

Mission Summary Hurricane George - Synoptic Surveillance

980922I Aircraft: N43RF
Scientific Crew:

Chief Scientist:	Hugh Willoughby
Doppler Scientist:	-----
Cloud Physics:	-----
Dropsonde Scientist:	Chris Landsea
Workstation/AXBT:	Joe Griffin

Mission Briefing

Flight 980922I was one sortie of a two-aircraft synoptic surveillance mission flown around Hurricane Georges. It originated and terminated at Opa-Locka. HRD participants were: Hugh Willoughby, Joe Griffin, and Chris Landsea. The objective was to fly eastward along a circuitous route north of the Greater Antilles to locate the subtropical ridge axis and scout for weaknesses in the ridge. These data, combined with observations in the Bahamas and Caribbean from N49RF were intended to improve the initialization of the operational forecast cycle for 23/00Z and add to the ensemble of multi-aircraft GPS sonde synoptic surveillance missions.

Mission Synopsis

N42RF took off from Opa-Locka at 1728 UT on 22SEP98, flew northeastward, reaching the initial drop point (29°30'N, 78°30'W) at 1827 UT. We then flew east along 29°30'N to 70°-00'W, just above the 500 hPa level in 15 kt westerly winds north of the ridge axis, then southeast to 27°30'N, 67°30'W. The first 6 sondes worked beautifully, but the 7th, at this position, lost telemetry. We dropped a second instrument 14 nmi south of the nominal drop point. As we continued south along 67°30'W we reached the ridge axis near 25°45'N where we deployed drop 8 in calm winds. It reported a 1012 hPa Surface pressure. Drop 9, near 24°N was in easterly flight-level flow (115° at 8 kt) south of the ridge. From that point as we flew SSE to 22°N, 68°-33'W. We were clearly in Georges circulation as we turned westward along 22°N and climbed to 443 hPa. Surface pressures were about 1011 hPa. Drop 11 at 71°W was a fast fall that reported no winds. We turned NNE, and dropped a backup 45 nmi farther along track. At 24°N, we turned north along 70°W, climbed to 424 hPa, remaining in easterly winds until after we passed 26°N and turned NW. By the time we reached the next drop point (27°44'N, 72°W) we were in weak westerlies again north of the ridge. These winds continued as we flew westward along 27°44'N, then turned WSW to recover at Opa-Locka at 0123 UT on 23SEP98, 7h 55m duration.

Equipment:

Everything worked well. Of the 19 sondes deployed only 2 failed outright: drop 7 lost telemetry and drop 11 was a fast fall with no winds.

Critique:

Flown as briefed. Another multi-plane synoptic surveillance mission in the ensemble.

H. E. Willoughby
10 October 1998