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The inner eye structure of Hurricane Allen as seen from 10,000 feet, 7 August 1980. The photograph was taken from a NOAA aircraft flying within the outer eye wall while the storm was centered over the Gulf of Mexico. The characteristic spiral rain bands are wrapped around the inner eye (horse-shoe-like form in center of picture). The inner eye is approximately 3 miles across. The main eye of the hurricane occupies the entire field of view and is cloud-covered below 8000 feet. Measurements of near-surface rain rate and wind velocity were made with microwave remote-sensing instruments carried by an aircraft flying safely above the cloud deck. See page 274. [C. B. Emmanuel, Research Facilities Center, NOAA, Miami, Florida 33151]