

Flight Report – SEAC4RS ER-2, September 13, 2013

Prepared by: Richard Ferrare (richard.a.ferrare@nasa.gov)

Purpose of flight: The science goals for this flight were to: 1) acquire remote sensing data over cirrus associated with TS Ingrid, 2) perform cirrus radiation study coincident with the DC-8, 3) acquire eMAS data over cirrus to support DC8 convection studies, 4) acquire in situ data during dips to study UT/LS.

Pilot: Denis Steele

Takeoff: 10:31 CDT

Duration: 8.0 hours

Notes:

The ER-2 flew first SSE over the Gulf toward the Bay of Campeche. On the way, the aircraft performed a dip down to about 48 kft. The dip was intended to extend down to 45 kft, but ATC did not provide permission to dip this low. After climbing back to high altitude, the ER-2 then turned back north and flew north to meet the DC-8 for the radiation plan. There was a delay of about 30 minutes as the ER-2 and DC-8 worked out the proper coordinate before performing this coincident radiation track. The aircraft had excellent coordination around this radiation track for the two complete circuits around this radiation racetrack (150 km legs). At this location cirrus was present; however, this cirrus was likely more due to local convection than from the convective outflow associated with TS Ingrid. After the radiation legs, both aircraft then flew north to fly over convective cells. The ER-2 performed a racetrack pattern with 50 km legs over the first portion of this coordinated pattern, then flew a flower-shaped-rosette pattern over the DC-8 during the latter portion of the pattern over the convective cells. After this, the ER-2 returned to Ellington. Along the way back to base, the ER-2 dipped to 41 kft and also performed a spiral over Ellington to support an ozonesonde launch at the airfield.

Aircraft and instruments: All instruments appear to have worked nominally as far as limited in-flight and quick-look analyses showed. All instruments are ready for the next flight.

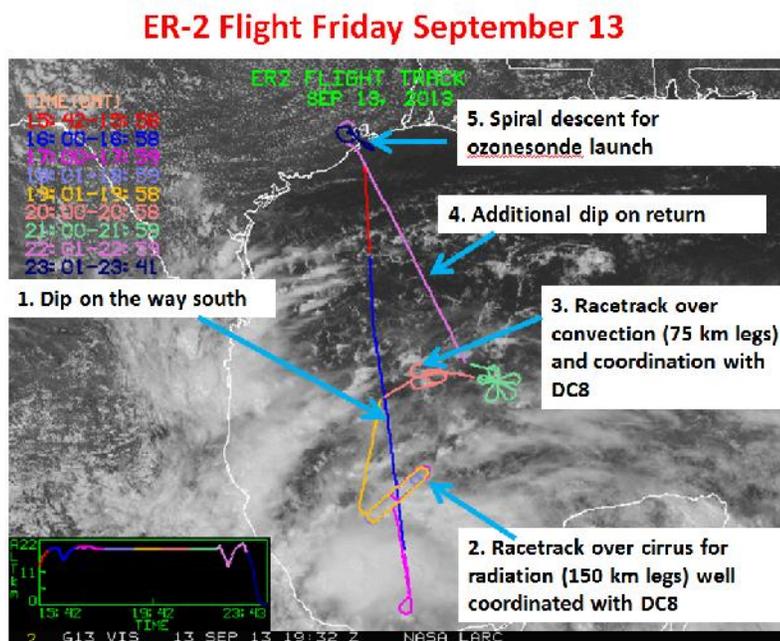


Figure 1. Flight track of ER-2 from September 13 overlaid on GOES image.