

Final minutes of Flight 447

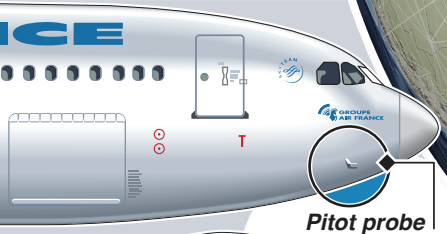
Automated error messages from the flightdeck pointing to discrepancies in airspeed data and the malfunction of five key computers are among a handful of clues available so far to experts investigating the deadly crash of Air France Flight 447

1 May 31, 22:04: Air France Airbus 330, with 228 people on board, departs Rio de Janeiro for Paris

2 June 1, 00:55: AF 447 overflies Natal at 10,670m and 450 knots and heads out over Atlantic on route **UN873**

3 01:33, INTOL waypoint: Scheduled radio contact with **Atlantic Area Control Centre (CINDACTA)** at Fernando de Noronha. Crew reports flying through severe turbulence. Expects to reach **TASIL waypoint** – entry point into Senegal airspace – at 02:20

4 01:48: Aircraft leaves CINDACTA radar coverage



01:51: Satellite data indicates AF 447 has crossed first of three storm clusters

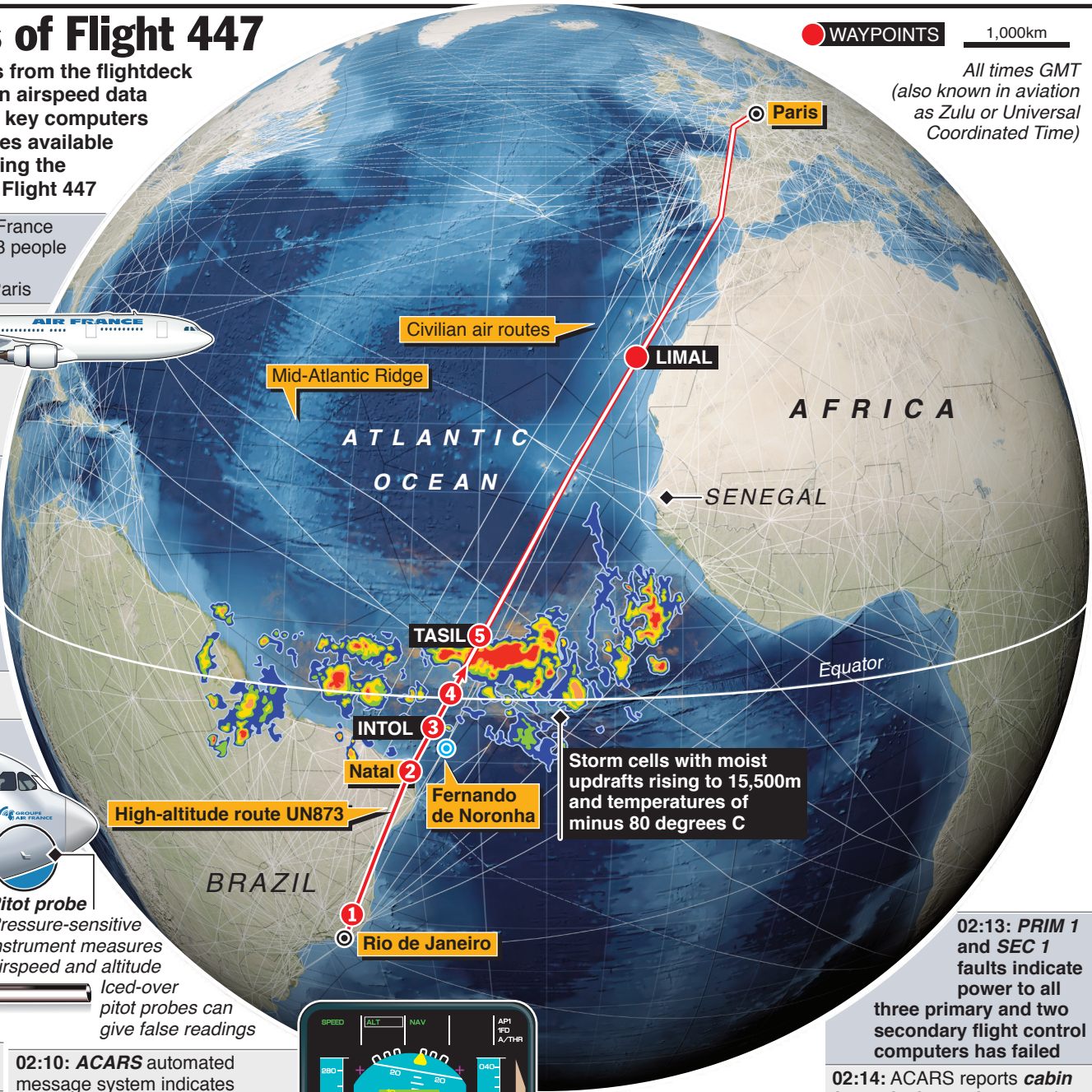
01:59: Aircraft enters second, rapidly growing storm cell

02:05: Aircraft enters massive multicell thunderstorm with updrafts of freezing water and ice estimated at 100km/h. Facing 1,000km-wide line of storms pilot has no choice but to fly through them

02:10: **ACARS** automated message system indicates autopilot has disengaged. **Three pitot probe systems show different air speeds. Margin of safety could have been as little as 95-130km/h, beyond which aircraft would stall or dive out of control**



WAYPOINTS 1,000km
All times GMT
(also known in aviation as Zulu or Universal Coordinated Time)



02:13: **PRIM 1** and **SEC 1** faults indicate power to all three primary and two secondary flight control computers has failed

02:14: ACARS reports **cabin in vertical speed**, suggesting sudden loss of cabin pressure, either cause or consequence of plane breaking up in mid-air

5 **02:20:** Lack of report at **TASIL** waypoint prompts **Oceanic Control** to raise alert

02:11-02:13: **Air Data and Inertial Reference Unit** – which shows basic instruments, airspeed, altimeter, attitude and position – and independent **ISIS** backup system both fail