

26 July 2002 Mission Report

Mission Summary:

The ER-2 and WB-57 flew a southern traverse to sample the tropical upper troposphere and lower stratosphere. The only significant clouds encountered were at the southernmost end of the flight path. The Twin Otter sampled aerosol and clouds in the Naples and Ft. Myers areas. The Proteus made an Aqua underpass off the east coast of Florida. The Citation did a late-afternoon melting layer flight in the Naples vicinity.

Aircraft Summaries:

Citation

The Citation flew a late-afternoon, melting-layer flight independent of the other aircraft. They took off around 2030Z and flew to the Naples area at about 20 kft. Beginning at about 2130, they executed a series of ascents and descents through the anvils coming off the Naples area convection. They returned to base around 0000Z.

ER-2

The ER-2 flew on a southbound track in coordination with the WB-57F, but at a higher altitude (65 kft) throughout the flight. The ER-2 pilot only noted cirrus at the southernmost point of the trip. One of the flight goals was to drop eight dropsondes; the first two did not release, but the remaining six did.

P-3

The P-3 took off about 1830Z and flew some NE-SW legs north of the western ground site (in the Ft. Myers area). They later flew some legs oriented NW-SE just off the west coast in the Ft. Myers area. Some aircraft issues brought them back to base around 2200Z.

Proteus

Proteus took off around 1745Z and flew a course along the east Florida coast to track an Aqua overpass.

Twin Otter

The Twin Otter took off at 1556Z and headed north of Key West toward the peninsula at about 4 kft. Just off the west coast, they descended to about 100 ft and then climbed back to 10 kft. They noted some difficulty in finding isolated clouds once they were over the land, but were otherwise getting good cloud and aerosol data. They flew a number of

short legs along the wind and did some vertical profiling in the Ft. Myers and Naples areas. The Twin Otter returned to base at 1959Z.

WB-57F

The WB-57F took off at 1619Z. They did a southern track coordinating with the ER-2, bobbing up and down across the tropopause between altitudes of 48 and 51 kft. At 1819Z, they were flying through some thin clouds at 47.8 kft, but were directed back to 49 kft. At 1858Z, they were at the southern end of their trip, the only location that they really saw much in the way of thicker clouds. They ascended to about 58 kft and then slowly descended down to 40 kft, profiling the cirrus deck between about 47.5 and 40 kft. They climbed back up to 51 kft, where they flew for most of the return trip. They noted on their southbound portion of the trip that the atmosphere was hazy below the altitude of the plane. The WB-57 landed at 2119Z.