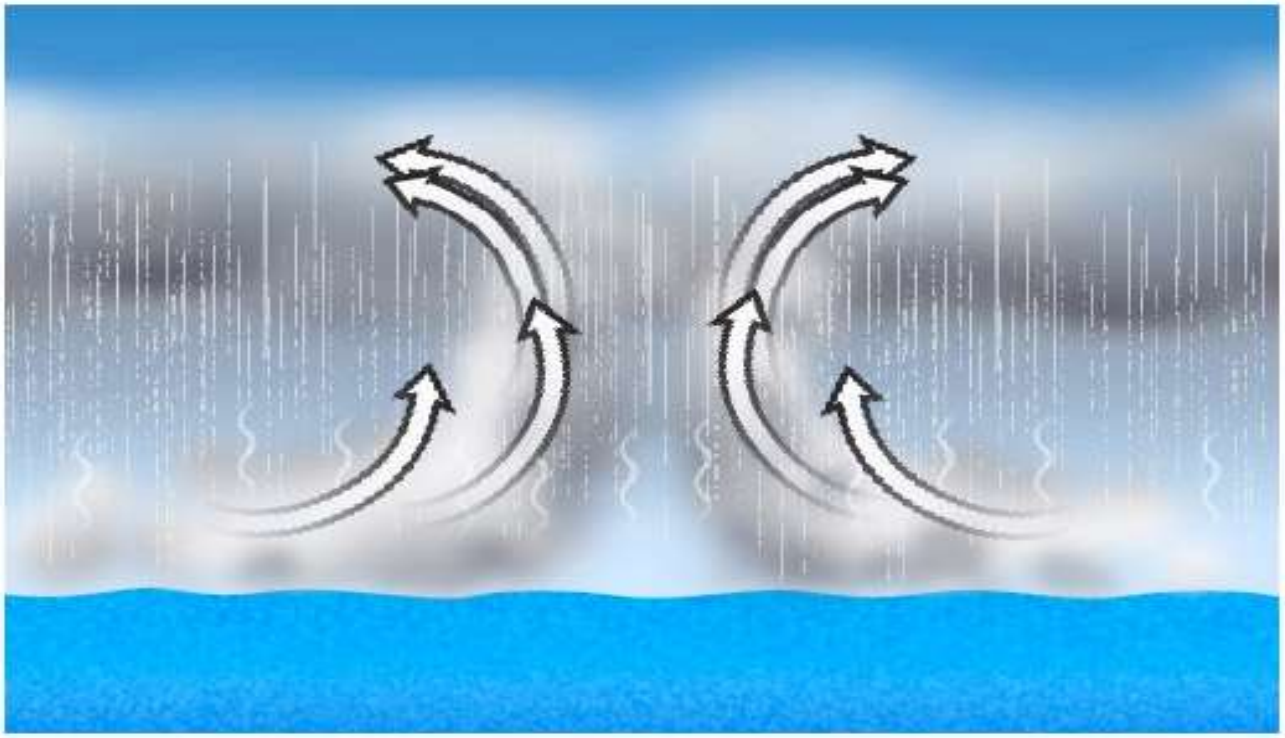
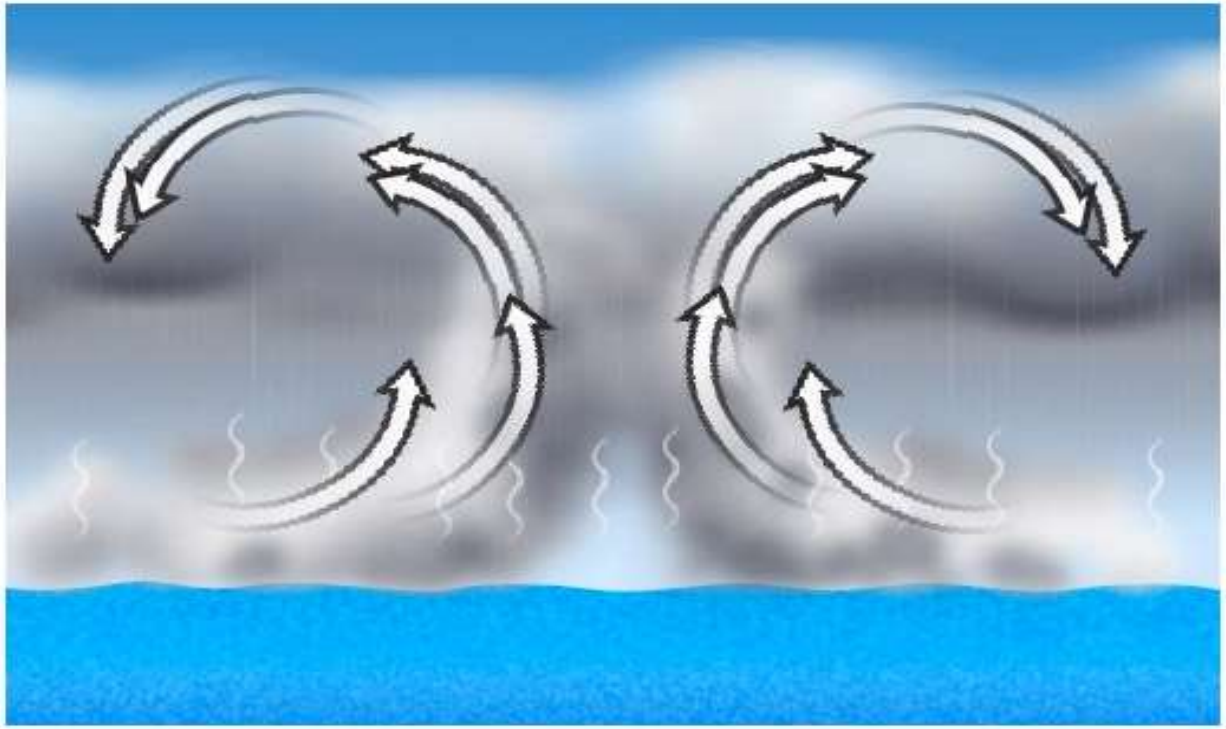




- As the air far above the sea rushes upward, even more warm moist air spirals in from along the surface to replace it.
- As long as the base of this weather system remains over warm water, and its top is not sheared apart by high altitude winds, it will strengthen and grow.
- More and more heat and water will be pumped into the air.
- The pressure at its core will drop further and further, sucking in wind at ever increasing speeds.
- Over several hours to days, the storm will intensify, finally reaching strom status when the winds that swirl around it reach sustained speeds of 74 miles per hour or more.

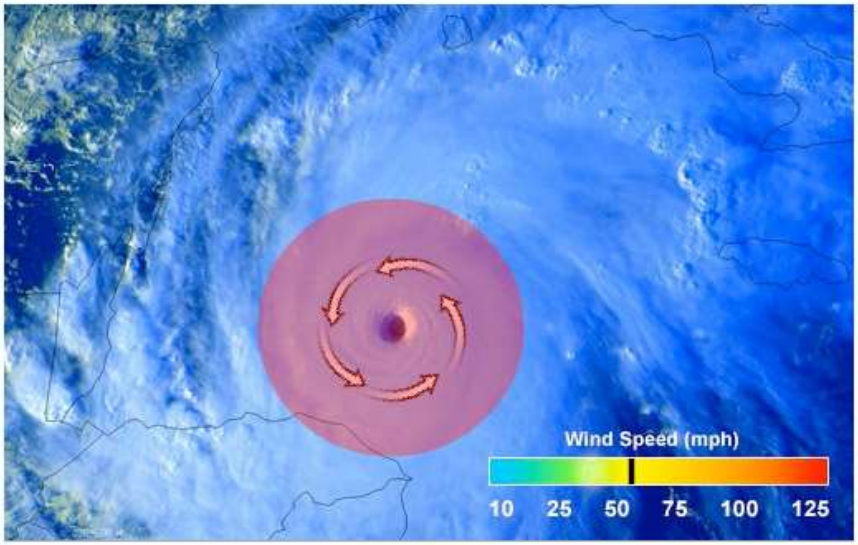
- A fully developed storm is a highly organized and complex system of wind, clouds, and rain.

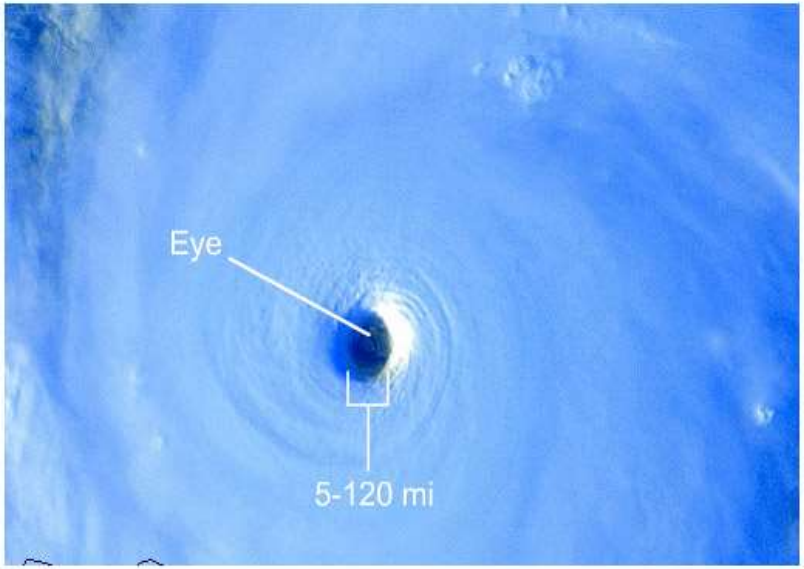
- At the center of a hurricane is the eye, a nearly circular area of eerily fair weather, 5 to 120 miles across.

- Surrounding the eye is the eyewall, a towering ring of clouds that contains the strom's most powerful winds and heaviest rainfall.

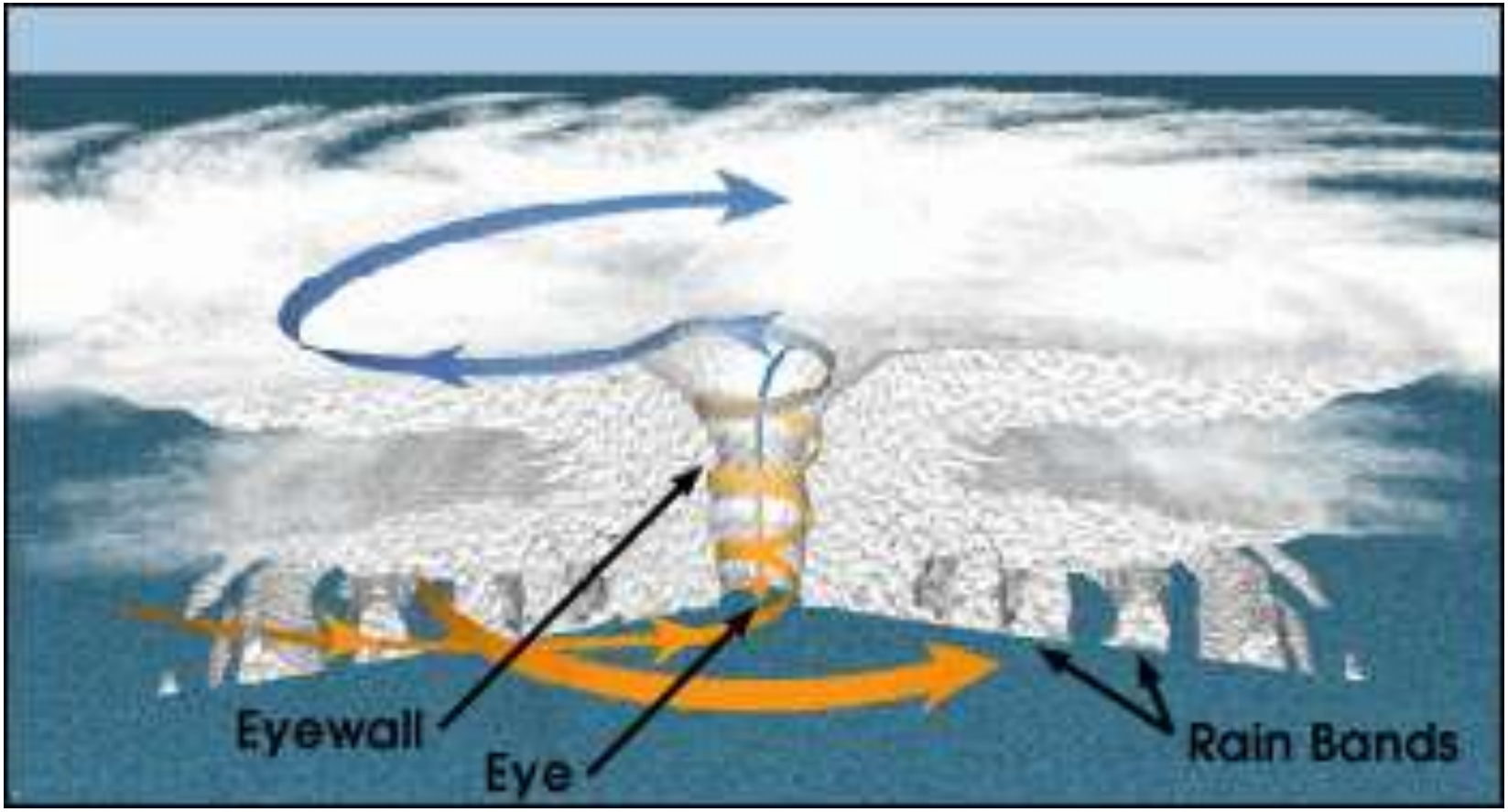
- Spiraling into the eyewall are the rain bands, wide zones of intense thunderstorms that sweep outward for 50 to 300 miles. In between these bands, rainfall and wind speed diminish.

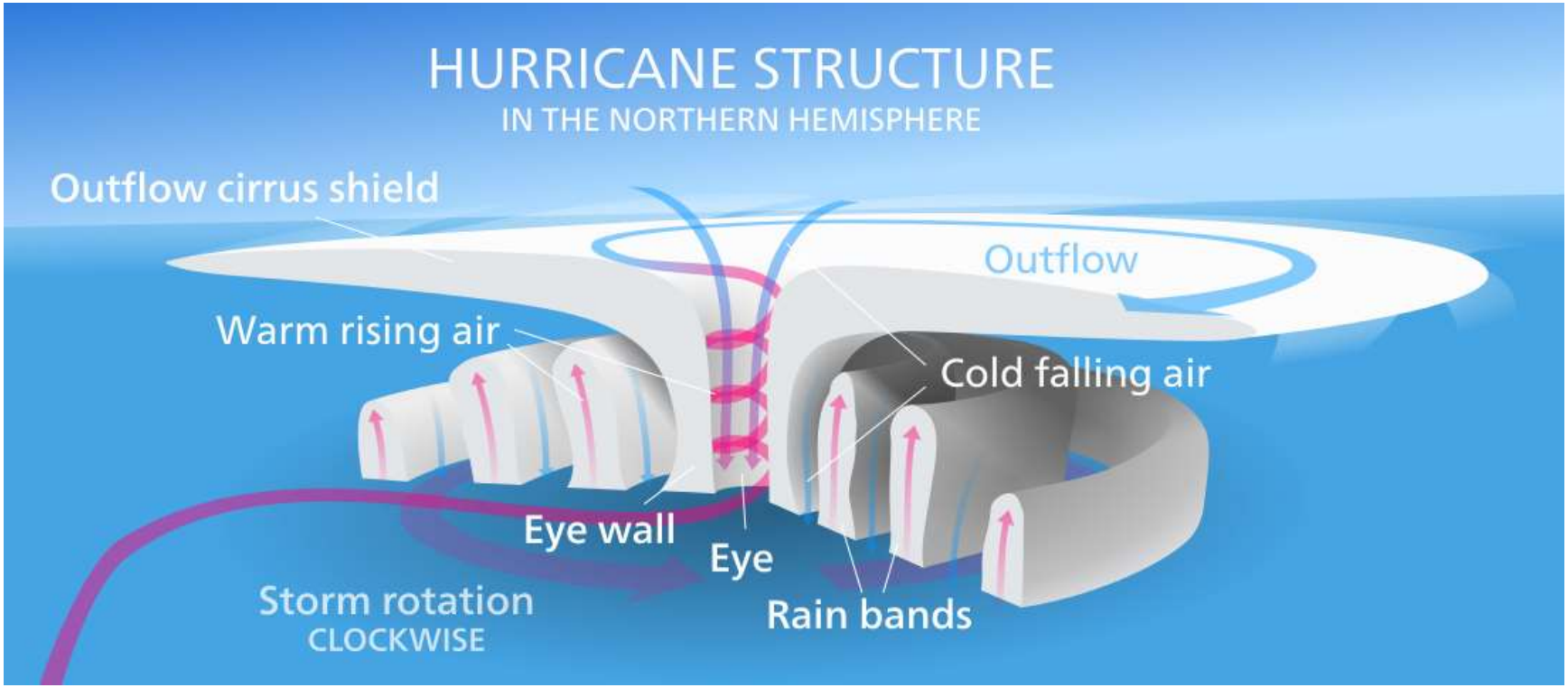
- Even as the familiar rotating spiral structure of a hurricane begins to form, the storm is pushed into motion by the Earth's prevailing winds. In the tropics, the trade winds blow to the west.


Wind Speed (mph)
10 25 50 75 100 125


Eye
5-120 mi

- Storms that develop around North and Central America are known as hurricanes. Storms that develop in the Northwest Pacific are known as typhoons. The spiraling in the storm is caused by the Earth's rotation


Eyewall
Eye
Rain Bands


HURRICANE STRUCTURE
IN THE NORTHERN HEMISPHERE
Outflow cirrus shield
Outflow
Warm rising air
Cold falling air
Eye wall
Eye
Storm rotation
CLOCKWISE
Rain bands