

STAN GOLDENBERG - HRJ

11/10/10

320 POT

HTIP

1

~~Hypothesis~~

① → obs not projecting properly onto the mechanisms that intensifies (weakens/maintain vortex).

~~Rephrase the processes involved in~~
[Data is not correcting model's initial conditions.]

J. Beven - right project to needs of forecaster - but is it projecting to what the model needs.

Jeff - What does model NEED -
→ is it projecting to what model NEEDS for intensity prediction -

② Model Physics is incorrect
[Error - our understanding of output is incorrect]
- must examine suite of Physics sensitivity.

③ Handle 2nd order ^{mesoscale} structure -
After initialization / vortex is complete -
(the SHOCK issue) -
[COAPS used bogus - got excellent results]

④ Initializing imperfect model -
[assumptions in DA system tends to ignore model imperfections - tries to take into account but does it crudely -
→ Approach - 1) Make error smaller (Recommendation) 2) Represent it in background covariance error of DA -

(2)

→ Use DA & for process to TRAIN
the model —

regarding Bulk parameterization → (air-sea
fluxes) — are
they sufficient for providing boundary
conditions for hurricane (MTH)
exercises]

(first 1) Is important IC error associated w/
work or sea-storm environments? —

(first 2) — How good is good enough for
model physics —

~~→ approach~~ — work focuses climate
synthetic data —

→ Use synthetic conditions to see how good
IC really are

[Found errors in model by cycling
model (cold tops, droizzling, etc.) —

Helps take out biases]

[For G model — since global models do so
well with track — why r we running
big work for regional models rather than
fine grid — 2 way coupling w/ regional
model —

(3)

→ global maybe NOT better than regional model —

Maybe can't afford to do it —

→ But must have buffer zone —

→ ? — Why not put in new model

In global model —

2 way testing is over it
it can be done

Global → Eric & others are trying to
do global scale —

There are problems/issues with it

→ ~~Applicable to #1~~

→ Cycling → HWRF needs to try & do
cycling (haven't done it)

→ Phys 2: development from ensemble use have
different goals — must develop adequate
system — to capture all the unresolved
scales — (Related to how good are
our physics — how do we add physics
uncertainties)

→ Bring in experts from other fields —
how might — boundary layer, AS —
(Gromov?) & done microphys —

→ Add value to numerical

(4)

→ Ob3 wants to work w/ NTK
to convey an ~~idea~~ ^{idea}
understand how NTK (we should)
interpret them —

→ [Added by Mike H. —
— how do ~~the~~ ^{the} ~~inductors~~ ^{inductors} —
— what are essential physics?
= " " KEY PROCESSES
that need to be represented?
→ must focus & deal w/ main
mechanisms for spin gap with
(inner core & rest)
⚡ (what are Mike's 2 main
mechanisms?) —

Hypothesis

Pam
Johnson

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Part
1

- 2- Physics - invalid deficient
- 3- Shock Model with the data - not all will secondary tertiary
- 4- different approach DA system assumption we do not represent it well - approach addresser's #1 Model Error - Make it smaller

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Questions

PAM-3

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- 1) Volt para = Hyp2 Major Hurricane Intensity Forecast Microphysics - separate
- 2) Type of storm - Initial condition Hyp1
- 3) How good is good enough approach Work towards simulating data
- 4) Recommended Approaches
- 1) Physics development develop a system to capture the range of uncertainty under 1 + 2

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Represent it in the ops

PAM-2

- 2) Bring in experts from other fields - #2
- 3) Add value to large scale #1
- 4) Obs team to work with NHC on uncertainty
- 5) How does a tropical cyclone intensity?

PAM-4