20080910H1 Scientist log: (Marks)

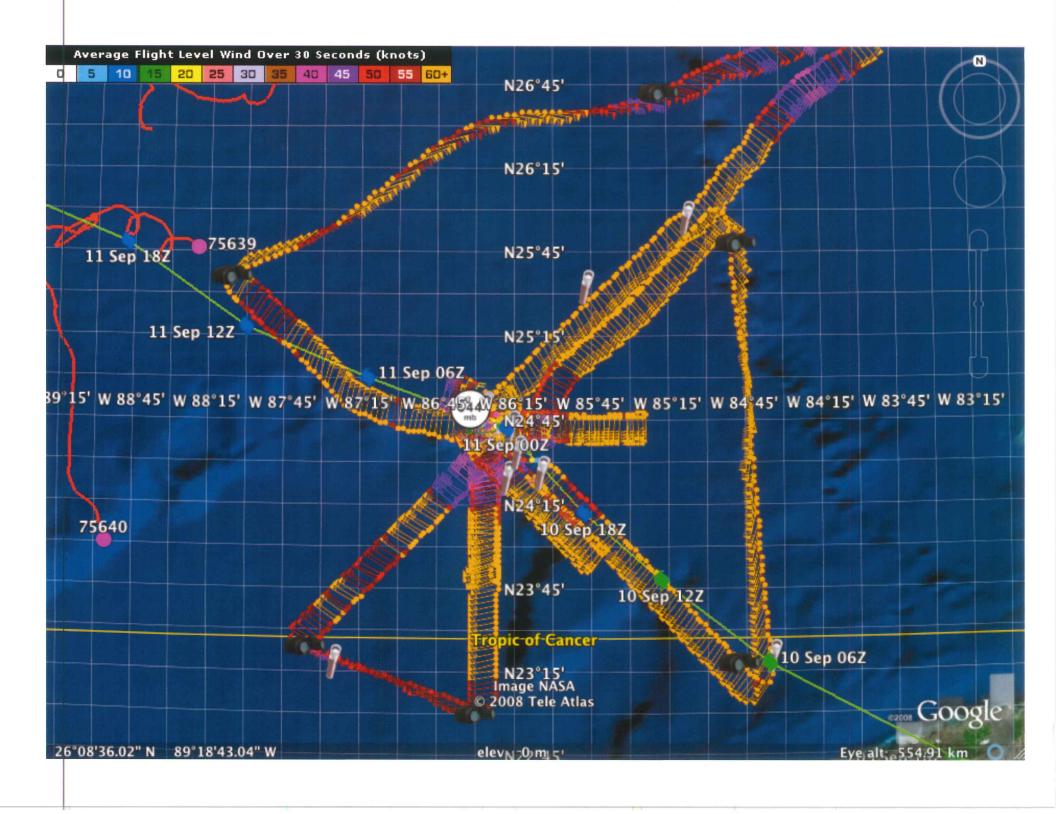| Time | Comment |
|---|---|
| 200255 | TO |
| 201500 | radar data recording on |
| 203800 | AXBT#1 clear 100 fathoms SST 26.5 very shallow mixed layer (again) tracking along N edge of big outer rainband |
| 204953 | AXBT#2 no joy |
| 210000 | AXBT#3 no joy |
| 210930 | AXBT#4 |
| 211830 | turn point on NW side of storm, descent to 8k ft. MSL trk 134 |
| 212105 | droponde #1 launch TK 135 Point (1) start Penetration (1) |
| 213335 | trk 110 deg. now. |
| 213812 | dropsonde #2 |
| 213840 | track 090 toward eye |
| 214959 | dropsonde #3 in eye. |
| 215030 | 070 trk |
| 215130 | trk 135 |
| 215250 | drpsonde # 4 in SE eyewall |
| 220620 | XBT #5 drop SE side |
| 221000 | entered convection SE side pretty bumpy on this side |
| 222100 | end leg turn TK 360 to NE of center |
| 222300 | dropsonde#5 at end of leg 1 Point (2) start Penetration (2) |
| 223000 | In big rainband on SE side like a roller coaster Lots of strong cells. WIsh I had the LF |
| 223900 | flying right down big rainband |
| 225500 | at point (3) turn track to center (225) |
| 225710 | dropsonde#6 at point (3) |
| 232141 | dropsonde#7 NE eyewall |
| 232237 | center xtrap central pressure 949 mb |
| 232408 | dropsonde #8 in SW eyewall TK 225 to point (4) |
| 235000 | Point (4) combo drop AXBT#10 dropsonde #9 TK 110 to Point (5) S of eye |
| 000700 | Point (5) dropsonde #10 turn TK N start Penetration (3) |
| 002000 | rocking and rolling in big outer eyewall S of center |
| 002028 | TA down eye only 8-10 nm across |
| 002900 | center 24 43/86 22 TK NW |
| 003300 | turn 10 nm outside center TK 155 back to eye for QuikSCAT |
| 003545 | in center again Penetration (4) |
| 003700 | SW eyewall drop no launch detect |
| 005100 | turn S of center ioutiside outer eyewall 55 nm S of center TK 360 to center. Penetration (5) |
| 010600 | center dropsonde #12 turn TK 090 24 44/86 27 bad RH and wind |
| 011200 | Bouncing around in E side rainbands |
| 011900 | turn TK 270 back to eye Start Penetration (6) |
| 013505 | dropsonde #13 turn to trk 135 deg back into center start Penetration (7) |
| 020501 | S eyewall dropsonde #14 |
| | |
| 021213 | eyewall dropsonde#15 |
| 021315 | eye dropsonde#16 eye so small tracking through to other side and then come back in, 944 mb, |
| 021500 | turn around again start Penetration (9) |
| 021930 | center fix turn TK 045 for 100 nm, |
| 032950 | land |

Penetrations -- 9  
AXBT -- 10/8 good  
Dropsondes -- 15/

Average Flight Level Wind Over 30 Seconds (knots)

0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60+

N26°45'

N26°15'

N25°45'

75639

11 Sep 18Z

11 Sep 12Z

N25°15'

11 Sep 06Z

89°15' W 88°45' W 88°15' W 87°45' W 87°15' W 86°45' W 86°15' W 85°45' W 85°15' W 84°45' W 84°15' W 83°45' W 83°15'

544
mb

N24°45'

11 Sep 00Z

N24°15'

75640

10 Sep 18Z

N23°45'

10 Sep 12Z

Tropic of Cancer

10 Sep 06Z

N23°15'

Image NASA

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Google

26°08'36.02" N    89°18'43.04" W

elev 0 m

N23°15'

Eye alt  554.91 km

# Lead Project Scientist Event Log

Date __20080910#1__ Flight _____ LPS __Gopal__

AX p ʒs

06ﺍ

| Time | Tme Event To | Position | | Comments |
|---|---|---|---|---|
| 204000 | 204526 | 26·40 | 85·23 | 27·2 |
| 205006 | — | 26·35 | 85·44 | lost BT ?? |
| 210906 | 211156 | 25·59 | 87·19 | lost ? (19·75/ ) |
| 220530 | | 23·57 | 85·21 | |
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MISSION PLAN:  IKE

Prepared by the Hurricane Research Division File: current1.ftk

Aircraft: N42RF   Altitude: FL180-250   Proposed takeoff: 10/2100Z
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TRACK DISTANCE TABLE

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| # | LAT (d m) | LON (d/m) | RAD/AZM (nm/dg) | LEG (nm) | TOTAL (nm) | TIME (h:mm) | |
|---|-----------|-----------|-----------------|----------|------------|-------------|---|
| 0 | MACDILL | | 0. | 0. | | 0:00 | AXBT @ 5 min > 100 fathom |
| 1S | 25 36 | 88 09 | 105/315 | 331. | 331. | 1:27 | Combo @ mid, center |
| 2S | 24 21 | 86 48 | 0/000 | 105. | 436. | 1:55 | |
| 3S | 23 07 | 85 27 | 105/135 | 105. | 541. | 2:23 | |
| 4S | 25 36 | 85 27 | 105/045 | 149. | 690. | 3:03 | |
| 5S | 23 07 | 88 09 | 105/225 | 210. | 900. | 3:58 | Combo @ center, mid SW ,end |
| 6S | 22 36 | 86 48 | 105/180 | 81. | 981. | 4:20 | |
| 7S | 24 21 | 86 48 | 0/000 | 105. | 1086. | 4:48 | |
| 8S | 25 11 | 86 48 | 50/360 | 50. | 1136. | 5:02 | |
| 9S | 24 21 | 86 48 | 0/000 | 50. | 1186. | 5:16 | |
| 10S | 24 56 | 86 09 | 50/045 | 50. | 1236. | 5:30 | |
| 11S | 24 21 | 86 48 | 0/000 | 50. | 1286. | 5:44 | |
| 12S | 25 11 | 86 48 | 50/360 | 50. | 1336. | 5:58 | |
| 13S | 24 21 | 86 48 | 0/000 | 50. | 1386. | 6:11 | |
| 14S | 24 56 | 87 27 | 50/315 | 50. | 1436. | 6:25 | |
| 15S | 24 21 | 86 48 | 0/000 | 50. | 1486. | 6:39 | |
| 16S | 25 11 | 86 48 | 50/360 | 50. | 1536. | 6:53 | |
| 17 | MACDILL | | | 281. | 1816. | 7:51 | |

* Sim has quit (Ping timeout: 180 seconds)
<JGamache-HRD> Frank. I wondered if the program hung last night, because there is only a 3 or so hour window of da
<HRD42> SO working hard just left eye heading to last point in Fig 4 SW of center
<JGamache-HRD> All NHC files received. Long download of tar file proceeding.
<mblack_hrd> Hey all- just woke up after a  pretty good sleep – had xchat window on  and read the  chat
<mblack_hrd> meeting rest of crew for dinner soon – afterwards will work  up track for 43
<JGamache-HRD> Good to hear.  5 or 6 hours at least?
<mblack_hrd> will try to run radar software on mac tonight – i expect things to go smoother
<mblack_hrd> Jgamache– I'll call you around 10 Pm – OK?
<JGamache-HRD> Going well for Frank.  One big advantage is you can look easily and immediately.
<JGamache-HRD> Ok Mike.
<mblack_hrd> 5.5hr
<JGamache-HRD> Not bad for the AM crew.  You've been on it for several days now, however.
<mblack_hrd> I  did try the xhost + last night –no response from  X11–  maybe in wrong shell?
<JGamache-HRD> Dr. Spinrad has seen the first analysis.
<JGamache-HRD> Were you in x11?
<JGamache-HRD> Or did you try to do it from terminal
<mblack_hrd> I  did have a one day break with a full nights sleep, though – heading to Starbucks soon
<mblack_hrd> Yes, in X11 but in bash shell, i  think
<mblack_hrd> will try it from t or  c shell
<JGamache-HRD> Should work.  But you need to discard the first window/xterm and open another to get the right pat
<JGamache-HRD> Bash is fine.
<mblack_hrd> OK
<JGamache-HRD> I'm pretty sure Frank is using the bash shell.
<HRD42> GOOD SO almost done
<HRD42> YES bash
<HRD42> xhost + did not work first time, but I reset and ran it again and it worked
* Fuqing-PSU (~Fuqing@chatting.up.a.storm) has joined #hrd
<JGamache-HRD> How did you reset?
<Fuqing-PSU> Who is using HRD42? Please let me know when the first leg of SOs are available on ftp? Thanks.
<JGamache-HRD> Frank is doing them, Fuqing, and the first set should be available soon.
<mblack_hrd> I am going to Starbucks – then dinner – leaving this open so I  can read traffic– talk in a couple of hour:
<JGamache-HRD> Ok Mile.  See you later.  I hope dinner isn't starbucks.
<mblack_hrd> No, Sam Seltzers– bye
<HRD42> SO coming
<HRD42> ftping
<HRD42> stalled again
<HRD42> tiny little eye and huge wind max out at 90 km
<JGamache-HRD>  It is till coming...at least the first file
<HRD42> how many SO files made it so far the script timed out
<JGamache-HRD> First one is stll coming, so probably one the first.
<JGamache-HRD> Looks like only one came 236161 in size  The so.gz file.
<HRD42> #2 cmingnow
<HRD42> satlled again
<HRD42> Fuqing it is Frank and they are almost all there now
<JGamache-HRD> I think I got the full so_ass file now size 144824
<JGamache-HRD> Wait 5–10 minutes for it to trickle fully to FuqingSO, Fuqing.
<HRD42> Last one is on the way end 2nd leg will start analysis ASAP
<HRD42> all should be there
* Fuqing-PSU has quit (Quit: This computer has gone to sleep)
<JGamache-HRD> Got em.  They are all in FuqingSO directory now.
<HRD42> 2nd analysis underway
* Fuqing-PSU (~Fuqing@chatting.up.a.storm) has joined #hrd
<Fuqing-PSU> we got the SOs and is assimilating
* mblack_hrd has quit (Ping timeout: 180 seconds)
<HRD42> Fuqing I think Jason is hooked. He is like a kid in the candy store. I think I need to apologize to Scott
<Fuqing-PSU> No no.

<HRD42> I told him we will have two positions in the enxt few months - one for Doppler radar and one for DA
<HRD42> second analysis is half done There will likely be only two. First one very interesting
* Sim (~saberson@chatting.up.a.storm) has joined #hrd
<JGamache-HRD> Sorry. Frank. Away for dinner....back.
<HRD42> Sim: Ike is looking a lot like Gilbert in Peter Dodge's paper
<Fuqing-PSU> Frank this is Lily how are you
<HRD42> No worries John I was just telling Fuqing Jason is having a blast.
<Sim> Which paper. Jog my memory?
<HRD42> Big outer wind max and small tiny inner eye
<Sim> I'm glad Jason is doing well. How's Rick.
<HRD42> The 1999 Gilbert paper he did with Burp and I
<Sim> Yes, I remember that structure - my first hurricane flight.
<Sim> There is a thread on tropical storms about it today
<Sim> Things working well now?
<HRD42> I think so. Gopal is with me working on sondes. We are starting P. Chang pattern
<HRD42> rocking and rolling in big outer eyewall S of center
<HRD42> TA down eye only 8-10 nm across
<Fuqing-PSU> wow, no hope in 4.5km for assimilation right
<Sim> Hard down or just down?
<HRD42> restarting Gopal is getting it!!!
<Sim> Great!
<HRD42> analysis for secon leg ending
<Sim> Fuqing-PSU - microwave showed eye same size yesterday. No worries.
<HRD42> radar back up
<HRD42> in eye now
<HRD42> The main game s the outer eye at 80-90 km radius that is where stronest winds and turbulence was found
<HRD42> Stars barely visible in eye
<HRD42> Jason taking lots of pictures
<Fuqing-PSU> Good for him
<JGamache-HRD> The wind file I got from this morning's flight showed that same wind max in the middle, and then a
<Fuqing-PSU> what is the second leg time duration?
<JGamache-HRD> How many passes through the center will you have, Frank for Doppler analysis, 2 or 3.
<HRD42> likely 2 second leg from 2257-2349
<HRD42> I was hoping for a 3rd but crash occured as we passed through outer wind max and didn't recover until eye
<JGamache-HRD> Ok. If it is fairly perpendicular that will be good.
<Fuqing-PSU> Is 2nd leg SO ready yet?
<Fuqing-PSU> Frank, FIM ensembles slow our ENKF realtime, I thought they will not do it now
<Fuqing-PSU> ????No response on 2nd SOs??????
<JGamache-HRD> I don't think analysis is finished, yet, Fuqing. I don't see the files coming yet.
<HRD42> analysis complete SO working
<JGamache-HRD> Analysis files just started trickling in.
<HRD42> That is good news. Bad news is that since Jim reset the radar system the TA data looks very strange.
<HRD42> The velocity seems to be stobing high and low as the antenna spins. Never saw anything like it
<JGamache-HRD> I wonder if the "Happy Box" stopped working right.
<JGamache-HRD> That turns the new INE data into something the present data system can use.
<HRD42> I don't know but Jim just fixed it Phew
<HRD42> In big outer band S of center again
<HRD42> SO we still did not get any Doppler in the inner core this direction Maybe on recip Almost done with QuikSC,
<JGamache-HRD> Remember, Frank, that if you do a third analysis, use 48 hour clock, and keep the date a the date th
<JGamache-HRD> Will you be doing superob assimilation tomorrow morning, Fuqing?
<Fuqing-PSU> probably not if there is no compelling reason. we are tired
<JGamache-HRD> Ok. It will still be more training with Mike Black in the morning.
<JGamache-HRD> But pressure will be off whether it works or not.
<Fuqing-PSU> I plan to fly tomorrow or Friday but Sim said noo seats
<Sim> Haven't heard otherwise, but you'll have a chance this year.
<Fuqing-PSU> Thanks.
<Fuqing-PSU> Still no 2nd SOs? EnKF is on good pace tonight

&lt;JGamache-HRD&gt; Takes 15-20 minutes, Fuqing, from when started.
&lt;JGamache-HRD&gt; First file coming in.
&lt;JGamache-HRD&gt; As usual so_ass did not come in.  Frank will have to send that manually.
&lt;HRD42&gt; John look at RZ mean from 2nd analysis nice double eyewall and the moat air seems to be heading outward
&lt;HRD42&gt; WIll do as soon as the ftp relinquishes its hold
&lt;JGamache-HRD&gt; I take it back.  Second file (so_ass) coming in
&lt;HRD42&gt; 2nd file going on its own Yowza
&lt;JGamache-HRD&gt; Still waiting for download to finish.  Looks like a good flight for Dr. Spinrad.
&lt;HRD42&gt; You bet
&lt;JGamache-HRD&gt; It actually is sending a seconf file automatically Frank.
&lt;HRD42&gt; Bob Black is yacking with him now
&lt;HRD42&gt; 3rd file going
&lt;JGamache-HRD&gt; All 3 coming in without a problem.  No need for manual for a change.
&lt;HRD42&gt; Yessir
&lt;Fuqing-PSU&gt; are we having 3rd leg SOs?
&lt;HRD42&gt; Not this time sorry. radar had problems and there was an early satellite over pass, but the two we sent look
&lt;HRD42&gt; radar_slicer really shows double wind max in R-Z xross section
&lt;HRD42&gt; It did it all on its own John Ataway
&lt;Fuqing-PSU&gt; we got the 2nd SOs
&lt;JGamache-HRD&gt; It's not robust, but if SATCOM is good, which it is today, it works.
&lt;Fuqing-PSU&gt; Frank, the FIM Chris Harrop floods the TACC queues
&lt;HRD42&gt; Send him and email and ask TACC to release some wues
&lt;HRD42&gt; Send John Cazes or Bill Barth email to free up some queues. Bouncing around in E side rainbands
&lt;Fuqing-PSU&gt; Yonghui said he can manage to sneak in between; 10-20 min delay due to him so far
&lt;HRD42&gt; Don't hesitate to ask them to change the queues to be a little more considerate
&lt;Sim&gt; New microwave almost looks like a very large, third eyewall
&lt;Sim&gt; New guidance further north, cluster between Corpus and Houston
&lt;JGamache-HRD&gt; Vertical profiles from that second pass are quite beautiful and fairfly classic.  The 1.5 km resolution
&lt;Fuqing-PSU&gt; Frank, I did send Chris an email since Yonghui will run the EnKF ensemble forecast for tonight as well
&lt;JGamache-HRD&gt; First leg profiles look great too.  One of the best 3d and profile presentations I've see in a while, pa
&lt;JGamache-HRD&gt; Second eyewall cutting off most of BL inflow into inner eyewall now.  Not all, but most.
&lt;JGamache-HRD&gt; Great stuff tonight, and things worked well on analysis and SATCOM side, so without a third leg, I a
&lt;Fuqing-PSU&gt; Things go well with EnKF so far; Only 20min delay due to FIM
&lt;JGamache-HRD&gt; Talk to you soon, Frank, Sim, and Fuqing.
&lt;HRD42&gt; Outstanding John sleep. I am going to do a third analysis from S to E just to practice. If it works I might sen
&lt;JGamache-HRD&gt; Ok.
* JGamache-HRD has quit (Quit: Leaving)
&lt;HRD42&gt; I want to capture the feature Sim mentioned. It seems as if a strong band is forming in between tiny eye an
&lt;Fuqing-PSU&gt; Frank, thanks.
&lt;Fuqing-PSU&gt; Frank, how is Jason doing?
&lt;HRD42&gt; Very good. It is getting bumpy up here and he is loving it 3rd analysis looks very interesting just one side of
&lt;HRD42&gt; Analysis done workign on SO if you want them
&lt;Fuqing-PSU&gt; We will not assimilating the 3rd SOs but it is good to have it.
&lt;HRD42&gt; I will send it then. We are fixing cneter now for 0300Z then heading for Tampa
&lt;Fuqing-PSU&gt; Good flow for EnKF so far; EnKF of second leg complete 15minutes ago; now full free run
&lt;HRD42&gt; Sim analysis shoudl be heading to AOML ftp site
&lt;HRD42&gt; Go go go. I can't wait to see results. Rick Spinrad is very impressed with the whole process.
&lt;Fuqing-PSU&gt; Timing: less than 1hr after your SO in ftp and less than 2hr after last SO taken
&lt;Fuqing-PSU&gt; EnKF analysis availablle earlier than GFS analysis at 00Z become available
&lt;HRD42&gt; SOs there from 3rd analysis
&lt;HRD42&gt; WOW fantastic timing
&lt;Fuqing-PSU&gt; Thanks.
&lt;HRD42&gt; Is that timing include the delay for FIM?
&lt;Fuqing-PSU&gt; Yes, that will save 20 min at least
&lt;HRD42&gt; Sim tell John the SO ftp ran automatically to completion again
&lt;HRD42&gt; Fuqing How is Yonghui holding up?
* mblack_hrd (~mblack@chatting.up.a.storm) has joined #hrd

<Fuqing-PSU> He is doing great.
<Fuqing-PSU> I am blessed to have him on my team. Don't steal him just yet.
* mblack_hrd has quit (Quit: This computer has gone to sleep)
<HRD42> No I want to support him at PSU, I will try to get Jason though
<HRD42> 3rd Doppler analysis mainly SE of center shows outer eyewall contracted from near 80 km radius to near 60
<Fuqing-PSU> I thought some day he will follow my track in univ but HRD will be a good choice as well
<Fuqing-PSU> what is SFMR or sonde wind max
<HRD42> 100 kt at 80 m in eyewall last pass, but r-z mean in inner eyewall more like 40 m/s while outer one close to