High Ice Water Content: B787 Flight Planning and Execution

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Overview

Objective: minimize fuel uplift necessary to comply with B787 FAA Airworthiness Directive AD 2013-24-01

- Dispatcher flight planning
  - Flight planning policy
  - Flight planning tools

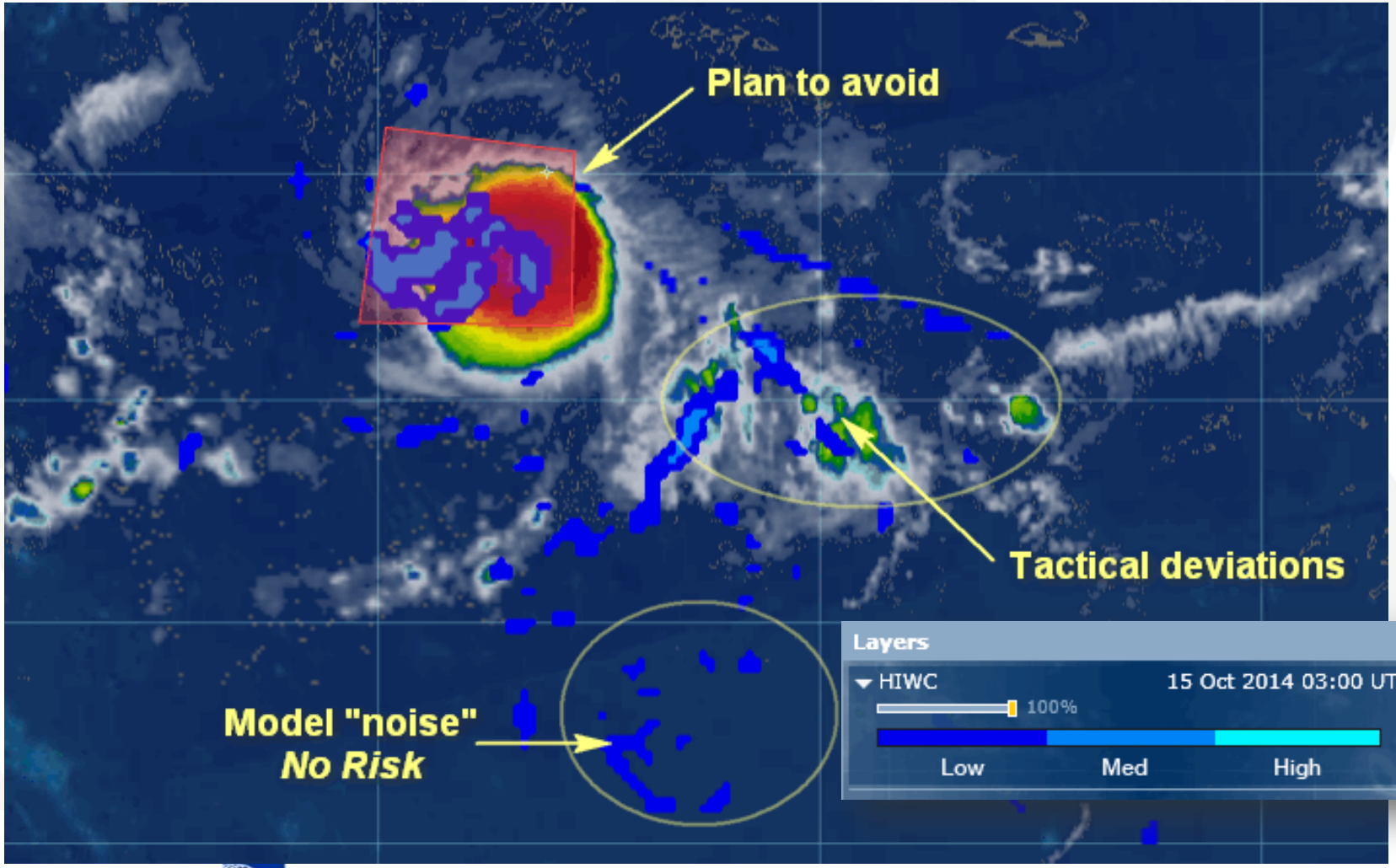
- Flight execution
  - Deviations
  - Dynamic Airborne Reroute Procedure (DARP)

Dispatch B787 Flight Planning & Following

- Flight plan to avoid by **50nm** all areas of HIWC risk associated with Mesoscale Convective Systems (cloud shields greater than 60nm in diameter) in tropical environments (i.e. Inter-Tropical Convergence Zone).
- Use WSI SIGMETs and Flight Plan Guidance (FPG) to help identify MCSs that meet avoidance criteria.
- Discretionary fuel for tactical deviations around isolated convective activity.
- Monitor route for un-forecast convective systems that meet the above criteria.
- Suggest tactical reroute two hours prior to entering an area of newly-forecast HIWC risk, allowing for 50nm lateral avoidance, using the additional fuel on board.

Flight Planning Tools

- Model-based ***High Ice Water Content (HIWC) Forecast Risk*** graphics from United EWINS weather vendor, WSI, Corp.

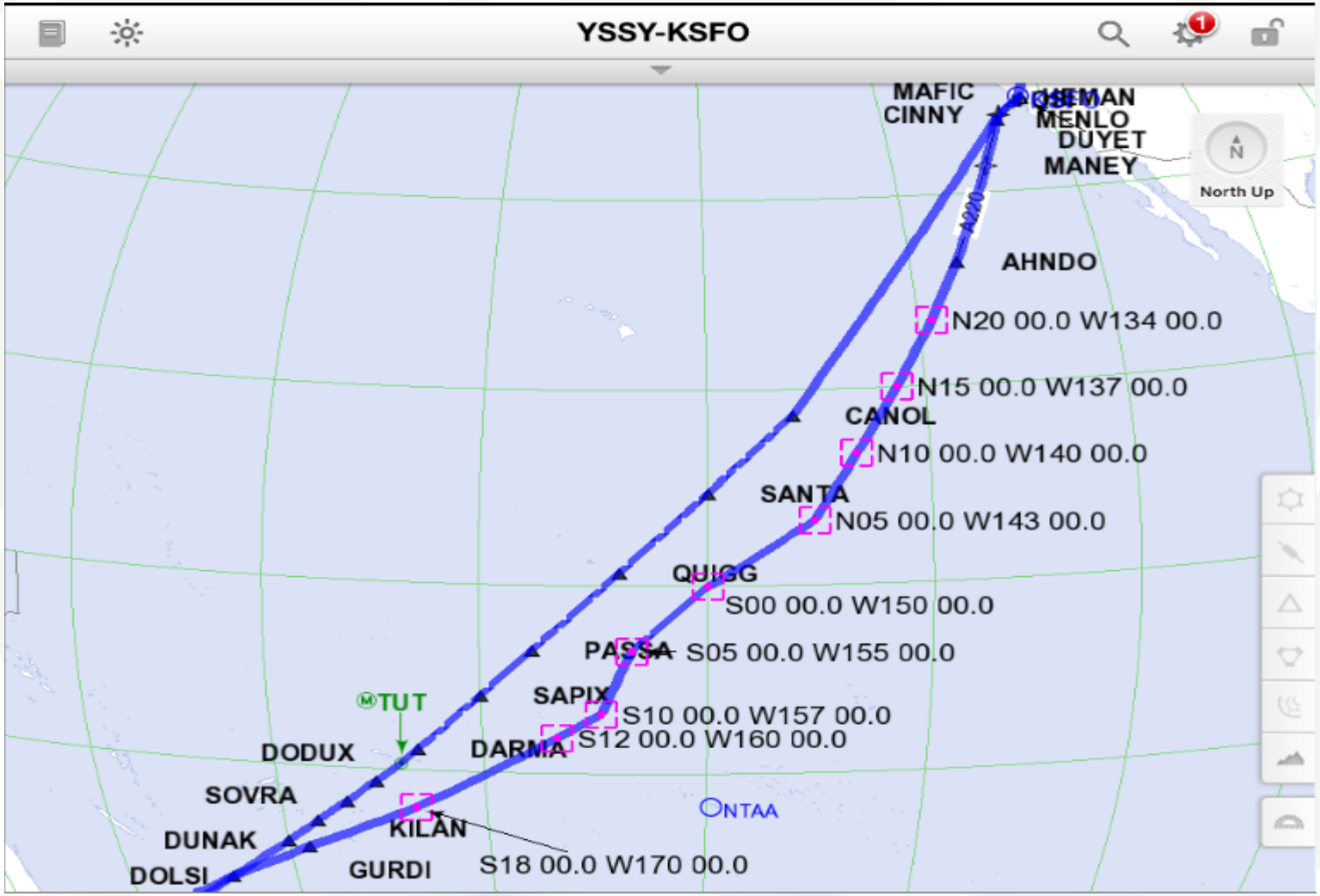


Flight Execution

- Tactical deviations as necessary around convection, giving a 50nm berth if it meets the FAA AD avoidance criteria.
- Perform a Dynamic Airborne Reroute Procedure (DARP) if suggested by dispatch to avoid a new area of HIWC risk
  - o DARP uses Controller Pilot Data Link Communications (CPDLC) to request a route change.
  - o Much easier than requesting a route change via HF radio (the way we used to have to do it)
  - o ATC typically can approve a new routing within minutes of receiving the request.
  - o Almost 100% of DARP requests are approved

DARP Example

- Sydney – San Francisco flight example, rerouted for wind forecast update



Thank You!

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