No. 85

August 18

A Science Service Feature

? WHY THE WEATHER ?

Dr. Charles F. Brooks,
Secretary, American Meteorological Society,
describes:

THE DESTRUCTIVE THUNDERSQUALL

The outrushing wind of the thunderstorm, consisting of the cool air which has descended with the mass of falling rain is sometimes strong enough to flatten anything in its path. Its velocity rises at times to hurricane violence. When it reaches the bottom of its descent in the cloud it is much colder and therefore appreciably denser than the warm air outside the storm. Being heavier the cool air gravitates outward, and running under the warm air lifts it and makes it flow back toward the thundercloud, thus assisting in adding to the storm's volume.

The force of the squall in front of the storm is not due merely to this outflow. Combined with it is the forward motion of the descending air as it comes down with the cloud, imparted to it by the onrushing motion of the storm mass. When thunderstorms are most intense they are often moving most rapidly, being carried by the wind in which the body of the storm occurs. Air descending from the level where the wind is strong retains its strength, except for some losses by friction, and rushes over the ground. Thus the outward and forward motions are added together. The sum total may be a destructive power comparable to that of the hurricane or tornado. Behind the storm the outflow and forward motions tend to neutralize one another, and there is no outward wind, excepting where the storm is moving slowly.

All rights reserved by Science Service

Science Service,
1115 Conn. Ave.,
Washington, D.C.