NASA DC-8
GRIP Campaign
Lessons Learned

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• **Instrument integration period**
  1. Aircraft maintenance crew staff rotation during upload period was disruptive
  2. Important to hold daily science team/aircraft team meeting to stay on top of schedule and issues

• **Flight activities**
  1. Continuing to change flight plan waypoints up to within one hour of departure was very disruptive to flight preparations
     • Suggest locking waypoints down at 3 hours prior to takeoff time and then making real-time changes after takeoff (which occurred in any case)
  2. Science team is empowered to make requests for cooperative flight between other aircraft and satellites
     • Allow flight crews to work timing and navigation activities to accomplish
• Deployment locations

1. Ft Lauderdale
   • Excellent services provided by SheltAir
   • Unable to use DESC contact fuel vendor due to ramp and parking agreements
     • Solved with sole source fuel purchase agreement with SheltAir
   • Embassy Suits Hotel accommodations were very good
   • Excellent shopping/restaurants within walking distance

2. St Croix
   • Bohlke International Airways, Inc. provided prompt aircraft services
     • Issue in not being able to provide air conditioning cart as promised
     • DESC contract fuel was available
   • Very rough runway surface created high wear rate on tires
• **Crew Change during deployment**
  • Assure adequate cross briefing between in coming/out going crews and science teams
  • One possibility is to have at least one-day overlap between outgoing crew and incoming crew (same for mission and platform scientists), and to make a special effort in communication with the incoming folks.
•Diplomatic clearances
  1. Cuba:
  • Letter that ESPO received from Cuba was ambiguous regarding whether it specifically included flight over land or just the international corridors
  • Require 72 hour notification prior to over flight
  • Miami Air Route Traffic Control Center Cuba specialists gave detailed filing instructions to the flight crew and also provided the 72 notification to Cuba. [Jim McGrath jim.mcgrath@faa.gov tel: 305 716 1592; Hank Tracy hank.tracy@faa.gov]
• Diplomatic clearances

1. Venezuela:
   • The State Department chose not to put forward a request to Venezuela
   • Team assumed we would have access to international airspace controlled by Venezuela, but not sovereign airspace
   • DC-8 and a NOAA G-IV aircraft were flying in Venezuelan controlled international airspace and asked to leave
St. Croix Landing After Hurricane Earl Passing

Regarding flight safety it was found that the aviation sources (airport tower, field FBO) were the ones to rely on.

Between RTMM and Xchat Ft Lauderdale had unprecedented sources and quantities of information but lacked the real-time in situ information.

Recommend aircraft team communicate back to science team ASAP the locally observed weather and planned actions.

Resources like Xchat or Iridium phone would provide a reasonable communications link.