

Mission Summary Hurricane Georges - Reconnaissance

980923H1 Aircraft: N42RF

Scientific Crew:

Chief Scientist: Eric Uhlhorn
Doppler Scientist: Michael Black
Cloud Physics: -----
Dropsonde Scientist: Michael Black
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Aircraft Crew:

Cockpit:
Flight Director: Stan Cyzyck
Engineers: Roc Torrey, Jim Roles

Mission Synopsis:

NOAA-42 took off from Opa-locka airport at 0946 UTC on 23 October 1998 for a planned 9 hour reconnaissance survey of Hurricane Georges. At the time of take-off Georges had been downgraded to a 65 knot storm and the poorly defined center was located just west of the western tip of Hispaniola. The aircraft reached a cruising altitude of 15,000' at around 1005 UTC and took a heading of 130 toward the storm center.

It was noted that the wind direction at flight level shifted abruptly to the northeast from southeast indicating the radial extent of storm inflow at 1033 UTC at 24:04 N, 77:17 W. The first band of convection was reached at around 1133 UTC at location 21:05 N, 73:47 W, and a second band at 1145 UTC at 20:17 N, 73:38 W.

The first fix of the center of Hurricane Georges was made at 1204 UTC at 19:05 N, 73:18 W and at this location the first GPS drop was made. A surface pressure of 994 mb was noted. At this time the center of the storm was not well defined. Many on board remarked that George was probably not at hurricane strength anymore. The maximum wind found on the penetration of the eye for the first fix was 43 knots in the northeast quadrant. A second fix of the storm center was made at 1257 UTC at 19:10 N, 73:20 W, and the surface pressure was found to be 995 mb.

The aircraft then departed the region of the storm center along a heading of 090 for a beach patrol leg along the northern Haitian coastline. Along this particular leg a maximum wind speed of 58 knots from the SSE was found. It was interesting to observe the massive soil runoff from the mountains of Hispaniola into the adjacent waters. It was apparent that this area had received large amounts of rainfall from the storm and was experiencing devastating mudslides. A second drop was made at the eastern extent of the beach patrol leg 1334 UTC at 20:02 N, 71:53 W.

The aircraft took a heading of 300 soon after the second drop until 1351 UTC when it took a heading of 270 direct to the northern coast of Cuba. Maximum wind along this leg was found to be 32 knots from the SE. AT 1412 UTC the aircraft turned left to 145 towards the center of the storm for the third fix. Winds remained at around 35 knots all the way into the center. The third fix was made at 1435 UTC at 19:23 N, 73:40 W — surface pressure of 996 mb was found. The aircraft then continued southeast toward the southern coast of Haiti until 1453 UTC, when we then made a right turn to a heading of 270. A GPS drop was made at 1510 UTC at 18:38 N, 73:44 W. We then began a series of criss-crosses on the southern periphery of the storm while waiting for the final fix at 1700 UTC. Two drops were made at 1552 and 1628 UTC.

A fix was identified at 1637 UTC at 19:22 N, 74:4 W, where a drop was made. A second fix was identified at 1646 at 19:33 N, 73:55 W, indicating the uncertainty in the center's position. The lower level cloud features showed some improvement in the structure of the storm from the earlier penetrations, but the pressure gradient was flat across the 20 km or so diameter "eye".

After the final fix the aircraft began the return leg to Opa-locka. Two drops were made along the way, at 1702 UTC and 1751 UTC. NOAA-42 landed at Opa-locka at 1905 UTC.

Eric Uhlhorn

8 October 1998

Summary of center fixes:

<u>#</u>	<u>Time</u>	<u>Lat</u>	<u>Lon</u>
1	1204	19:05	73:18
2	1257	19:10	73:20
3	1435	19:23	73:40
4	1637	19:22	74:04
5	1646	19:33	73:55