2020 HFIP Annual Workshop Chat -
Day 3 (Nov 19)

Kate Musgrave - NOAA Affiliate12:03 PM
Jennifer, can you hit the hide button for the screen sharing message?

Thank you!

Matthew Onderlinde - NOAA Federal12:10 PM
did you look at any cases where the ensemble solutions were bimodal? What happens in those cases?

Ghassan Alaka - NOAA Federal12:11 PM
@Alan, How would this monte carlo approach work for a case with a lot of track uncertainty like Hurricane Joaquin?

(I guess that is similar to Matt's question)

Jason Sippel - NOAA Federal12:11 PM
Lagged ensembles is a great idea. create an ensemble using the current and past 2 cycles

Julian Heming12:11 PM
The UK Met Office ensemble MOGREPS-G is time lagged.

Alan Brammer - NOAA Affiliate12:14 PM
So yeah, at the moment I use a single center per modelling center so the track spread can become bimodal but it does limit more than raw. Each center's ensemble is processed separately though, so we do retain up to 5 distinct tracks and relative spread.

Alan Brammer - NOAA Affiliate12:15 PM
@julian I'd be very interested in UK met wind radii forecasts if available. The tracks we have available only have location and intensity.

Jun Zhang - NOAA Affiliate12:27 PM

@Ping, there is a time lag.

Jason Sippel - NOAA Federal12:32 PM

@Ping - I think we found previously that your changes were causing weak storms to intensify too much. Has that changed?

Robert Rogers - NOAA Federal12:35 PM

"FRAM", like the air filter :-)

Frank Marks - NOAA Federal12:41 PM

@Ryan really nice to see the possibilities for the rain probabilities. I would like to get together and chat about what we can do moving forward.

Julian Heming12:44 PM

@Alan We have included wind radii data in our adeck format MOGREPS-G (and deterministic) products since 2018 (i.e. after the Irma case you showed). If you cannot see them in the more recent data let me know and I will investigate.

Jason Sippel - NOAA Federal12:44 PM

A recurring theme from the past few days is that it would benefit just about everyone to improve HWRF track

Ryan Torn12:45 PM

Or at least make sure HAFS has similar track errors to the global models.

Frank Marks - NOAA Federal12:45 PM

@Jason I think another consistent theme is issues with validation of model 34 it wind radii that we need to assess whether the model radii are consistently calculated as in operations.

Ryan Torn12:46 PM

Thanks Rob. I have seen this written in many places, but not heard Frank actually say it :)

Jason Sippel - NOAA Federal12:46 PM

@Agnes - your changes will be in H221

Ryan Torn12:46 PM

@Frank, Would be happy to talk. Let's set something up after Thanksgiving.

Frank Marks - NOAA Federal12:47 PM

@Ryan sounds good. I will be in Boston dealing with family issues until 3 December, but I will be available after then.

Frank Marks - NOAA Federal12:48 PM

@Ryan I have been using EPHRaM or ensemble probabilistic hurricane rain accumulation model

Ryan Torn12:50 PM

@Frank I will send you an email after Thanksgiving to send something up. We will make sure to use EPHRaM going forward.

Jason Sippel - NOAA Federal12:50 PM

@Agnes - are the 15-min winds in the operational data stream or is that something experimental? Sorry I missed that detail

Frank Marks - NOAA Federal12:51 PM

Great! Looking forward to getting back to some science. I had to table a lot of that effort with the busy season.

Xuguang Wang - NOAA Affiliate12:51 PM

@Agnes . are you assimilating AMV above 125mb (cut off by GSI)?

Frank Marks - NOAA Federal12:53 PM

@sikchya I am not able to capture chat so far. Can you or Youngsun start to capture the chat and start the google doc?

Youngsun Jung - NOAA Federal12:53 PM

Sikchya is already doing it

Frank Marks - NOAA Federal12:53 PM

Great! Thanks.

Dorothy Koch12:55 PM
Access to ORION should largely fix these issues
Frank Marks - NOAA Federal12:57 PM
@Dorothy this all happened before we got things working on Orion. Actually we are still finalizing the data access on Orion. Hopefully that will happen in the next few weeks.
Dorothy Koch12:57 PM
I understand... this sort of situation is driving the ORION aquisition
As well as move to the cloud
Frank Marks - NOAA Federal12:57 PM
@Louis we can probably help you get on Orion if you still need access.
Youngsun Jung - NOAA Federal12:58 PM
@Frank, this project is completed.
Mrinal Biswas1:00 PM
I agree access to input datasets on Orion is critical.
Frank Marks - NOAA Federal1:00 PM
@Youngsun that is too bad. This illustrates one of the disconnects we have with NOFO projects that we need to address, especially with DTC support ending. DTC supported the community to use HWRF on Jets. What are we going to do to support NOFO PIs on the new machines?
Mrinal Biswas1:01 PM
We have ported HWRF to Orion.
Kate Musgrave - NOAA Affiliate1:01 PM
@Biswas I'll get in touch with you, we have another person trying to run HWRF on Orion and running into problems
@Biswas putting in tickets failed utterly since we were not running on Cheyenne
Mrinal Biswas1:02 PM
Sure. I am almost done testing HWRF to run with GFSv16 datasets too
Alex Libardoni - NOAA Affiliate1:02 PM
@Kate we may have that sorted out, at least the public version now
Mrinal Biswas1:05 PM
@ Frank, we can help people getting started on Orion. Please ask interested participants to write to the HWRF forum. We will do our best.
Youngsun Jung - NOAA Federal1:05 PM
Please stay at 2:45pm for a virtual group photo.
Frank Marks - NOAA Federal1:07 PM
@Biswas Great! Thanks for the offer.
Kate Musgrave - NOAA Affiliate1:09 PM

@Biswas, Thanks!
Jason Sippel - NOAA Federal1:13 PM
Fully utilizing these developments also requires fully cycling the state in hwrf
Peter Black - NOAA Affiliate1:15 PM
@Xuguang: Great work with these new data sets.
Xuguang Wang - NOAA Affiliate1:15 PM
@Peter thanks!
Jason Sippel - NOAA Federal1:16 PM
@Xuguang - we could really use a SO procedure to process TDR data in GSI instead of the thinning we have now
Xuguang Wang - NOAA Affiliate1:16 PM
@Frank I'd like to discuss with you more on GBR assimilation for HAFS and RRFS
Jason Sippel - NOAA Federal1:16 PM
Something to think about
Frank Marks - NOAA Federal1:16 PM
@Xuguang I think the results are very exciting, especially as HFIP starts to focus more on landfall impacts
Scott Sandgathe1:17 PM
@Xuguang: Nice presentation. (you are not muted)
Xuguang Wang - NOAA Affiliate1:17 PM
@Jason, yes, sure. Given the 5-50% additional improvement as a result of SO, we should transition to HWRF soon
Frank Marks - NOAA Federal1:17 PM
I think having an analysis with GBR added during and after landfall will be invaluable for NWS WFOs
Xuguang Wang - NOAA Affiliate1:18 PM
@ Thanks Scott for your reminder :)
Robert Rogers - NOAA Federal1:18 PM
nice @Xuguang, as Frank mentions, our emphasis for observational sampling, currently realized through IFEX, will broaden to incorporate the full spectrum of hazards at landfall. TC wind structure is obviously an important component of that.
Frank Marks - NOAA Federal1:20 PM
@Xuguang Maybe we can set up a video chat with @Jason after Thanksgiving.
Xuguang Wang - NOAA Affiliate1:23 PM
@ Frank @ Robert Agree. I'd like us to work together to incorporate DA (GBR and other obs) to expand the spectrum from ocean to landfall
@ Frank @ Jason Video chat after Thanksgiving would be great
Ghassan Alaka - NOAA Federal1:25 PM

@Frank @Xuguang @Jason, can you keep me in the loop as well?
Frank Marks - NOAA Federal1:25 PM
@Gus definitely!
Jason Sippel - NOAA Federal1:26 PM
@Gus, are we gonna convert you to a DA person too? :)
Xuguang Wang - NOAA Affiliate1:26 PM
@Gus welcome to the DA "club" :)
Frank Marks - NOAA Federal1:28 PM
@Dorothy and @Youngsun the DTC process has been the engine that makes HFIP HWRF developments T&E successful. I do not see that from EPCI yet as we move forward. To me this is a walk link in UFS. Weak link
Frank Marks - NOAA Federal1:30 PM
If we want HAFS to succeed we need to continue providing this capacity to any funded PIs as we try to expand community participation in the UFS hurricane application team
Youngsun Jung - NOAA Federal1:30 PM
@Frank, there has been offline discussion about this. We can discuss it later.
Frank Marks - NOAA Federal1:30 PM
Thanks @Youngsun. I do not think that this aspect of HFIP's success has been recognized by UFS.
Frank Marks - NOAA Federal1:32 PM
I do not see EMC having the resources to support all the collaborations moving forward
Peter Black - NOAA Affiliate1:51 PM
Avichal- when will you be ready to test ocean obs input in various model combos, like aircraft deployed Alamo profilers and aircraft SWH observations, for instance?
Avichal Mehra - NOAA Federal1:52 PM
@Pete: I will discuss that in my next talk.
Peter Black - NOAA Affiliate1:53 PM
@avichal- Great!
Peter Black - NOAA Affiliate1:57 PM
Bill- you should patent this work. You would be rich, as it seems everyone is using your multistorm moving nest graphic.
Peter Black - NOAA Affiliate1:59 PM
Also you, Xuejin. Great work!
Wei Yu - NOAA Affiliate2:01 PM
Any concerns for moving the domain, If multiple storms existed ?
For moving nest.
Sundararaman Gopalakrishnan - NOAA Federal2:01 PM

@Peter Yes! this is a hard project and backbone of HAFS- so far so good - fingers crossed though ..
William Ramstrom - NOAA Affiliate2:02 PM
@wei Multiple moving nests need some further development, but the existing code has been designed with that in mind as our next extension.
Jun Zhang - NOAA Affiliate2:05 PM
@Xujin, we also developed the idealized capability to test the impacts of moving nests on TC structure.
Xuejin Zhang - NOAA Federal2:05 PM
Yes. For testing dynamics and physics.
Man Zhang - NOAA Affiliate2:07 PM
@Bill and Xuejin It would be cool to simulate the Fujiwhara effect.
Zhan Zhang - NOAA Federal2:09 PM
A good case to test is Laura and Marco this year
William Ramstrom - NOAA Affiliate2:10 PM
Yes that would be a good stress test
Stanley Goldenberg - NOAA Federal2:13 PM
The verification slide results would be much easier to interpret by showing skill rather than actual values. Skill vs. an appropriate baseline
Andrew Hazelton - NOAA Affiliate2:14 PM
@Morris, there weren't really many cases in those areas with large errors in the West Atlantic for 2020. What's going on there?
Stanley Goldenberg - NOAA Federal2:22 PM
Morris — would be interesting to see statistics like. FSP and also stratification by initial intensity
Morris Bender - NOAA Federal2:22 PM
andy bit confused what you mean
Andrew Hazelton - NOAA Affiliate2:22 PM
There was a large gap in the tracks between Isaias and Teddy that didn't have any actual TCs this year but showed up in the gridded error plot
Morris Bender - NOAA Federal2:22 PM
2020 t shield did have a lot of error in west pacific not sure why
remember this is verifying position
Andrew Hazelton - NOAA Affiliate2:23 PM
Maybe it was based on where the forecast tracks were
Morris Bender - NOAA Federal2:23 PM
exactly again i encourage you to try the monotonic tracer advection scheme it is easy to get working just a namelist change
Frank Marks - NOAA Federal2:25 PM

@Curtis could you use a large coarser res outer domain and either moving or fixed high-res nbests within the large domain?

Morris Bender - NOAA Federal 2:26 PM

meant to say replace the monotonic with the positive definite advection scheme .again just a namelist parameter

Xuejin Zhang - NOAA Federal 2:26 PM

Does CAM couple to ocean component yet?@Curtis

Frank Marks - NOAA Federal 2:35 PM

@Curtis some of the hurricane microphsyics/radiation research might help you address the rain bias issue.

Evan Kalina - NOAA Affiliate 2:36 PM

Could the high QPF/reflectivity bias be related to not using a deep convective parameterization? Is that allowing CAPE to build up excessively before the energy gets released, contributing to heavier rain rates?

Curtis Alexander - NOAA Federal 2:40 PM

@Frank We are envisioning having fixed (perhaps moving) nests at 1-km-ish for the Warn On Forecast System that would be initialized from the 3-km RRFS over North America. What we really want to do is get away from a regional grid (i.e. NAM parent or RAP) running at the same resolution as the global grid.

Curtis Alexander - NOAA Federal 2:43 PM

@ Xuejin -- No the CAM isn't coupled to the ocean yet, but we do have a funded JTTI project with NCAR to begin coupling the RRFS with the National Water Model that would lay the groundwork (no pun intended) for coupling with other earth system components such as the oceans.

Curtis Alexander - NOAA Federal 2:46 PM

@Frank, @Evan -- Regarding the QPF/reflectivity bias -- we don't see the bias in the current HRRR-era predictions that use nearly the same physics as these FV3 LAM tests, so we may need to look more closely at FV3 dynamics options.

Evan Kalina - NOAA Affiliate 2:48 PM

Thanks Curtis!

Frank Marks - NOAA Federal 2:49 PM

@Curtis Thanks. I am particularly interested in seeing how the microphysics/radiation physics interactions you are seeing in SRFF might relate to issues we see in HAFS

Peter Black - NOAA Affiliate 2:52 PM

@Avichal- also waves from aircraft systems SWH in real time

Frank Marks - NOAA Federal 2:53 PM

@Avichal will the ocean models be a regional domain fitting on a face of the cubed sphere?

Curtis Alexander - NOAA Federal 2:53 PM

@Frank -- Absolutely...continued communication on this.

Frank Marks - NOAA Federal 2:53 PM
Great!
Avichal Mehra - NOAA Federal 2:57 PM
@Frank: Yes, that is the current configuration. But we need to explore other options as well keeping in mind out future requirements.
Frank Marks - NOAA Federal 3:12 PM
@Xiaomin seems there may be an opportunity for your LES comparison approach to evaluate the PBL physics for HAFS.
Jun Zhang - NOAA Affiliate 3:13 PM
Nice suggestion! @Frank
Frank Marks - NOAA Federal 3:14 PM
@Chunxi do you calculate 34 kt radius from the center out or from out to center?
Sundararaman Gopalakrishnan - NOAA Federal 3:14 PM
@Chunxi @Avichal @Andy: Andy did some work to make corrections to EDMF-TKE. He is running those changes in this year HREX. Would recommend Andy to coordinate.
Xiaomin Chen - NOAA Affiliate 3:15 PM
@Frank Thanks. Yeah, the LES results indicate YSU tends to overestimate the intensity too. Like to talk to Chunxi for more details
Andrew Hazelton - NOAA Affiliate 3:15 PM
Yeah I'm wondering if the improved R34 is due to the changes we made to K/L
Frank Marks - NOAA Federal 3:15 PM
Good idea
Andrew Hazelton - NOAA Affiliate 3:15 PM
Based on these results
Would be interesting to see if SASAS changes inflow angle at all
Frank Marks - NOAA Federal 3:16 PM
@Chunxi your example shows that we need to rethink how we compute 34 kt radii. We need to use a common approach that NHC agrees would work for them.
Jun Zhang - NOAA Affiliate 3:17 PM
The small bias in RMW of YSU runs may be related to the high positive intensity bias.
Zhan Zhang - NOAA Federal 3:18 PM
@Chunxi have you done stratified verification to see how different schemes performed for weak/strong storms?
Frank Marks - NOAA Federal 3:20 PM
@Chunxi Xiaomin Chen at AOML has a LES approach to evaluate PBL schemes like YSU, MYNN, EDMF-TKE.

chunxi zhang - NOAA Affiliate3:30 PM
@ Frank I think it is out to center
Andrew Hagen - NOAA Federal3:31 PM
With Dorian, there was a center reformation near the virgin islands. This threw off the track forecasts from all the models
Timothy Marchok - NOAA Federal3:31 PM
@Chunxi: Excellent talk! @Frank: re diagnosing R34 from models... When I originally wrote the radii code ~15-20 years ago, in discussions with NHC specialists I asked if I should report for a fcst wind value from an individual grid point if >34kts, or should I do any averaging. The consensus was to go with a single point to match observational procedures where, as best I recall, NHC would be able to diagnose an observed R34 in a quadrant based on a single, reliable observation.
Sundararaman Gopalakrishnan - NOAA Federal3:35 PM
@Man Zhang Think that the size problem may be from dynamics too..
James Franklin - NOAA Affiliate3:37 PM
Tim, I don't recall the details of the conversations 20 years ago, but I'm sure the forecasters would have wanted to know the farthest radius of 34-kt winds because that's what we're supposed to be trying to forecast. Of course, the chances of locating a small area of 34-kt winds in the model is 100%, while the chances of seeing it in observations is far less than that.
Jun Zhang - NOAA Affiliate3:39 PM
@Man, PBL and/or horizontal diffusion parameterization are important for storm size forecasts too. It is possible that the alpha parameter in the PBL scheme needs to be reduced further to reduce the large size. bias.
Man Zhang - NOAA Affiliate3:42 PM
@Jun, Thanks. HWRF suite uses H-EDMF with namelist options. We would be happy to talk to you later. with HWRF namelist
Jun Zhang - NOAA Affiliate3:43 PM
Sounds good. Thanks @Man. We can chat offline.
Frank Marks - NOAA Federal3:44 PM
@Tim & @James Thanks for the background. With all of the new model improvements and evolving observational resources we may want to revisit how best to provide what NHC requires as a means of better matching observations and model results. As we develop the HAFS analysis we should be able to see how observations and models match or not.
Frank Marks - NOAA Federal3:45 PM
I also appreciate @James' comment about if R34 is outside the radii of a standard 105 nm Alpha pattern that the obs are very sparse and noisy when estimating R34..
chunxi zhang - NOAA Affiliate3:47 PM

@ Frank @ Xiaomin It is important to use LES to evaluate and improve the PBL schemes. It would be great if we could have a discussion later.

Frank Marks - NOAA Federal 3:47 PM

I think the R34 issue is similar to the way we are examining what the Vmax is when we have very high temporal resolution information from a model that we strobe every 3-6 h to provide Vmax, when there is really a lot of variability from time step to time step.

Frank Marks - NOAA Federal 3:48 PM

@Chunxi I think Xiaomin has a paper in review that details his approach. It is based on George Bryan's LES approach.

Xiaomin Chen - NOAA Affiliate 3:49 PM

@Chunxi Good idea. I could send you a copy of the paper. We raised several methods to improve various types of PBL schemes.

Peter Black - NOAA Affiliate 3:49 PM

@avichal- have to jump to WMO webinar. Talk with you later. Great sessions today.

chunxi zhang - NOAA Affiliate 3:51 PM

@ Frank Thanks, I will wait till Xiaomin's paper get published

chunxi zhang - NOAA Affiliate 3:54 PM

@ Xiaomin Thanks, I can wait. Hopefully, your paper will get accepted soon.

Xiaomin Chen - NOAA Affiliate 3:54 PM

@ Chunxi Thanks. Will let you know

Man Zhang - NOAA Affiliate 3:57 PM

@gopal. Agreed. especially considering FA is not fully compatible with in-line physics in FV3 dycore.

Zhan Zhang - NOAA Federal 4:03 PM

@Frank Agree with your comments about high temporal resolution from model. HWRF did output RMW at every time step, and we do see high fluctuations of RMW.

Ben Woods - NOAA Affiliate 4:06 PM

@Evan, enjoyed your presentation!

Evan Kalina - NOAA Affiliate 4:06 PM

Thanks Ben!

Ghassan Alaka - NOAA Federal 4:06 PM

@Zhan, does HWRF output high-frequency wind radii (R34) information?

Frank Marks - NOAA Federal 4:07 PM

@Zhan I suspect the same is the case with R34. Maybe even more variability than Rmax

Bin Liu - NOAA Affiliate 4:07 PM

@Evan Do we need to rebuild the forecast model to enable running with CDEPS, or we can enable building the model with both HYCOM and CDEPS?

Zhan Zhang - NOAA Federal4:07 PM

@Gus Only the location of Vmax

Dan Rosen4:09 PM

@avichal. @evan. We have discussed using CDEPS for boundary conditions but it requires some work in CMEPS. The level of effort and use case needs to be discussed.

Frank Marks - NOAA Federal4:10 PM

@Frank Can you elaborate on Cloud use for HFIP?

Avichal Mehra - NOAA Federal4:10 PM

@Dan: Sure, lets plan to do so.

Evan Kalina - NOAA Affiliate4:11 PM

@Bin, currently the call to compile.sh is being modified in the following way to build the model with the CDEPS data atmosphere: ./compile.sh "$FV3" "$target" "DATM=Y HYCOM=Y REPRO=Y 32BIT=Y CMEPS=Y CDEPS=Y" 32bit YES NO. I believe we need to rebuild the model if we want to use DATM=N, but I am not certain. I will talk more with Ufuk and find out.

Frank Marks - NOAA Federal4:11 PM

@Goapl I think you might want to explain what HUG is and how it can help HFIP users.

Sundararaman Gopalakrishnan - NOAA Federal4:12 PM

Ok! Sure

Evan Kalina - NOAA Affiliate4:12 PM

@Dan Thanks. I will definitely invite you to the CDEPS call that we have planned.

ason Sippel - NOAA Federal4:21 PM

@Vijay - does the new WCOSS delay impact the upcoming moratorium?

Evan Kalina - NOAA Affiliate4:22 PM

What prevents HAFS from being run on all of the Jets? Is it a fundamental incompatibility or the capability is simply missing from the workflow?

Some jets are too slow?

Ghassan Alaka - NOAA Federal4:22 PM

@Evan, components of the model (chgres) can't run on the older jet partitions.

Evan Kalina - NOAA Affiliate4:23 PM

@Gus Interesting. I wonder why that is.

Bin Liu - NOAA Affiliate4:23 PM

Thanks, @Evan! Good to know CDEPS can be build together with HYCOM.

Curtis Alexander - NOAA Federal4:23 PM

Yeah, Jet needs support to refresh the hardware on the older partitions.

Ghassan Alaka - NOAA Federal4:23 PM

@Evan, same problem with the GSI tasks for HWRF...

Avichal Mehra - NOAA Federal4:23 PM
@Jason: this is late breaking news. We will find out more on downstream impacts in the next few days/weeks.
Evan Kalina - NOAA Affiliate4:24 PM
Hmm, that's true...we can't run GSI everywhere either. Insufficient memory.
Jason Sippel - NOAA Federal4:24 PM
are there components of hwrf that can run on the older jet partitions that aren't being taken advantage of? or hmon?
Evan Kalina - NOAA Affiliate4:25 PM
Most of the components are able to run everywhere. GSI is an exception.
Often EMC runs the forecast job on xjet (probably since it's faster), but that's not a requirement
Jason Sippel - NOAA Federal4:26 PM
might be good to explore an optimal setup for running the hurricane models that spreads usage across the jets
Bin Liu - NOAA Affiliate4:27 PM
There are also concerns/issues using different (old) jet partitions regarding the reproducibility. Using different jets could produce different results.
Curtis Alexander - NOAA Federal4:28 PM
This situation is further complicated by the increased capacity of WCOSS2 making operational capacity significantly larger than the hard-iron R&D capacity (ideally the R&D would be many times larger than operations).
Frank Marks - NOAA Federal4:28 PM
@Gus these same issues will be important to address if we move to the cloud.
Jason Sippel - NOAA Federal4:28 PM
any way to mitigate the reproducibility issues? not really great that everything is crammed on xjet
Lew Gramer - NOAA Affiliate4:28 PM
Agree! Efforts by RDHPCS to support us were really extraordinary - thank you to them!
Ben Woods - NOAA Affiliate4:30 PM
IF there is a new Supplemental (and that's a big IF), would there be value in requiring the Project Managers to be able to run their projects on the cloud?
Evan Kalina - NOAA Affiliate4:31 PM
@Jason @Bin For the time being, we have been able to reproduce HWRF answers on the different Jets. However, there have been exceptions in the past, most recently with the results from WPS differing slightly on different Jets. That has since been fixed. Something new could pop up though, so I understand Bin's caution.
Dorothy Koch4:34 PM

Should jet be upgraded or hera expanded - if there were resources available?
Frank Marks - NOAA Federal4:34 PM
@Frank HFIP needs to know where is the best place to invest the STI HPC PAC support in FY21.
Ghassan Alaka - NOAA Federal4:34 PM
@Dorothy, I think part of that depends on whether or not reservations can be secured on Hera. If so, I think investing in the newer machine is a better idea in my opinion.
Frank Marks - NOAA Federal4:35 PM
Should we put it to Jet refresh or invest it in Hera or Orion?
Xuguang Wang - NOAA Affiliate4:36 PM
@ Gopal, I have a question
Sundararaman Gopalakrishnan - NOAA Federal4:36 PM
Yes! Xuguang.. will go after Frank.. Apologies.. Was going to get you in next
Frank Marks - NOAA Federal4:36 PM
@Dorothy I think HFIP needs to identify the needed HPC footprint to keep us moving forward. Then we need to fight to get that every year.
Vijay Tallapragada - NOAA Federal4:38 PM
From Forrest: Jet's 3 oldest partitions (tJet, uJet and sJet) should be replaced as soon as possible, with an estimated cost of $12-13M to replace all nodes. Within 1-2 years vJet and xJet should also be replaced for an estimated cost of an additional $12-13M to replace all nodes.
So we are looking at about 25M investment to make Jet usable for HFIP in the next couple of years
Ghassan Alaka - NOAA Federal4:39 PM
@Vijay, what about supporting hardware (e.g. switches). Would that be overhauled as well?
Dorothy Koch4:40 PM
... Or would that $25M be better spent on Hera expansion?
Vijay Tallapragada - NOAA Federal4:40 PM
They are included I believe
Ghassan Alaka - NOAA Federal4:40 PM
Thanks
Vijay Tallapragada - NOAA Federal4:40 PM
On advantage is being able to use the space at BMC that is currently hosting Jet
Curtis Alexander - NOAA Federal4:41 PM
I think a Hera expansion is also constrained by power/facility cost limitations there.
Vijay Tallapragada - NOAA Federal4:41 PM
that's true
Ghassan Alaka - NOAA Federal4:42 PM

Good points about facility considerations. I believe a Jet refresh could work as long as all failing/aging components (not just the partitions themselves) are upgraded.
Curtis Alexander - NOAA Federal4:43 PM
Agreed...the filesystem problems on Jet were significant this year...granted those are actually very new and that may have actually been part of the issue.
(new technology that needed more shakedown)
Lew Gramer - NOAA Affiliate4:49 PM
@Curtis, lfs4 (and some issues with lfs1) were definitely part of the problem. As users, we did not yet get to the feeling that those were shaken out (yet)
Ghassan Alaka - NOAA Federal4:51 PM
I want to add - I am excited about the upcoming expansion to operational capacity. That is very important in the short term to allow more advanced models to go into operations. Longer term, however, we need to increase R&D computing so that we can continue to test new ideas with the goal of further improving TC forecasts.
@Vijay, great point! We need stable R&D resources beyond supplemental funding.
Jason Sippel - NOAA Federal4:53 PM
I second that Gus. Operationally, our needs are extremely demanding and we have never been able to run the models optimally
Stanley Goldenberg - NOAA Federal4:53 PM
Congrats to those who put this virtual meeting together! Obviously not same aS face time face but things still worked out well with lots of interaction
Jason Sippel - NOAA Federal4:54 PM
Even now talking about HAFS implementation, we come to the constant wall of "well if we have the resources to run it that way"
Ghassan Alaka - NOAA Federal4:58 PM
@Frank, I think NHC's usage of HWRF is an important reminder that we can not leave that model high and dry in lieu of HAFS just yet.
Ghassan Alaka - NOAA Federal4:58 PM
@Frank, I think NHC's usage of HWRF is an important reminder that we can not leave that model high and dry in lieu of HAFS just yet.
Jason Sippel - NOAA Federal5:00 PM
@Gus - HWRF has set a very high bar for us to reach for intensity over the next 2 years... it's going to take a huge effort of R&D but also giving it the operational resources it needs to be successful
Edward Rappaport - NOAA Federal5:03 PM

I appreciate Vijay bringing up the why and the following discussion. But, this is not new. We've had similar discussion is previous years. What we haven't done is commit the program and its resources to this approach. This is a potentially important but very different path.
Xuguang Wang - NOAA Affiliate5:09 PM
Great effort organizing!
Lew Gramer - NOAA Affiliate5:09 PM
Bravo!
Lakemariam Worku - NOAA Affiliate5:09 PM
Thank you
Matthieu Le Henaff - NOAA Affiliate5:09 PM
Thank you!
Ben Woods - NOAA Affiliate5:09 PM
thank you!
Avichal Mehra - NOAA Federal5:09 PM
Hear hear!
Louisa Nance5:09 PM
good job!
Sarah Ditchek - NOAA Affiliate5:09 PM
Thank you!
Zhan Zhang - NOAA Federal5:09 PM
Thank you!
Matthew Kucas5:09 PM
Mahalo!
Kate Musgrave - NOAA Affiliate5:09 PM
Thank you!
Evan Kalina - NOAA Affiliate5:10 PM
Thank you! Great meeting!
Kathryn Newman5:10 PM
Thank you!
Ghassan Alaka - NOAA Federal5:10 PM
Thanks all, especially the organizers!
Xiaomin Chen - NOAA Affiliate5:10 PM
Thank you!
Frank Indiviglio - NOAA Federal5:10 PM
Thank You!
Agnes Lim - NOAA Affiliate5:10 PM

Thank you

Xingchao Chen 5:10 PM

Thank you!

Bantwale Enyew - NOAA Affiliate 5:10 PM

Thank you!!

JungHoon Shin - NOAA Affiliate 5:10 PM

Thank you!!