2005 Survey Results for Annual
Meteorological Development Laboratory (MDL)
User Survey

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To: 2005-03-29 06:14:27 UTC
Number of Responses: 249

SUMMARY OF COMMENTS

4. Suggestions or comments on FFMP:

* I have not found the precip estimates or flash flooding estimates to be very accurate. I tended to over warn using FFMP.

* Don't' have many flooding events here in NW KS

* It needs to take into account rain gauge and DCP observations and surrounding radar STP's to be more effective. It is only as good as the radar STP algorithm and can seriously underestimate or overestimate precipitation amounts.

* need a better way to identify counties, basin names, cities, ect.

* Our office does not currently run FFMP...

* Context sensitive help.

* flash flooding events have been minimal in this area since FFMP was put in use but with more events and staff familiarization, FFMP will be used more frequently and it's value added to the warning and assessment methodology.

* WOuld be much better if some sort of bias data can be used to improve the rainfall estimates.

* It is getting better and better!

* Typically after a new build of AWIPS is installed, we have to troubleshoot FFMP to get it to work. This was true with the last install. Is there any way that this trouble could be minimized with the next install? Other than this, I have no other comments.

* The FFMP application appears to be a very useful tool. The only problem with utilizing this tool is we do not have adequate flash flood guidance. Flash flooding in our CWA area is relatively rare and more research is needed in order for the CNRFC to provide better flash flood guidance products.

* Great program! Easy to use, good interface.

* It is a great application. I use in all heavy rain events.

* I do not believe I have used the application enough in a real-time environment to make a qualified assessment.

* Incorporate stream flow routing of water. In the Forced FFG application, need to add some additional flexibility: 1 - When I start the GUI, be able to load the current FFG values into the GUI if desired. 2 - Be able to apply a maximum value (or a not to exceed value). For example, I have place X that will flood at 3 inches in 6 hours. I would like to apply a permanent FFG value of 3 inch/6hr that would not be exceeded. However, if 6hr FFG came in at something less than 3.0, then the lower value would bet used. This way, I could apply this once and not have to worry about it.

* I am very satisfied with FFMP...but, it is useless at times when the radar is either over or under estimating QPF.

* It is best used for anticipating an event. Once the event gets going, radar depictions of rainfall bull's eyes, phone calls, etc, are better for investigating flood problems. FFMP's biggest strength is its using colors to highlight potential problems before they occur.

* I have not used it to any great extent, so far. I'll have to spend more time working with it when I can.

* Make it so that the screen automatically refreshes when you change a parameter. Make the FFMP Flash Flood Analysis window more intuitive.

* The last two OB builds have failed to display the color coded basin maps however the Table data appeared to be updating okay.

* Need better training materials and documentation

* Good application. Needs to be faster. Recent improvements are moving in the right direction.

* Not to many events yet thus FFMP not fully tested. When I have used it, often hail contamination makes it difficult.

* Re question 2...FFMP is used moderately when flooding is a threat. You are asking at a bad time of year. I haven't used it in a long time and don't remember enough about it to answer these questions well.

* The application does not seem to update very fast on our system. The only time I have really used it was for training simulations in Boulder.

* In Puerto Rico we need to be able to absorb gridded FFG (if it were available). Still a big plus

for our operations.

* I believe it will be used more often as operations staff become more familiar with it.

* none

* We really need to have FFG longer than just 6 hours. During one tropical event, we got caught with rainfall that always remained below flash flood guidance, but ended up giving us flooding in the Florida Panhandle after about 12 hours of rain.... and I should have known better! .... but started helping staff out with the Tornados..... FFMP is a great tool. It just needs to be tweaked a bit more to a little more inclusive of longer running situations.

* Instead of Flash Flood Guidance updates only twice daily, there should be much more frequent FFG updates so this information can then be applied to FFMP.

* IT CURRENTLY IS NOT EASY TO FIND OR LAUNCH FROM D2D (ON OUR LOCAL DVN SET UP).

* Training has been improving on it's use but would be used more locally with the proper training.

* FFMP does not help us much on lead time. It basically verifies during and slightly after the event that it probably occurred. More tools in FFMP to help extrapolate precipitation rates into downstream counties as a crude estimate to what basins will flood in the next hour making several assumptions would be nice. We rarely issue FFWs for a county after it is turned "red". We often issue FFWs before the rain starts in a county. This increases our FAR, but increases our lead time.

* FFMP would be used more it the FFG values provided by our RFC were actually realistic and the RFC would even care about quality controlling this information.

* None.

* Not helpful when rainfall estimates are inaccurate...wish there was a way to adjust estimates when too high/low based on real-time reports, and use adjustment in FFMP.

* Since our radar precip estimates are rather poor due the high elevation of our radar, we have not implemented FFMP at this point. However, we are looking into implementing FFMP this summer for small portions of our CWA.

* How much automation is needed before we no longer need situational awareness?

* Have noticed that the FFG in FFMP does not match the values in RFC FFG products.

* None, our office has very little use with flash flooding software like FFMP since it is a rare event up here in northern Michigan.

* We don't get FFG from our RFC so FFMP is not used

* Need to have more events to better assess its utility!

* We are not using FFMP in Alaska. We hope to test it out summer 2005 here in Fairbanks.

* Need additional training (which thankfully is coming via teletraining), also plan on emphasizing FFMP greater in local WES training

* None

* I think it may be used a little more this year - it just takes a long time to set up.

* Overall, provides timely information during Flash Flood events.

* Have some way for the WFO to input rainfall data for individual basins to improve FFMP guidance.

* Cannot provide a valuable assessment on FFMP. We had a very dry monsoon season in 2004, so this tool wasn't helpful. But this was the weather pattern more so than any deficiencies with FFMP.

* I like using FFMP for the threat of heavy rain events. I find that I can readily manage storms that contain heavy rain and can rank them using rainfall rate, total rainfall, or percentage of FFG values. If I think that flooding may be a problem, I always use FFMP.

* Don't like programs that are resource pigs on the AWIPS system. AWIPS is slow enough as it is. Seems to over warn or warn for too small of an area (basin).

* Nice application that continues to improve. The most useful/critical MDL app we use.

* I'm sure the resolution of the program will continue to be refined that will incorporate basins and micro scale rainfall accumulations. I encourage further development of the program coordinated with the WFOs.

* Need to be able to calculate rainfall rate, e.g. 1.2 inches fell in 20 minutes, or 0.75 inches fell in 12 minutes -- we need this in addition to the hourly rates. This would be very useful information for warnings and statements -- if you tell the public that 1 inch of rain will fall in 20 minutes, they know that this is a gully washer.

* It should have the ability to direct selected output into Warngen...ie basin names, stream and creek names, nearest town city etc.

* Since we have AMBER in Arcview on a PC, and we have more detailed stream info in that, we will turn to this first in many cases. Still, FFMP is useful for drawing attention quickly to

problem areas, prioritizing problem basins, and comparison to FFG when FFG is reasonable (which is the biggest drawback). We're hoping to experiment with a more static 1-hr flash flood threat index since in the mountains the soil moisture may not be as important as slope, soil type, land use, and vegetation.

* We've been in drought for the last 5 years and experienced very few flash floods. In addition, our RFC has not historically provided flash flood guidance. These two factors make it difficult to evaluate FFMP.

* We think it would be helpful to take into account land use, terrain slope, vegetation state, soil moisture, and better flash flood guidance.

* To explain the above...flash floods are a rare event here (one every few years at best. The FFMP does not get much use, but I have used it when needed and do like the program and find it useful.

* WE FEEL THERE ARE A LOT OF LIMITATIONS WITH FFMP IN OUR REGION DUE TO COMPLEX TERRAIN WHICH PRODUCES A LOT OF RADAR BLOCKAGE. BESIDES, WE ARE WELL-SERVED BY A FAIRLY DENSE NETWORK OF RAIN GAGES [250-350] WHICH OUR FORECAST STAFF HAS LEARNED TO RELY ON. WE SELDOM PUT MUCH CREEDENCE IN RADAR DATA ALONE, EXCEPT FOR TWO INSTANCES. [1] RAIN DATA OVER WATER [NOT BLOCKED AND WHAT OTHER CHOICE IS THERE?]. [2] ISOLATED THUNDERSTORMS WHICH USUALLY MISS THE GAGES IN EVEN THE DENSEST NETWORK. ALSO, WE HAVE MORE CONFIDENCE IN RADAR ESTIMATES WITH THUNDERSTORMS. IN ADDITION, FFMP TENDS TO MAKE OUR WORKSTATIONS RUN TOO SLOW.

* FFMP is good when the radar is doing well with the precipitation estimations.

* The process of basin customization has been extremely time consuming given the size of our CWA. With time, FFMP will become an invaluable tool. There needs to be more training on the use of FFMP.

* It would be much more useful if we actually had Flash Flood Guidance here in western WA.

* we don't get ff guidance.

* The user interface is still not particularly user-friendly nor intuitive. Our small basins are either zoomed in completely or the sub basins are eliminated. More map details and place/stream names are needed.

* Slow and more complicated than necessary. Too many options which require thorough understanding of the software. We don't have time to learn (and remember) all the bells and whistles.

* The rainfall rates are always absurd and not believable.

* All of the forecasters went through training on FFMP, but our service hydrologist has advised them that it has not proven to be a very reliable indicator of the onset of flooding.

* Use is limited by poor radar coverage in our CWA. It seems to have a wet bias so that during a convective rain event it is always painting some sub-basin red.

* We have had flash flood of official forecast points from summer convection at occurred within a few hours of heavy rain. I would be useful if ffmp could also track rain fall over larger basins that cause flood at official river forecast points. ffmp need additional functionality that will allow it to display data for more than one county at the same time. On occasion, more than one county has to be monitored for flooding and the current form of ffmp requires one to constantly more into and out of a county.

* none

* I've used this application while stationed in VEF, and I thought it was very useful. However, I am now stationed in the Pacific Northwest (west of the Cascades) where convective flash flood events are rare. I've attempted to use it for (winter time) heavy stratiform events but it does not work nearly as well as for convective events (primarily due to bright-band contamination, etc). Are there any plans to modify this application so that it can be used for winter-time stratiform rain events?

* Better resolution, rather than using counties, is needed. Additional detailed training along with examples of how FFMP works in the real world are needed to increase confidence to use this program.

* None - not a lot of FF events in CAR CWA - typically less than 5 per year.

* having a way to show basin connectivity and stream flow links would be very helpful.

* FFMP would be more useful operationally with more useful flash flood guidance values and access to additional map layers and overlays (GIS functionality)

* Never heard of it.

* Answer to #3 is at least partially attributed to the fact that we are, for the most part, still using the basins provided by NSSL... not much in the way of local customization work, yet.

* We simply need to refine our customization of critical thresholds for individual basins, and continue to improve the resolution of the basin maps themselves.

* We don't use it here due to some technical glitches, but when I was at WFO BTV, we used it and it seemed like a very useful tool.

* Sluggishness is a problem.

* River names instead of numbers would be nice!

* I'm not sure why .... but we don't even have this utility configured or up and running here. Is it useful in mountainous terrain?

* I always monitor using FFMP. I don't like how intrusive the application is, however. Most times, I run it in the background while I am doing other tasks. The FFMP interface constantly pops back to the foreground. I would prefer that it stay in the background unless I call it up.

* Due to a lack of flash flooding in the CWA over the last 3 years, FFMP has not been used.

* Make it easier to modify flash flood guidance values! For example, it would be easier and more user friendly if you could modify the ffg values right within the FFMP table instead of having to go run a separate GUI to modify the ffg values.

* Better input from the flash flood guidance.

* It is rather difficult to evaluate FFMP. Personally, I think there are many good things about the program. However, it is very misleading to have a program that produces rainfall at the catchments level, yet uses county based flash flood guidance to determine when those small scale basins have reached a certain percentage of flash flood guidance. I do find the program quite useful for determining how much rainfall, in an absolute sense, has fallen in a particular basin. It is also useful when finding the names of streams to include in flash flood warnings. For a LONG TIME many of the basins were not properly labeled in FFMP. This has caused some staff members here at GSP to mistrust the basin location and rainfall totals to this day. However, it does appear that most of the basins are now properly labeled. If you could have somebody at a regional or national level get with our hydrologist and IT to make absolutely sure, I think the level of trust among the staff here would increase. In short, I find FFMP to be a good tool to use as part of a larger flood and flash flood monitoring process.

* You can't base flash flood warning decisions on radar estimates solely. I would like to see FFMP incorporate gage data.

* Eliminate the graphical elements and incorporate the most important text (alpha/numeric) data into SCAN. In and of itself, FFMP has value but is a case of too much information. Has anyone at MDL actually sat down at an AWIPS workstation during a severe weather event and tried to use D2D, WARNGEN, SCAN, and FFMP (not to mention GFE, avnFPS, etc...) all at the same time? Not only are the multitude of applications a drain on limited system resources, but together they can be very difficult for forecasters to manage let alone absorb all of the information.

* Having the D2D auto refresh when you select a specific item.

* Need higher resolution mapping of data with inclusion of basin names, flow diagrams, user friendly unit hydrographs, etc. There seems to be more room for improvement. We have another program in the office, I think it is called "AMBER", that provides the data in a better format

through the use of ArcView. Is there any way to mirror this program in D2D?

* I rarely use FFMP and can't comment on it.

* FFMP offers little help in identifying flash flood potential over complex basins. We would like to see a higher resolution product, possibly nested within the current domain, over areas that are prone to flash flooding.

* FFMP is directly related to flash flood guidance and radar precip estimates which have known and sometimes enormous errors, especially flash flood guidance. If one relies solely on FFMP for warning basis, one will over warn in many instances and under warn in many others.

8. Suggestions or comments on SCAN:

* With the Digital Mesocyclone Detection (DMD) product available in RPG Build 6 and OB4, may try to use SCAN more to view the abundant data from the MDA algorithm.

* SCAN got a bad rap early on when it was very slow to update. Now that the slowness problem has been alleviated, it is very difficult to get folks to use SCAN because of the initial impression that it was too slow. It is hard to chance folks view on something once their initial impression was negative.

* Too much of a resource hog for the limited usefulness of the data. We have it turned off.

* Very cumbersome

* its too alarmist... far too many alarms to clear. alarms need to be meaningful, not every v scan.

* Its too hard to read the cell names on the scope with all of the other info plastered on top of everything else. Enhance labeling of the storms.

* In our office, we do not experience much of any true severe weather, but most of the forecasters have the SCAN up to track and analyze the daily convection we experience from May through December.

* The interface is somewhat more clunky than others available (such as WATADS/WDSS-I). Time-series data are also less robust than what is available in WATADS/WDSS.

* It is not used at our office.

* It is a resource hog that seems to bog down awips in a warning environment. Too many bells and whistles that becomes distracting. Would prefer this as a stand alone application, separate from awips. It is still a good monitoring tool, with multiple storms ongoing.

* Our office does not currently run SCAN...

* Needs a better way of highlighting the really important information.

* Much easier to interrogate the structure of a storm rather than wait for a summary of the algorithms that are for the previous scan. Don’t care for the extra alarms.

* Invaluable tool that when used with other interrogation tools and methods properly, will raise CSI and POD values and the overall warning verification process.

* Make it more efficient with computer resources. I had it crash at least once during a severe weather event.

* It has little value in our region, and in fact, would tend to lead people astray if it wasn't for our

efforts to educate everyone on its many weaknesses.

* SCAN has worked fine for me overall. It gives me a heads up when a storm changes its characteristics. I guess the one bad part of it is that it occasionally locks up my AWIPS. I noticed this more with OB4.

* scan is a resource hog and D2D crashes and lock-ups more frequently.

* Not used much in this office.

* I have never seen a software application with so much useless crap on the screen, or so much bleating, bleeping, and jumping unwanted into the foreground. There should be a user-controllable config file to turn off all the obnoxious noises and flashing lights. As is, even the adjustments to alarm criteria do not always get saved properly - one more reason SCAN gets so little use here. When 50 alarms are flashing and bleeping, and nothing significant is really being alerted, there is definitely room for software improvement. I use SCAN routinely, but every time I turn it on, I spend the next 3 minutes turning things in it OFF.

* It is not so much that SCAN is a bad piece of software. It is simply that it typically does not provide any insight which cannot be obtained more quickly by reviewing base radar data. It can be a reasonably safety net in very busy situations, but in such situations, sectorizing the forecast area and continuing to carefully analyze base data seems to be more fruitful.

* Scan can get rather annoying at times with alerts occurring outside of the WFO CWA.

* TOO MANY THINGS GOING...BOGS SYSTEM DOWN.

* There needs to be more customization/control regarding the alarms and how it pops up on the workstation. Specifically, we like to have the shear in the scan table, but it alarms every time it goes from -999 to something more than zero. This happens nearly every volume scan and has lead to little use here locally.

* The information in SCAN is often too old for it to be useful in warning operations.

* it seems like it runs a bit too slow and is still kind of cumbersome

* SCAN is too cumbersome and slow to provide me with much value-added info in a warning environment.

* I never got in the habit of using it when it bogged down AWIPS, and now I don't think about it too much.

* I view SCAN as a necessary evil, to catch the things that base data interrogation might sometimes miss. It will usually be run on another workstation away from the warning workstation as a safety net.

* I'll generally have SCAN up during severe weather as somewhat of a backup, so I don't miss something. I mainly look at the base radar data for warnings.

* Still find SCAN bogging down system resources after time which makes it a hindrance.

* Last event, I was told that someone thought that SCAN was turned off. Alarms sound way too often (even after raising the thresholds) and still has a perception of being too resource intensive. A bad first impression may have already limited the full usefulness of SCAN.

* The lightning(% + strikes) and DMD(MSI strength, etc) data are some of the most valuable bits of info in deciding TOR/SVR warnings/trends.

* SCAN was nearly unusable in earlier Builds of AWIPS (and with the older workstations). It's better now and needs a new roll out with training and documentation.

* Should be easier to change and save alert thresholds per environment.

* SRH alarms are not helpful and often annoying.

* Same comment in 4. Haven't used in a long time.

* We have had a recurring problem with SCAN in our office...which we only notice during rain events (because that is the only time we have it running). Every once in a while when SCAN updates with the latest volume scan, all of the parameters go to 0. The 'quick fix' is to change the position of the bar, but the purpose of SCAN is to alarm you when something changes quickly. If you happen to be on another screen when the volume scan updates, you may not notice the 0's for several minutes. Each time we call NCF about the problem, and they are unable to fix it.

* Due to the smallness of our island and the tendency of convection to be dense, disorganized and very terrain driven SCAN is perhaps less useful than in a stateside office. But still is a nice tool for keeping track of cells.

* none

* Don' use it that much.

* During active weather, the alarms must be cleared on every volume scan which is annoying. Perhaps there should be an additional feature that allows the user to select how often he/she wants to be alarmed. And when lots of activity is occurring, the screen gets too busy. The tables do help one sort things out though.

* I would like to be able to turn of the scan alarm that occurred after each radar update.

* SCAN HAS YET TO SHOW ME SOMETHING I WAS NOT ALREADY AWARE OF.

* SCAN bogs down systems and can lock up workstations. I see no utility for the program.

* OK for initial ID of convection, but just distracting during svr wx ops...I can interrogate the storms myself.

* As an office we tend not to use many derived parameters. ie. scan

* SCAN is a great tool. At present, I can't think of how it could be improved.

* Memory intensive...utilizes items that cannot be calculated until the end of a volume scan (volume parameters)...tends to overreact to hail events.

* Only about 2 of our 9 forecasters use SCAN routinely. It still seems to be resource intensive, and occasionally impacts other aspects of D2D operations.

* SCAN interesting, but does not provide me anything the raw radar data doesn't already provide. Warning decision-making based primarily on radar imagery, environment data, and spotter information.

* Still would prefer a separate platform for radar (ie.. WDSS\RDSS). The concept of using all apps on one box makes for sluggish system performance (GFE...SCAN...FFMP...multiple D2Ds). The warning program is too critical.

* Situational awareness. Do I need a computer telling me to look out, or should I already be on the ball?

* Takes up way to much processing power and is cumbersome to use.

* BOGS DOWN THE SYSTEM WHEN IN SEVERE MODE. WILL HAVE TO CLOSEIT OUT ON A REGULAR BASIS.

* I use scan for the graphics and the time series graph for each element. I do not like the alarms, it is to late to be alarmed. The main thing is the speed of the storms, it is a lot better than trying to measure it yourself.

* It should be easier for users to adjust the parameters that set off an alarm. It alarms more than it should and you end up wasting time clearing the alarms.

* Very helpful during severe weather in verifying what is seen in the base data.

* The only downside with SCAN is that it is a resource hog.

* Excellent application - I've had rare occasions where the application hung up, but that's been less of an issue lately.

* I find it to be a quite useful tool.

* Never used SCAN...not sure if the program works here.

* Would like to see the ability to determine lightning trends/flash rates on the fly within SCAN. We have access to an LMA (total lightning network), and utilize this dataset heavily during severe weather. If trending capability was integrated within SCAN for the LMA data, then more folks would use SCAN.

* Would like to see the highest height of the 50 DBZ reflectivity per identified cell added to the display.

* Too many bells and whistles. Too many alerts which do not seem configurable. There are some neat applications but the overall program is overwhelming. It would be nice to just pull out some of the applications that appear helpful and leave the rest alone.

* seems to mimic other algorithm outputs so its repetitive (combined attribute table). The trends for meso, depth, etc is beneficial however.

* For me, scan is more useful prior to severe weather or on moderately busy days. It helps with the "Heads up", but I find I don't have much time to look at it during severe weather.

* Faster delivery to the forecaster would improve its usefulness.

* Again as with FFMP, SCAN is an excellent tool with which to manage thunderstorm activity. You can rank them by VIL, dBz, and etc and you click on the alert and it takes you right to the storm. I always use SCAN when thunderstorms are occurring and I'm working radar.

* Another high resource pig on the AWIPS system. Most of SCANs outputs are end of the radar volume scan type products. The majority of our warning decisions are made before the radar volume scan ends.

* Best SCAN features are the time trend graphs. Massive complexity in display of table and massive number of configuration options. Default should be to have all alarms turned off. Sound alarms should be configurable for only some alarms instead of on or off for all. Things update after end of volume scan so usefulness in most situations is minimal compared to investigating through base data.

* Need better way to view all the various parameters graphically. Numbers do not help to see trends. The graphs we have available are fine, but need something easier to use or see on SCAN in place of just the numbers on the front screen, i.e. put the option for graphical plots on the first screen, not just on a separate window.

* There's always the concern that SCAN will bog down the system...true or not. Since many of the algorithms need to wait until the end of the volume scan to output anything the usages is limited somewhat.

* SCAN still seems to be too resource intensive.

* Make sure SCAN does not deteriorate system speed and resources, SCAN gives the false impression that the algorithms are fail safe. SCAN is to cumbersome to exit, and often gets cluttered with extraneous identifiers. Need to set a priority and only key on the biggest and most severe tstms as it moves through its algorithms. Maybe take a relative comparison of storms per volume scan and display the top 10 percent by comparison.

* I find it to be OK for monitoring as severe weather starts or as an overview of the situation, but just too much to deal with when hot and heavy into warning mode. I like to concentrate on the "raw" data and incorporate conceptual models.

* nice for big picture, prioritizing cells when there are a large number to try and monitor, but don't find it particularly useful as a warning tool since we try to base most warning decisions on base products before the volume scan is complete. During a severe event, it is usually up on at least one workstation though.

* SCAN usually is one of the last products to update. Therefore SCAN should not be used to issue timely warnings. Using the base products (4 panel reflectivity, SRM and base velocity) is the quickest way to analyze storms and issue the warnings. SCAN also is a resource hog and tends to "lock up" too much! SCAN is not reliable or timely!

* Could be a bit more customizable by users. Also, note that with every update it decides to go back to it's default location instead of staying where I put it. In some scenarios, it ends up obscuring the data I want to see and have to repeatedly move it out of the way.

* We would love to use SCAN even more, but it has a history of locking up the workstations, then the workstation has to be rebooted during severe operations.

* I generally do not use scan. I mostly use base product analysis for warning decision making.

* plan to incorporate SCAN as part of the meso-analyst desk so expect use this convective season in increase significantly

* I wouldn't change it much. Although being here in eastern Montana, we wouldn't use it as much compared to offices to my southeast.

* Scan is great if you have people who are training and learning about the warning issuance process. The issue I have with it is that it controls your mouse, and if you are in the middle of putting out a warning, and SCAN wants to alert you to a new cell, you lose several seconds in issuing the warning. It also takes up screen real estate, and it takes longer to update the parameters such as VIL, POSH, POH that the old 88D tables that you can load up and look at. So, I think for training it is a good thing, but for seasoned forecasters who don't need it as a "crutch" and know what they are looking for, it is not useful.

* No suggestions come to mind.

* Significant convection is not common in these parts.

* I THINK SCAN WOULD BE MORE USEFUL FOR US THAN FFMP. BUT THERE SEEMS TO BE A PROBLEM WITH SYSTEMS SLOW DOWN WHEN SCAN IS INVOKES.

* SCAN has gotten better over the years. I don't have any specific comments, but then again I haven't used it in several months so I'm a little rusty.

* We get a lot of false alarms - supposed mesos - when the radar is actually seeing terrain which we cannot clutter suppress.

* a lot of bogus mesos due to terrain.

* SCAN can be rather irritating when it comes up with showers that had been being watched for hours. And meso cyclones are way over warned in our environment--and very often are only uncorrelated shear. But I appreciate the ability to interrogate significant storms and find its alarms of VIL amounts or echo tops to be particularly useful. Again more place names and map details would be helpful.

* The times I have used it, it has been helpful for keeping an eye on the "big picture", but we have been discouraged from using SCAN because of its being a resource hog and its tendency to lock up the workstation - something we don't need during severe weather.

* Has some stability problems, but otherwise OK.

* SCAN defaults are way too sensitive out of the box. By default, SCAN clutters up the screen with too much information on weather cells. I resolve this each time I run SCAN by loading my own custom settings, but that is just tro additional mouse clicks.

* With additional functionality with OB4 and with 3 three monitors for viewing data, I believe SCAN will have more utility this convective season. In the past there has been a trade off of monitor space with using scan or manually interrogating data. With SCAN showing mostly data at the end of the volume scan, the wait was too long.

* none

* Due to the lack of convective, as in thunderstorm, events here, this application is used rarely. However, I believe that the application could be improved if some of the thresholds included selectable parameters. For example, due to rarity of tornadic events here in the Pacific Northwest, it would be nice if the shear, meso, and TVS thresholds specifically included "selectable" values instead of the current manually inputted values. For example, the user should be able to select values corresponding to tornadic shear environments typical for the West coast. Of course, this would have to be based on a lot of research. Right now, it's a trial and error process in regards to selecting the proper thresholds for the storm environment.

* Since SCAN summary arrives after volume scan, it is not used primarily for current storm

evolution. It is OK when needing to prioritize storm selection when multiple storms are present.

* 1) Too many storm identifications - would like to see this improved. 2) Perhaps develop a link to AVNFPS in so far as proposing TAF amendments for incoming storms.

* SCAN tends to be used as a safety net to alert forecasters if they have missed on a classic pattern recognition or a new storm develops signatures while they are assessing other storms or working on other products.

* Very Satisfied for the times when we use this program.

* Stupid radar is always suggesting we start SCAN.

* Need to add velocity-based output products...such as time height displays of radial velocity convergence and divergence. Also add output based off NSSL'S DDPDA (damaging downburst prediction and detection algorithm), or something similar to that algorithm. Also, time height displays of maximum reflectivity would be helpful. SCAN alarm functionality leaves much to be desired...forecasters need a very easy way to modify what triggers an alarm.

* It can be a bit of a resource hog. Otherwise, it's a very useful application.

* Have a MDL staff member come to the field and work one week with an office during severe weather season and see how SCAN distracts and diminishes our operations. Will you ever send a programmer or MDL staff member to the field? Every year this is mentioned and nothing seems to happen.

* There are quite a few false alarms on SCAN, but I think that is much more of a function of our office needing to set the alarm thresholds.

* I like the graphs with trends on them.

* Make identification of a particular cell on the radar screen more easily seen. Maybe the default colors should be brighter?

* This is one annoying application. It beeps, whistles, flashes, etc. so often that most everyone just clicks on it to shut it off, not ever looking at any information. Also, if you wanted us to use it, offer some TRAINING!!!

* During a busy storm event it can get the screen too busy.

* I do not use SCAN all that often. A few folks here use it regularly, but many do not use it at all. I have nothing against SCAN. In fact, it appears I'm the only one who has set-up a preferences file in SCAN to make that table with all the cell attributes more to my liking. It's just that when I'm working radar, I find SCAN a little unwieldy when compared against simply swapping out a pane with all of the radar algorithm products (meso, tvs, hail size etc), or some of the derived products like VIL at ET.

* Too much information and it bogs down the workstation. 95% of the SCAN alerts we get are for bogus returns. We have just learned to ignore the alerts.

* Incorporate FFMP data into this interface.

* Like most programs that are sent into the field. Little or no training was provided, so do not use this program. You have got to provide some hands on training for this stuff if you expect us to use it!

* From what I know SCAN can crash AWIPS...so it's not used much by me. I will be using the Storm DMD Icons and Table part of SCAN this summer.

* Allow for adjusting the threshold for new alarms. We don't want to be alerted when the meso algorithm detects uncorrelated shear, which is fairly often and for the most part insignificant. However, we don't want to turn off the new detection alarm for mesos because we want to be alerted if there is a (new) stronger rotation, such as 3-d correlated shear or a mesocyclone. Whether the sound for an alarm bell is toggled on or off should be part of the saved settings that can be loaded by individual users. It would be nice if the individual settings could somehow be linked to the d2d user id. Thus the users preferred settings would not need to be loaded every time the SCAN table is called up.

* It's not user friendly with set up and the info displayed. Part of the problem is using it on the AWIPS system. It needs to mimic more closely the WDSS

* I tend to use base data to a greater degree, so I don't rely on the crutch of algorithm data. It's not convenient to have on your D2D when you are using screens to track base data, and to keep fresh situational awareness.

* Good heads up tool for someone that may be distracted by other duties (low SA). My concern is that some forecasters use the output verbatim to diagnose severe weather threats. SCAN can introduce a sort of meteorological cancer for those that are too lazy to truly interrogate storms with the radar.

* SCAN hogs system resources without providing any useful information.

11. Suggestions or comments on LSR:

* No comments. It works pretty well!

* Once time has been entered you should leave that as the default since there is a "set current time" button.

* Make LSR the default for Winter Storm reporting, instead of using PNS products for Winter Storms.

* The user interface is not intuitive when correcting or updating an LSR already sent, and there is no way to incorporate a computerized call log into the system. It is also too easy to send out an incomplete LSR or compile and end-of-event summary.

* Would like to be able to tailor menus and options more to fit our station operations, and to change some of the default values.

* Very good program that makes issuing storm reports easy and more effective.

* The options during the send process are not clear to every user.

* Also getting better. However, there are more and more "sliders" and "spinners" which, if the trend continues, could start impeding its utility in rapid-fire situations.

* It is a much better program than the PC version we had before. It seems to work just fine after using it a few times.

* Need the ability (or provide better instructions) to add additional LSR report to an existing LSR in the same event.

* It works pretty well.

* There needs to be more accommodation for geographically imprecise reports. Often reports come in from "Airport Road" east of so & so, or "on FM 1258". But we never know with more precision that that. The program wants X miles from location Y. To accommodate that, we simply have to guess, which is to say we fabricate information so that it may be input given the constraints of the program. So it needs a "near" option instead only of some specified number of miles along some vector.

* LSR should be combined with Central Region's E-spotter web-based application.

* There needs to be a way that we can add towns and cities on the fly during severe weather events to the program. It is to restrictive on the cities. Sometimes we have to use a reference city 20 miles or more away.

* Does not seem to be very intuitive to use. Takes a lot of effort to get comfortable with, and

since we use this program on a seasonal basis and need to refresh our experience with it every year, this is somewhat of a shortcoming.

* The location code is a bit restrictive at times...it would be nice if we could add locations.

* Airline Pilot should not be the default selection for report source. Too many LSR's go out with this erroneously selected as the source. Also, we often issue multiple LSRs for an event. They should go out as AMD, as opposed to corrections.

* I never use it; it is most heavily used by HMT's.

* More small towns!

* Would like to be able to set the default values to something other than the first alphabetical option. Source of report is currently "Amateur Radio", and Weather Event is "Blizzard." Would also like to see non-severe size hail removed from the list. These should not be sent in an LSR (e.g. Pea size and marble size).

* I haven't used it that much, as I am usually doing something else.

* Make it so you can easily set the default of the "source of the report" and the "weather event", and/or allow individual WFOs focal points delete the unneeded sources and events for their office.

* Needs better documentation and examples.

* Should have stuck with Machala's (BMX) program.

* Still some room for improvement in picking the reference city for a point. The "first city on the list" logic is not good. We should also be able to delete an erroneous entry that has been transmitted.

* The default when using lat/lon to the use as a reference city the last alphabetic one in the list is odd. The program failed on me several times in the format product phase AFTER i had typed in all my data WHICH wasted lots of my time during significant workload shifts. Hopefully these difficulties have been ironed out.

* I always seem to have problems remembering all the little turn on/off before issuing. I have had to send many corrections. I think it works great some of the times, but I curse it too.

* Too many events going out with source as "AIRPLANE PILOT". Need to have default event source be a blank line, and force users to select the source.

* Too cumbersome to edit and make changes.

* There are not often towns in the database and it creates more work in the LSR process.

* Again...I haven't used in a while. But I do remember it being user unfriendly and non-intuitive.

* It sometimes is confusing if you do not follow the correct order for putting the LSR together. Also...when I select trained spotter as the source of my report it brings down a window to put in the spotter name. It then won't let me put in the ID of the spotter. If we are not allowed to put in the spotter ID, then take away this option.

* There is a reluctance in our WFO to issue an LSR. Hopefully, as operations personnel become more familiar with the program, more real-time and summary LSRs will be issued.

* Don't use it that much.

* none

* A very necessary change that should be implemented as soon as possible would be to allow the user to select ONLY their CWA when they are not backing up another office. Then ONLY the counties within their CWA would be listed when a city is chosen. In backup mode the user should be able to choose the CWA for the office they are backing up. At this time however, when choosing a city for the storm report, one has to be careful that the city is indeed in the county in THEIR state and NOT in a county in a nearby state. Also important, the program should not default to BLIZZARD. On I believe two occasions, our office sent an LSR that had the hazard listed as BLIZZARD. The default should be blank, necessitating the user complete this selection before the LSR can be generated.

* I AM VERY SATISFIED WITH THE LSR APPLICATION IN AWIPS.

* Need to default the reports to other than Airplane report.

* Eliminate default entries (source of errors)...all fields should be blank to start.

* really like the LSR program. A major improvement from previous attempts at this application. Fairly intuitive program.

* Clunky and difficult to use. Would like it to be easier/more obvious how to change the default selection for storm report type and source. Perhaps an easier way of entering the date/time would also be in order (i.e. make it easy to do from the keyboard versus just using the mouse where you can TAB between fields).

* Great piece of software. We use it extensively/exclusively.

* The LSR GUI needs to be as intuitive as possible to navigate. It has shown considerable improvement in usability since first deployed. The ability to easily select a report to delete or modify is important before transmission. The software needs to be easily configured for local needs, ie spotter types and event reports.

* An excellent program, that stays up to date with NWSI changes.

* Need a way to sort source of report so airplane pilot isn't always first, like maybe have trained spotter as the default source to appear first.

* Add ability to pick stations from a list - for Mesonet, NWS Observations, etc. - to save having to enter lat/lon or distance from city information for these stations that do not move.

* This program can still be made a little more user friendly. The program is a little cumbersome, particularly when trying to develop a summary LSR.

* Works well.

* I love the application, but there should be enough checks to make sure that if I put "NNE" of a city, it doesn't allow me to transmit the product without a number for the miles.

* DOES NOT HAVE ALL THE CITIES IN IT FOR REFENCE PURPOSES.

* There needs to be a better way to display or organize the type of severe weather.

* Better marine applications

* The list of "whom the report is coming from" is in alphabetical order. It should be in order of frequency. 95% of our reports come from spotters and that should be the default, but you have to click the arrow and scroll down to select that.

* None

* We are using LSR more and more.

* Take out airplane pilot as the first choice of who reported the weather ... that is a very unlikely choice ... and takes time to scroll down .... thank you ...

* Much improved and easy to use.

* I dont use very often (usually the HMT's) BUT I know the WCM greatly appreciates the LSR

* Need more flexibility. Need to change the order of the reporters. Too many times a report is sent out with "airplane pilot" as the report source because that is the default. This should not be the default.

* we use the AWS (automated weather source) wind data for verifying storms. I've talked with them about how they want their data to be listed in the LSR. Not sure if their is a template that we can "tweak" to satisfy them or not.

* Our WCM wrote an application to prepare a PNS from the LSR. It might be nice to

incorporate something like that into the program.

* the AM and PM seem to occasionally display wrong

* I would like to see LSR keep the event you just selected instead of defaulting to a particular event such as flooding or whatever. Most of the time you issue LSRs for the same event (ie. damaging winds or hail). Sometimes if you are in hurry to issue the LSR, you may overlook the kind of event and have to send a COR.

* Not sure if the version installed is an MDL version.

* The ordering of the list of events and sources should be site configurable instead of alphabetical. There is no reason to have to scroll down through seldom used (but still possible) report types or sources in order to pick out the most oft used ones. There should be an ability to at least choose the five most used sources/event types and put them at the top of the list. The 2nd best and 2nd most useful app we have from MDL

* Need to have a mapping function built-in, so when you enter data, you see exactly where it is on a map, so you avoid unintentional errors. Better yet, have a map where you can place the report instead of guessing how many miles from a given city/village.

* Need better guidance on adding spotters to AWIPS maps.

* Link this to GIS software applications for records analysis and climate data.

* Doesn't include as many towns as we would like.

* The latest version is a substantial improvement from previous versions. Easy to figure out without a lot of training required.

* It is a little cumbersome, and we are locked into certain report types, such as "Department of Highways". This department does not exist in our state.

* The LSR works pretty good for me.

* It is a bit clumsy when trying to enter in new data, or make a correction. It could be a little more intuitive, so that someone who hasn't had to use it in awhile could go through it without having to ask someone else how to get from the entry screen to the review screen to the transmit screen.

* First and foremost, the user interface seems counter-intuitive for the generation of a report. After having used the program for some time now, I can understand the usage of the summary button. My biggest complaint however, is with the entry of events themselves. There should be a way to enter a spotter by ID number IN ADDITION to the spotter name. During active weather, our office relies on using ID numbers to keep the calls as efficient as possible. This efficiency is reduced when some members of our staff feel they should be obtaining names also because this

is the easiest way to get data entered for the LSR event. Event entry efficiency is also reduced with the alternate technique of having two instances of the LSR program running on two different monitors. This allows one instance to be used for referring to the spotter by ID number in order to obtain the name while the other instance is used for actual data entry. One positive in favor of the program is the ability to present the data as an overlay in D2D. This has greatly improved our ability to quickly contact spotters in areas of concern.

* We catalog and search our spotters by the county the spotter lives in followed by a number (such as Thurston 16). On the Readout Map display it would be nice to have the Identifier displayed as well as the Name so you can view both on the overlay.

* THIS IS GOOD SOFTWARE. EASY TO LEARN AND USE. DOES NOT REQUIRE CONSTANT PROFICIENCY TRAINING TO KEEP UP TO SPEED.

* Excellent program. Would prefer to just have the "trained spotter" option referred to as "spotter" since there is already an option for "public." We have lots casual observers that aren't necessarily "trained" spotters but whose location information come up under when their names are type in using the trained spotter option. Some folks have a problem referring to them as trained spotters. The name look up feature is very nice, which is why we do that here. That may be more of a local issue, though.

* The application is a little non-intuitive for users like me who rarely use it.

* Some phenomena have been omitted ie. debris flows or mudslides and volcanic ash reports. More screen instructions would be helpful.

* Eliminate blizzard warning as the default! Need a "sort by" option for a long list of LSRs.

* Have not used the program often, but the general atmosphere of those using it during severe weather operations is that of being dissatisfied.

* Volcanic ash missing.

* none

* Allow drop down menus to order sources of reports other than in alphabetical order.

* Still new software for us need more time to evaluate given small number of severe events.

* Occasionally we have seen LSRs sent through this software unable to be coded properly by national centers - but perhaps this has been corrected since last fall's severe season.

* Excellent

* The LSR GUI is a strong application. It is very intuitive to use and gets the job done easily. The only item I wish that it had was the ability to add additional cities to its database without

having to add them to the AWIPS database. In other words it would be nice if we could add cities on the fly.

* Excellent program! I would like to fine-tune some of the location and source of report choices. It's possible that is already configurable but I'm not aware of how to do it.

* Severe weather is uncommon in our CWA, but the few times I've used it it seems to be useful.

* Menus are not intuitive. It took to long to figure out how to edit a bad LSR.

* It works well.

* Give the LSR the capability of creating "stranger" SHEF reports.

* A very good program.

* It takes a little getting used to, but I have no problems with the LSR program.

* It would be nice to have the ability to edit a "work" version of the LSR before sending it out.

* Make it easy to go back and make corrections to an LSR before issuing.

* add more cities

* Right now, you have to right click to make the "Amateur Radio" become the default, instead of Airplane Pilot...but this is a little known fact, often forgotten by forecasters. Similarly, the default is "Avalanche" each time unless one right-clicks to make "Hail" or "TSTM Wind Damage" the default. I guess there should be a simpler way...or else have the default be the last type entered, instead of the first one on the list.

* The software would be easier to use if Source of Report could default to County Official or have it default to the source used in the previous report. The same is true for Weather Event, have it default to Thunderstorm wind damage or have it default to the previous event. Both of these entries are the most common used.

* Not very user friendly when trying to combine multiple reports.

* Easy to use...no complaints here.

15. Suggestions or comments on SAFESEAS:

* Didn't know we had it

* haven't used it yet.

* We do not have any buoys in our local area and I do not see anyone using this application.

* We are to far inland for Seas and our lakes are dried up.

* not applicable at our office.

* The office with the help of Alaska Region HQ were unable to configure the software...

* Not used at LUB

* We are an inland location.

* Not applicable due to our "INLAND" location.

* We've seen that red button on the d2d display for a several AWIPS builds now, and no one has ever informed us of what it is for or how it should be used. This is not a good way to deploy software. I haven't heard anything from any marine office mentioning its use or usefulness.

* SAFESEAS is somewhat cumbersome to use and does not offer any features which seem to be particularly helpful. We do not have much trouble monitoring conditions in real time by simply plotting observations and viewing the text obs. The myriad of colors and alerts SAFESEAS provides simply confuses folks. In addition, since we are still required to utilize the MARMON system to track when our forecast is out of tolerance, we do not see much benefit in SAFESEAS, since it does not compare our forecast to observations. If SAFESEAS performed a comparison of gridded wind forecasts and observations, it would be much more helpful.

* Never used in our office.

* Not user friendly.

* We do not use SAFESEAS.

* We are not a marine office.

* I usually check the buoy data via the internet.

* Not used in this office.

* Landlocked WFO. We don't have a need for SAFESEAS...therefore is never helpful

* Do not have any marine areas here.

* I did not know about SAFESEAS until seeing the question on this survey. I found it on AWIPS...and noticed that it only picks up on wind speeds in our FA...and no other info (like wave heights, swells). Also, it seems we have too many marine zones on the list...because you have to scroll down to get to the ones in our FA, and every time the tool refreshes, it kicks you back up to the top and you have to scroll down each time.

* n/a

* We have no marine zones at GJT WFO.

* We have NO buoys despite being an island!

* We are not a Seaside of Lakeside forecast area. Not applicable.

* inland office

* Our office does not issue marine products

* N/A

* Without BUOY's of very little use.

* We don't use it, no marine area.

* We are not a marine office, so it is NOT used.

* Have never used this application in operations.

* This software is slowly catching on.

* Why use SAESEAS when there are no buoys within our marine area?

* N/A in our office.

* I've never heard of it.

* application not used as there is no marine responsibility here.

* I have been at our office for 6 months and have not heard of this application, so I assume we do not have it, but we do have mostly marine areas on the great lakes in our WFO.

* Still unreliable. Loses local changes.

* More forecasters need to use this!

* Never used SAFESEAS--not even sure if it works here in Fairbanks. Our marine area has a very limited ob network

* Just never got around to really making this a part of our operations. Just didn't seem all that useful.

* Have no basis for judgment since there is little if any data to use for monitoring.

* Not a coastal site.

* The answer for #12 is such because I have never used SAFESEAS.

* Don't use it.

* Never heard of it.

* This application is relatively new and has room to grow, but its usefulness is limited as long as it can only evaluate observations. Perhaps marine forecast grids could eventually be included in the program and be evaluated with the observations. This would better serve the forecaster as a monitoring system.

* We have not activated SAFESEAS.

* Don't use it. Never heard of it.

* Never use it! Did have some training and would need to refresh myself with that training before using it.

* SAFESEAS might be useful in data rich areas, but HGX has only two off shore buoys in its CWA. The on shore data is of limited use because high surface winds on land do not always make it to the surface over water, and vice-versa. The marine focal point and I initially configures SCAN, and we arrived at a joint conclusion that the forecasters were better off depending on their meteorological skills then relying on a tool like SCAN

* none

* Need more (user) documentation on this application (specifically, which type of events is this application most useful, least useful, etc.?).

* Training is needed for this product to understand it pluses and minuses.

* I am not aware of the application.

* To my knowledge, this application is not utilized at this office. We have it loaded however.

* This honestly hasn't had much use here. It has been configured, but with the lack of marine obs in our area it utility has been muted.

* Never heard of it.

* SAFESEAS doesn't really tell us anything we wouldn't already know from analyzing the weather situation.

* not applicable

* We were told about it but I can not say I have seen anyone use it except the focal point. I tried it once during none severe marine weather to see what it did. Never used it after that.

* It's not worth its weight.

* We have not been trained in the use of SAFESEAS and therefore do not use it.

* Repeat the mantra...TRAINING!!!

* never heard of it

* San Juan has no buoys or C-MANs, and NOS tide gages are in protected areas.

* Nothing wrong with it...just that we need to use it more, locally.

19. Suggestions or comments on AvnFPS:

* Need to be able to better control the size of the windows/entry screens.

* needs NAM mos cigs/vsby/wind portability.

* There should be a way to store the user preferences in terms of colors and fonts when a new version is issued. With NWS throwing NDFD at us with its tedious and incredibly extensive tasks, there's not a lot of time to spend adjusting a new AvnFPS to our preference each time it is updated.

* We use this application exclusively and it runs very smoothly.

* I think the QCing could be a little better. It misses some very obvious mistakes.

* Setting up rules can be complicated at times, and the incorporation of grids/MOS formatting as a first-guess TAF is not worth using. Too many errors.

* It needs to include conditional climatology or persistence probability.

* It would be nice to have the work products easily available to all workstations once they are created.

* We are only using it as a monitoring tool at this point. It has some nifty monitoring stuff but we are still using home grown stuff for preparing and qc'ng tafs.

* WISH THE METARS COULD BE USED ON INDIVIDUAL TAFS AS WELL AS ALL OF THEM...SOMETIMES I WANT TO PLUG IN THE EXISTING METARS ON SOME BUT NOT THE OTHERS....

* How about developing a script which will actually produce a draft set of tafs off the MAV/MOS and NDFD Grid guidance products? Nice piece of software.

* Best tool to come out of MDL...we have 12 TAFs and AvnFPS is great!

* Another invaluable tool for the preparation and monitoring of aviation products.

* The TWEB generation part is a bit cumbersome. After a work file is produced and QC'd, it flags you for a ceiling combo. For example, areas of ovc 015-025. It seems that the program wants just one ceiling, then the QC works and saves it.

* GREAT program. Again, though, we probably don't want to keep adding buzzers and whistles.

* AvnFPS is used by every aviation forecaster extensively

* If it could somehow tag the TAF forecasts with the forecaster ID so that the national

verification could keep track of individual forecasters that would be great.

* I prefer the front end look of Aviation Workstation (the version similar to Rave)...though the editor is superior to Aviation Workstation.

* In the TWEB Maker, the QC program often gives errors that do not exist because of a time group may be word wrapped to the next line (e.g., missing CB with TS).

* Except for the occasional burp (for instance, yesterday it would actually transmit anything) it works great.

* Keep up the good work!

* Overall, the AvnFPS is very good. I have some comments and suggestions: The formatted MOS tool should be improved. I just looked this morning at the TAF it created - 10 lines for all VFR weather. If I was writing the TAF, I might have used 3 lines. The tool should be improved, or another option added so that only significant category or wind changes are displayed. In addition, I like the feature "use metar for prevailing", but sometimes I wish I could just update the winds or cigs, instead of the whole first line of the forecast. I also like the "copy forecast" tool, but sometimes (especially for amendments), I might want to copy only the first couple of lines of a TAF to other TAFs. Similarly, when I'm working on a new package, I may want to add a line or two to the end of the TAFs. It would be nice if that could be done in a "copy forecast" tool fashion, instead of copy/paste.

* AvnFPS still doesn't catch a lot of errors.

* Would like to see my proposed TAF on the graphical presentation to compare to various guidance/previous TAF - could this be toggled along with the guidance selections??

* It would be nice to incorporate an on-the-go verification system and guidance material (e.g. MakeTAF program) into a one-stop shop for aviation forecasting.

* Again...you picked the wrong program. Machala's is much better and his version is still in use by half of the staff. The other half see the writing on the wall and have convert to AVNfps.

* Put the ETA guidance in...since you already have GFS and NGM guidance in. Also...usually once a shift I get a red light on my 'DataSvr' box. I click it once and it comes up with some long-named error...but then I click it a second time and it goes away. Every time. Not sure what the bug is there.

* This is about the best piece of software that the NWS has. Why is that?? How was this software developed as opposed to all the others?

* This is a great program. I would rate it even higher if all of the bugs in the QC part of the program were fixed.

* Excellent

* none

* The color alert system to inform you that your visibility is out of tolerance by one category does not work. Example. If you have P6SM in the TAf and the visibility drops to MVFR (3,4,or 5) no alert is activated. Also if you TAF has a very low vsby or cig, in fog and it becomes clear there is no alert. Bottom line the alert portion of the AVNFPS needs to be improved. Also it takes a long time before the MOS guidance is updated in the program.

* The method of using MOS to help construct the TAF should be made more intuitive and therefore user friendly.

* I FIND IT FULLY CAPABLE AND EASY TO USE, BUT THERE ARE OTHER IN THE OFFICE WHO REFUSE TO USE IT AND CONTINUE AVIATION WORKSTATION.

* like the fact that you can customize by forecaster. For example, i like the bigger fonts and other don't.

* Perhaps cut down on the number of alerts/pop-ups. For instance, when multiple copies of an ob or TAF enter the system, make it "smarter" to recognize it is the same product as the one it has already "evaluated" and not alert again (and again...).

* Works great. Excellent software.

* No problems. Everyone seems to be happy and readily accepted this program.

* Another excellent program; easy to use and easy to set up/maintain.

* No problems here.

* No comments.

* Improvements over the past couple years have provided a useful, easy to use, and reliable software package.

* Would like to learn more on Persistence meanings.

* NEED TO DEVELOP AN EASIER WAY TO SELECT MULTIPLE TAFS TO AMMEND.

* The only problem is that when you update the times to do a new TAF issuance, it puts an extra space in the wx and vsby groups. You have to go through it and delete the extra space it created.

* It would be helpful if we could get the NAM MOS into the system as well.

* I am only an intern and have not began to write TAFS and TWEBS, but will be in the near

future.

* We don't issue any aviation products without AvnFPS

* One of the best applications I've ever seen come out of HQ. Excellent support and assistance.

* Great application! AvnFPS's biggest strength is how much information it conveys on its front page--with one quick glance you can see where the trouble is. This tool is very helpful in keeping the forecasters situational aware.

* Easy to use and an outstanding application!

* The q.c. function has been done by a genius. Let's put him/her in charge of public/marine forecast formatters.

* I've noticed that it takes quite a long time to ingest MAV and FWC data for reference(sometimes over half an hour after it gets into our AWIPS system).

* This has been one of the best tools developed!

* Excellent Program. Would like additional training on the "bells and whistles" within the program.

* The QC features have improved, but still have a ways to go. For example, the TWEB QC program still recognizes BLO as a good contraction when BLW should be used.

* Robust and useful.

* TWEB QC portion of the program is lacking. Too many errors do not show up as errors in the QC.

* Still some QC improvements needed for AvnFPS. Misses errors it should catch.

* I am generally satisfied but AvnFPS can flag a TAF for an AMD when it really doesn't need an AMD. For example, suppose your TAF shows the vsby at the top of the hour increasing from 3-5 miles to 7 miles and the vsby reported at the top of the hour was 3-5 miles. And at H+05 or H+10 the vsby goes to 7 miles or greater. This is not special criteria so the vsby is not reported from ASOS to AWIPS. Yet, even though ASOS is reporting the good vsby, AvnFPS thinks the TAF needs to be AMD and keeps flagging it as such. This is a systematic error and there is no way to adjust for this error right now. It would be nice if special criteria included from going from 3-5 miles to P6SM. Then the AvnFPS would work just fine.

* Program works well.

* Real pain to have to redo colors and fonts for each user every time there is a new build. When new TAFs are prepared, if you get out of AvnFPS, we typically can't find them again (even after

a QC). The save features are too confusing. The TWEB QC needs some work, still seems to have problems with certain areas.

* I'd like to see it ingest conditional climatology as a first guess, like sometime from PPTools or the USAF MODCV program output. Lamp Hourly output as a first guess might be good and the ability to display it, much like the GFS MOS. Add Eta MOS too. Ability to average the ETA/GFS/NGM MOS bulletins CIG/ VIS categories for an "ensemble" aviation forecast.

* Seems like some bugs pop up occasionally. Sometimes can not send TAFs and end up having to exit program and bring it back up. Forecasters still tend to like the display from the BMX program, colors ,etc.

* Would like to see AvnFPS have options to decode peak wind to verify wind gusts, and surface visbility remarks in METAR observations. The latter option may become necessary if we receive approval to forecast surface vsby at tall-tower airports, where tower vsby can sometimes be LIFR/VLIFR while surface vsby is much greater.

* Mixed opinions in the office. Some like the color circles in the AVN workstation better for monitoring. Others like the AvnFPS because it provides an audible alert. We are trying to standardize and move everyone over to the AvnFPS.

* Great application. Always used. No complaints.

* None that I can think of.

* There are times one person will save a set of products, and someone else needs to transmit them, and it is not always easy to find where the products are. I do like the QC function, and the timed transmit function. I had a issue with it this weekend. I was working on the 18z TAF's, (it was about 1645z). I then had a TAF that needed to be updated for ceilings. There wasn't an easy way to go from the entire set of TAFs to just the one TAF without closing something down.

* Improvement of TWEB QC software.

* Preparation?

* Very user friendly. The TEMPO warning can be a little annoying, since we forecast for a 5 mile radius around the actual METAR.

* The TWEB QC check is woefully lacking. It is difficult to figure out how to send routine issuances such as the TAFs when one forgets and misses the transmission window and then wants to still send them out.

* This prohgram can really mess up a TAF if there is more than one "=" sign or if there is none. It would help if it did not add or delete text, merely highlight supposed errors in this case.

* It must incorporate IFPS grids to initialize the TAF!!! Need graphical trends display

(meteograms).

* Several times co-workers, including myself, have accidentally lost the TAFs (Ex. Hitting the restore button before saving). Perhaps, adding a previous version functionality to the restore button would prevent this from happening.

* I would like to see the new MAV guidance and the NAM guidance be accessible. Also, the current MAV guidance arrives about 15-20 min later in AvnFPS than in AWIPS. A more timely arrival would be appreciated.

* George Trojan has always been very helpful whenever we have had a problem. Give that man a raise! :>)

* looking forward to adding verification

* none

* It would be nice if this program allowed us to initialize a forecast (routine) using MOS guidance, persistence, or climate data.

* THere are still a few issues with the software flagging code that is technically correct, yet the software flags it as an error.

* Lately, the server icon has been going 'red' quite often. This problem has been referred to the originator of AvnFPS.

* AvnFPS is a quality program. Still a few more problems/bugs (i.e., the problem of sending AMD/CORs because of the dialogue box issue, problems with the values from the GFS MOS etc)than we would like, but solid overall. Several of our forecasters wish it was even more configurable. The configurability of the program is quite good, but some individuals wish that we could set our own alert/alarm criteria (e.g., the focal point sets standard alert/alarms that cannot be changed, but then other items that are not locked by the focal point configurable). A couple of forecasters wish that they could have up a single color indicator that would indicate the current worst case element. They feel that the small color bar is difficult to see if one has rolled to another workstation for training etc. This could be a toggle between the standard element by element color bar and a large circle for each TAF site that indicates the worst condition at the moment (i.e., turn red if there is TSTM and none forecast or three categories off etc).

* One good program.

* The monitoring thresholds are set rather loosely. The old Aviation Workstation seemed to provide a little stronger alerting function for our purposes.

* AvnFPS is a great program for monitoring TAFs. We would be lost without it. The only negative comment I have about it is that it is a little too strict with the TWEB QC (it flags us on things that aren't necessarily etched in directives), but that's okay since we can override it.

* Keep the innovations coming!

* Good system ... no problems.

* Terrific, terrific program.

* A very good program.

* I love the AvnFPS. You guys did good with this one :)

* An improvement in the TWEB QC functionality could be used.

* Need an option to initialize with the model forecast.

* We do not use AvnFPS...still use AWIPS Aviation Workstation Version 3.6.

* Why should MOS lightning be an alert? Why is this product considered so important? We don't get alerts for MOS ceiling or visibility.

* It sometimes is very unforgiving if you are more than 10 minutes late and doesn't allow the products to be entered for that cycle. It then forces us to cut and paste each individual TAF into the AWIPS PIL. That's the only downfall I've seen.

* Would like to see better QC checks on TWEBS.

* This is an excellent application. The only suggestion I have is to make the configuration a little more intuitive. It can take quite a bit of effort to get the fonts, colors, etc. adjusted to the users preference.

23. Suggestions or comments on MOS guidance:

* need gust output from the mos. need gfs mos to do a better job on cold air damming wind direction interior southern New England (northerly).

* We have been getting MOS for only a few years now. It is very helpful to have the MOS in the TAF program.

* I refer to the ETA, MAV and FWC MOS, but obviously use raw model output, forecast soundings, BUFKIT data, profilers, satellite imagery, etc. when compiling a TAF forecast or update.

* MET is often impacted too much by snow cover...but this is from its parent model.

* We need to make the ENM MOS a part of the mainstream for Awips. Tim Barker's script is something we are going to employ this spring to make use of the guidance and to get it directly into GFE.

* Was wondering if NGM MOS guidance will ever go away and why is it still here. I think it was talked about to discontinue it's use a long time ago.

* In general I am satisfied with MOS in the short term...first couple of days...after that MOS is pretty bad for days 4 through 7...especially in the winter months over most of northern Alaska. MOS over northern Alaska doe not even come close to matching the CONUS MOS over the extended days 4-7 forecast.

* Will we ever see MOS guidance from the DGEX?

* used extensively

* We are looking forward to gridded MOS and are curious to see how it will compare with the Match MOS data we currently utilize in GFE.

* Need Eta Mos for IFPS!

* It would be great if someone at the national level could evaluate the skill of MOS in light of varying weather regimes/patterns on a national basis, though we understand that may not be your primary mission and resources to conduct such a potential helpful study are limited.

* Needs to be developed and applied to a 5km grids for IFPS.

* Gotta have it, right?

* Again, great job with the MOS guidance.

* For aviation: GFS mos is usually too optimistic for cigs and vis. The NGM mos is usually

better. The Eta mos seems to be inconsistent: Sometimes does a good job with the cigs, sometimes it's way off. I would also like to see vis data for the eta mos.

* More probability and/or ensemble data!

* Great Job on improving the MAV/GFS numbers over the past several years!

* Need training materials and documentation for more effective use of MOS.

* Snowfall guidance that better corresponds to our forecast periods would be preferable. Nice to see all of the expansion of the MOS guidance!

* too much reliance on it is meteorological cancer

* I had difficulty finding the equation change dates for the NGM (4/yr if i recall correctly) during a recent search of the mdl web site and google search. I really like the online reference papers by Mary Erickson and others because last week I needed to compare the mos pop development periods 'precipitation characteristics' to our very dry Jan/Feb. period. That led me to key in on soil moisture as a possible reason for mav/mex cool bias on highs recently. Keep up the good documentation work.

* I'm not sure how many other forecasters use MOS guidance, but I at least look at it every time I forecast. I also use the Met, the Mav and the FWC on a regular basis. Do not get rid of the FWC MOS guidance.

* No comments.

* MOS is viewed more like an enemy than a helpful tool (especially MAV). We would probably verify against MAV better if we did not use it all in the forecast process.

* Cig/vis needed all products.

* Will VSBY ever be included in the ETA MOS???

* none

* NOTHING'S PERFECT, BUT REALISTICALLY EVERYONE LOOKS AT MOS TO SEE IT'S OPINION.

* Add a computed RH field for use in operational GFE forecasting. Would be helpful for fire weather offices.

* I'd like to see the following in MOS. Some of these are available on the graphical web site, some are not. 1) Probability of 1/4 mile or less visibility in Fog 2) Probability of .01 and .25" freezing rain/sleet 3) Probability of 2, 4, 6" of snow 4) Probability of 1, 2, 3" rain 4b) Or Probability of FFG being exceeded 5) Probability of gradient wind 25+ mph 6) Probability of

gradient wind 40+ mph 7) Probability of temperature of 32 F or less 8) Probability of temperature of 20 F or less 9) Probability of heat index of 110+ F Within 25 miles of a point: 5) Probability of severe hail 6) Probability of 1.75" hail 7) Probability of 58 mph Tstorm gust 8) Probability of 75 mph Tstorm gust 9) Probability of tornadoes 10) Probability of F2+ tornadoes

* When putting together a forecast I always look at MOS. However, I often do no go with the MOS values but I like to use it as a starting point. Sometimes MOS guidance performs poorly in certain situations, so I feel it is good to at least look at it and see what not to go with.

* Overall the MOS guidance is beneficial to the forecast process, some elements are more useful than others. The fog/ceiling variables though change too much from run-to-run for consistency needs, they seemed to have been more reliable in the past than they are currently.

* Great job.

* MOS is MOS. It has it's place, and we use it appropriately.

* The GFS MOS is wonderful and out performs the ETA MOS for all seasons and all stations (overall).

* Frequent changes to MOS, introduction of other versions of MOS (MET, MAV, etc), make accurate interpretation of MOS (as originally intended) more complex.

* Send out MOS for more points - including mountain mesonet stations

* MOS is used heavily in the forecast process. It is also used to verify the forecast. We frequently use MAVMOS and MEXMOS for the initial population of our forecast grids.

* During our winter cold pool events, MOS performs quite horribly. Day 1 errors of over 20F are not uncommon for max temp. Also, we tend to have persistent bias at some locations during some seasons with especially the GFS MOS. The last two summers MOS had a cool bias of 5-7 degrees for max temps when the temp was over 90F. Also, the guidance for KMLP POPs has quite a severe dry bias. MET guidance is generally not used since it performs much worse then the other guidance.

* WOULD LIKE A FEW MORE FORECAST POINTS IN OUR CWA. ASKED REGION IF IT COULD BE DONE AND MDL INIDCATED THAT IT WAS NO LONER POSSIBLE TO ADD NEW MOS SITES. WOULD LIKE TO KAIK (AIKEN AIRPORT) AND KHQU (THOMPSON MCDUFFIE AIRPORT)

* It would be nice to have snow, rain/snow, and freezing precip pops in the NAM MOS as well.

* None

* We just need more guidance points and ultimately...gridded MOS.

* New additions are very helpful. MOS is getting better and better. Thank you all!

* MOS is very helpful, especially now as we do gridded forecasts. Would like to see MOS for more sites, like RAWS platforms.

* Availability of expanded MAV and MET guidance has been a tremendous asset. I would like to see wind data (direction and speed) available for MEX MOS, which is used for the extended forecast. Raw GFS wind data is frequently too strong, especially for our interior locations.

* Expansion of MOS to second order stations in Alaska has been a great help. Thank you.

* I'd like to see the same data on the MET(ETA MOS) guidance that you can get from MAV guidance...particularly on the MOS graphics web page.

* MOS is great--to an extent. Extended MOS can be misleading in the later term because it always seems to lean towards climatology.

* We utilize MOS as a secondary, but not primary decision making tool.

* I still have not been able to acquire the actual MOS equations for our site (MAX/MIN/POPS). I was promised them last year...but I got nothing.

* Certain areas of MOS are good. The poorest variable is the dew point. It is usually too high and not helpful especially in the fall, winter and early spring. Looking at the MOS output would suggest that the plants and trees are blooming if you used the dew point values. This will likely not happen in our area for another couple of weeks. The dew point portion of the MOS needs to be redone.

* Add RH for fire weather applications. Extend temporally out beyond 72 hr for GFS and NAM.

* extended time frame; also an RH field would be useful for fire weather use.

* I would like to see MOS guidance for the DGEX.

* Coop MOS is giving the appearance of problems, especially when used in GFE. When is the ensemble MOS going to be available in individual products (not the long one on the MDL MOS site, we need the one with extremes and +- 1 std dev). Also, how can the MOS equations be worthwhile if the models keep changing? If MOS equations were meant to take out the biases in the models, if the model bias is fixed or changed, then what happens to the MOS values we see?

* Perhaps it's time to have a PP type guidance from the GFS ensemble members or at least maybe not so heavily weighted to Climo after Day 3. There are flow regimes or blocking regimes which are anomalous in which MOS trends toward climo in the extended. Also, is it time to re think the wide aerial regionalized coverage of the equations. A smaller regional grouping of stations (since there are more now) might give better results. BTV equations lumped in with BUF and DTW is probably not a good thing. What about single site equations? Probably

not enough data?

* Can we get bias-corrected MOS? Winds are not all that good compared to other parameters, especially the high bias at night.

* Would like ensemble MOS products to forecast dew point.

* I use MOS quite often to make a forecast.

* I THINK MOS--ESPECIALLY WHEN IT COMES TO POPS--IS THE GREATEST THING SINCE SLICED BREAD. AS THE SOO, I AM A STRONG ADVOCATE FOR MOS BECAUSE I CONTINUE TO SEE TOO MANY CASES WHERE MOS BEATS US--AND SURROUNDING OFFICES AS WELL, FOR THAT MATTER. FOR EXAMPLE, IN FEBRUARY WE HAD A PACIFIC STORM PASS OVERHEAD AND WAS FORECAST TO MOVE INTO CENTRAL ARIZONA. I NOTED THAT MODEL FORECASTS ALL LEFT A PERSISTENT LOW LEVEL TROUGH OVER THE REGION...EVEN AS THE LOW MOVED EAST. I FELT THAT, ALONG WITH THE RESIDUAL MOISTURE FROM THE RAINS AND THE AFTERNOON HEATING FROM A SLIGHTLY HIGHER SUN ANGLE, WE COULD EXPECT A LOT OF LINGERING AFTERNOON SHOWERS TO FORM. I CHECKED THE MOS PROBABILITIES AND THEY WERE RUNNING 30 TO 40% OR MORE. HOWEVER, WHEN I CHECKED SURROUNDING OFFICES, EVERYONE HAD ZERO POPs. IN A COMPROMISE, I PUT IN 10 TO 15 POPs TO REFLECT AT LEAST A SMALL CHANCE FOR RAIN, WHILE STILL PRESERVING AGREEMENT ACROSS BORDERS. AS IT TURNED OUT, SHOWERS AND EVEN A SEVERE STORM OR TWO WERE OBSERVED FOR THE NEXT TWO DAYS AFTER THE LOW LEFT THE REGION. I WISH I HAD STUCK WITH MY GUNS AND WENT WITH THE MOS POPs AND NOT WORRIED SO MUCH ABOUT AGREEMENT WITH SURROUNDING OFFICES. MOS BEAT US ALL THAT DAY. OVERALL, I HAVE A VERY GOOD OPINION OF MOS. THERE HAVE BEEN MANY OTHER OCCASIONS, WHEN THERE WAS A LOT OF UNCERTAINTY IN THE FORECAST, I HAVE USED THE MOS POPs VERBATIM WITH A LOT OF SUCCESS. HOWEVER, I DO NOT BELIEVE MY STAFF HAS A FULL APPRECIATION FOR MOS AND A FULL UNDERSTANDING OF POPs--AND I BELIEVE THIS EXTENDS TO MY SSD, AS WELL. SPECIFICALLY, SEVERAL YEARS AGO, I MENTIONED TO MY SSD [WHO WAS VISITING] THAT MOS WAS BEATING US. ONLY MINUTES AFTER I SAID THIS, HE PROCEEDED TO GIVE A TALK TO MY FORECASTERS. ONE OF THE POINTS HE MADE DURING THE TALK WAS THAT MOS POPs WERE NOT REALLY ALL THAT GOOD. HEARING HIM SAY THAT WAS LESS THAN HELPFUL. IS IT NO WONDER THAT I KEEP HEARING MY FORECASTERS SAY DUMB THINGS LIKE..."WHY DID YOU PUT RAIN IN THE FORECAST?" WHEN ALL THE FORECAST CALLED FOR WAS A 20 POP--HARDLY A "RAINY" FORECAST? WITH ALL THE COORDINATION GOING ON WITH GRIDS, I NOW NOTICE THAT THIS MIS-UNDERSTANDING OF MOS--POPs IN PARTICULAR--EXTENDS TO ALL OUR SURROUNDING OFFICES. HERE'S ANOTHER EXAMPLE. DAYS BEFORE ONE OF OUR RECENT VERY WET CALIFORNIA STORMS, I WAS USING THE MODEL FORECASTS TO POPULATE MY POPs GRIDS...MAKING MINOR ADJUSTMENTS BASED MAINLY ON LOCATION AND THE NEED TO MINIMIZE DIFFERENCES WITH OTHER OFFICES.

AFTER PUBLISHING THE GRIDS, I RECEIVED A CALL FROM ONE OFFICE ASKING ME WHY I HAD GONE WITH 60 POPs ON DAY 5 OF THE FORECAST. THAT OFFICE HAD FORECAST A STRAIGHT 35% POPs FOR THE ENTIRE WEEK, WHICH TO ME WAS INTUITIVELY MORE DIFFICULT TO EXPLAIN BECAUSE, EVEN IF THE MODELS WERE UNCERTAIN IN TIMING, IT SHOULD HAVE BEEN OBVIOUS THAT THE POPs WOULD INCREASE AS THE STORM APPROACHES. BY THE WAY, IN MY OWN OFFICE SEVERAL OF THE FOLKS WERE GOING A STRAIGHT 40 POPs EVERYWHERE BECAUSE THEY BELIEVED THAT THERE WAS A CHANCE FOR RAIN EVERY DAY AND WE DID NOT HAVE THE SKILL TO DO OTHERWISE. APPARENTLY, EVEN THEY DID NOT APPRECIATE THAT IT WAS LOGICAL TO INCREASE POPs AS THE STORM CAME NEARER.

* MAV generally rules the roost when it comes to PoPs and temps around these parts, though it tends to have a cool bias in the winter season. Eta MOS (MET) usually too warm and too dry year round. Interestingly, I find the much maligned NGM MOS (FWC) for wind very good and often times much superior to either the MET and MAV. The exception is backdoor cold fronts, when the Eta is typically much better.

* Being able to access all MOS guidance for a single site by entering the site name eg "SJU" would be very useful. As of now MOS guidance is under many different headers.

* Constant changing of models has reduced our confidence/experience in model and MOS performance.

* I would like to see known biases with the ETA MOS produced or perhaps a web link to such information. Would this be related to systematic biases of the model? Under certain circumstances (which I should log for my reference) the highs can be way overdone.

* none

* Please do not discontinue the NGM MOS guidance. In certain synoptic situations, this guidance is much better than the NAM and GFS.

* Having MOS for each model definitely has helped the forecast process, although each obviously has its own biases and times of poor performance. It would be nice to have MOS guidance for the ensemble products be calibrated for the ensemble runs, and their reduced resolution, rather than just applying the operational GFS equations to each of the runs - calibrating this ensemble MOS output would make the MENXXX data much more useful to the field. Forecasters are starting to look at this product much more than in the past.

* SMP pops always too low. Need more mountain sites.

* I like the ensemble MOS suite for a particular station... maybe it'd be best if the operational MOS product was based on the ensemble mean.

* Ensemble MOSS has been a particularly good addition to the suite of statistical guidance.

* I think MOS is as useful as the raw model output allows it to be. Of course, MOS for each gridpoint in the grids would be nice to have someday, but I understand we are a ways away from having the computing power to do that.

* I like having the ensemble mos out put from the GFS. May be nice to see something from the short term ensembles.

* MOS is good.

* It's difficult to keep up with the MOS biases when changes are taking place to the models. I have found that the FWC is the most reliable for some sites in our CWA (especially GLS); although, the MAV is catching up in gaining my confidence.

* Since we verify against the MOS, of course we use it heavily. And since we are now creating graphical forecasts, the use of MOS adjusted model gridded data is one of our primary means of creating the national digital forecast database. No real complaints about the MOS. It would be helpful if the MOS data could be turned into a high resolution digital, gridded dataset to help us populate the grids, but I understand such work is already in progress.

* Would like to see grid based MOS. Enter a lat lon point and it will create a MOS forecast for that point.

* Add vsby guidance to the MET. Create MET guidance for all four runs of the NAM. Create MEX guidance for all four runs of the GFS.

* I often do not look at MOS guidance until after my forecast is complete. I find greater value of MOS at longer ranges.

* For routine weather, it's becoming increasingly difficult to beat MOS guidance. Where we still have problems with MOS is during pattern changes or significant local effects (like marine intrusions).

27. Suggestions or comments on LAMP guidance:

* Based on NGM output, limiting its usefulness

* I do not believe we have this here in San Juan (SJU).

* LAMP tends to be too low with cloud heights and over forecasts IFR/LIFR conditions.

* Even though LAMP is only used occasionally at our forecast office, I use it much more heavily.

* It does poorly with precip, at least in my limited usage.

* have not really looked at this much.

* I DON'T USE IT MUCH, BUT SOME OF THE OTHER FORECASTERS DO...SO DON'T PUT MUCH WEIGHT IN MY INPUT ON THEM.

* would like to be able to get plotted maps of hourly lamp forecasts instead of just past weather.

* Do not use this too often, but could be put to more use in high impact events and the time leading up to them and threat assessment procedures.

* no LAMP guidance available for Alaska...

* Often, the only time frame where LAMP has any skill is the same time frame a human has pretty good skill in anyhow.

* The LAMP processes were halted a while back due to some inefficiencies. It's been a while since I used it.

* LAMP probably isn't used as much simply because we have not gotten into the habit of using it...not because it isn't useful. There is so much to look at and do these days that it is hard to pay attention to everything.

* I like the LAMP guidance, it gives me a forecast at hourly intervals. It really can help using the wind direction and wind speed by hour as we have some local mesoscale influences that can be forecast by LAMP. I'd be one for MDl to keep the LAMP output continuing.

* Practically useless here. It has terrible diurnal temp and dew point trend biases, and the precipitation forecasts are about as good as a coin toss when it comes to convection.

* Like SAFESEAS, this is another app that was quietly distributed years ago with no information on what it is or how to use it (it's actually a model, but hardly anyone in this office knows that). Because of that, it remains virtually unknown. So here's a kind of general suggestion: In general, if you build a piece of software that no one knows anything about and

sneak it in to an AWIPS build hooked up to a button no one has ever seen or has any known use for, your software is probably not going to get a whole lot of use.

* I think there is confusion on how this guidance is generated and what it should be used for.

* Don't use it, have not been convinced I need it.

* Needs to be more advertisement of LAMP guidance (what it is doing for us, how it is developed). Needs to be applied to a 5 kmk grid for use in IFPS.

* Wasn't very good to start out, so have rarely used it since.

* No one uses LAMp here to my knowledge.

* Also use MSAS, etc.

* During difficult weather situations with low cigs and vis, The LAMP data has been generally worse than the other MOS data. It tends to get carried away with a trend, which often doesn't verify.

* Have not found it to be useful. NGM MOS usually outdoes it here.

* Again, this needs a new roll out campaign to either increase its use, or drop it from the system.

* We need to be able to get these 20 hour numbers into our GFE but seem to be unable to do so!

* Hasn't seemed to be of much value to me. Telling me what I already know.

* Doesn't seem to be catching short term trends/changes here as in previous (non-complex terrain) office i worked at. Lots of missing data. I hardly ever look at LMPs anymore.

* Again I'm not for sure on office use.

* No comments.

* By default...weather changes...its bogus. Uuuughhh. "Joke"

* Rarely use LAMP guidance but whenever I DO look at it the guidance appears WAY out to lunch.

* no mesoscale data available

* none

* IT IS DIFFICULT TO USE AND RARLY AVAILABLE WHEN I WANT TO USE IT.

* Quality of LAMP is lacking. Most of the time it looks like it takes the current observation and linearly interpolates it the future MOS guidance. Not that useful of a product.

* None.

* Would like to see how it verifies. if we knew that, we would better know it's use.

* Too many bullseyes in the data for forecaster to have confidence in the reliability of accuracy in the data fields.

* I don't usually use it simply because I forget it's there.

* DONT KNOW ENOUGH ABOUT IT TO USE IT OPERATIONALLY

* It simply is not accurate. You cannot trust it at all.

* None

* Lamp doesn't seem to do well in complex terrain

* Not enough experience with LAMP.

* The FWC LAMP guidance is generally awful. PODs are generally low and FARs are high. Can similar LAMP type guidance be created using the MAV & MET??? Also would like to see similar meteograms available in AWIPS via MET & MAV products. Again...I usually find that FWC guidance is junk. please e:mail me if clarification is needed here...thanks david.eastlack@noaa.gov

* Never even heard of it...

* lamp does rather poor in min temp forecasting but somewhat well in high temperature forecasts. its prediction of fog or weather is rather poor.

* The times the LAMP guidance I used, its guidance is too extreme. Indicating pcpn is helpful, but little value in its vsby and ceiling values. It tends to be too pessimistic for aviation forecasting.

* Probably should check it more often.

* Need to update for use with newer MOS guidance.

* Honestly, I have not looked at LAMP in a number of years. When it was first introduced, I found that it quickly leaned toward model guidance within the first few hours, even in situations when the model guidance was clearly going to be off in the first 12 hrs. If there was a tool where I could populate GFE with the "Match Guidance" approach (spreading the bulletin data onto the grid with the Serp tool) then I might be willing to see how useful it is as a short-term forecast

tool for the grids.

* LAMP guidance in conjunction with climatology is sometimes helpful in forecasting ceilings/vsby during IFR/LIFR events.

* Just doesn't add much value in mountainous terrain.

* It does not appear to do a very good job of either initializing, or showing the trend even two hours into a marginal weather situation.

* I think our problem at the WFO level is that there is so much to look at, and not always enough time to do so. When LAMP was first introduced, I really thought it was great, and actually was fairly accurate forecast-wise. But with all the training, and changes that we have to adjust to every day, I think this is one item that has been forgotten.

* I'm one of the few forecasters who actually use LAMP guidance routinely. Personally, I find it very useful for temperatures during late morning updates. The sky cover is usually of little value, but I do use the wind speed and direction trends a lot. My general impression is that it captures trends well, but sometime the wind speeds are often under forecast.

* Not familiar with LAMP.

* I understand we have too little data here to use LAMP.

* Just not familiar with the guidance. I often forget it is there.

* HGX has received little training on the use of LAMP. The forecasters are more comfortable relying on the NCEP suite of products, the AWIPS LAPS analysis, and their own hand ploted charts. I think that the LAMP would be more heavily used if there was some training provided that demonstrated it's strengths and weaknesses.

* none

* Sometimes, there seems to be initialization problems, so the forecast ends up being way off the mark. Not exactly sure why this happens.

* Frequently it does not seem to provide useful guidance.

* No idea what this is.

* Ceiling are way to low more often than not. Seems to like to have IFR or MVFR ceilings most of the time. That just seems wrong.

* Last I checked ... bogus bullseye values often contaminated the lamp fields.

* How about running it out 24 hours? That way we can use it routinely for the issuance of

TAFS.

* Maybe it's just me, but the LAMP guidance does not seem to do a very good job in my opinion. It is often too pessimistic with ceiling heights. Of course, it may have improved. There are forecasters here who do often use it, so it must be doing them some good.

* Interestingly enough, I see more people using LAMP as a post mortem tool rather than using it operationally (near real time). Not exactly sure why this is happening, although we may be suffering from data overload during extreme weather situations (which happens to be the time that LAMP data could be most useful).

31. Suggestions or comments on NDFD:

* Remove the java from the graphical display page. Despite changing settings in browser...due to the java, it will NOT reload when updated graphics come in. Have to close and restart browser.

* Why are we forecasting elements at an hourly time scale at 5 km resolution at long lead times???? Worrying about these unforecastable elements diverts attention away from more important aspects of the job.

* a time consuming process that has bogged us down operationally, resulting in update timeliness issues, word formatting difficulties, and disappointingly it is apparent that there are less than the expected # of users of ndfd in our forecast area. This 4+ year developmental process has also been an unnecessary strain on both office relationships and has raised community concern about the quality of some of our products.

* Don't really use it too much. We use our own local grids to brief folks rathr than accessing the NDFD. Our grids are bigger and seem to have better resolution.

* does not apply???????

* We have not made much use of the NDFD grids.

* Too many grids...too little time. Too much emphasis on tolerance and grid appearance than on incorporating meteorology. NDFD is a great idea that got rushed into service too quick.

* Color tables often make a couple of degree differences look huge. Also, for the national scale, why couldn't a smoothing algorithm be used?

* Pages need to be updated more than once an hour.

* For completeness - we all realize we've pushed GFE beyond its original design capabilities - but at the rate we continue to push and introduce new techniques, datasets, etc. I sincerely hope all of you that have a part in the IFPS engine are given the resources/time and assistance to re-tool it!

* Still getting use to analyzing this more frequently. Will become more heavily used as the gridded era becomes more familiar by everyone.

* NDFD grids for Alaska are not currently available for Alaska...

* Given a customer calls the office at all, they probably have some specific need NDFD wasn't designed for. In that sense, question 28 may produce a bias against NDFD.

* Still evolving

* It is starting to be used more by specific users.

* NDFD has become better to look at and can show errors in the local processing.

* Slow down. Our promises regarding NDFD are years ahead of our scientific capability. We should demonstrate our methods have some usefulness instead of just skipping their utility and jumping ahead to their delivery (useless or not).

* NDFD is a good idea...though the consistency stats seems to be more of a game of smoothing the data even if its not meteorologically correct to blend.

* The color schemes used on the graphics over represents or overemphasizes the differences in forecast values from one CWA to another. For example, a 2 degree difference between one office and another can stand out like a sore thumb even though that difference is well within tolerance and reasonable to expect.

* I am very dissatisfied that the entire burden of collaboration has been placed completely on the WFO for the sole purpose of NDFD looking good. Our field is becoming driven more by collaboration than science, a recipe for extinction. From feedback that I have found, persons looking at the larger scale NDFD maps do not want/need the 5km detail that is presented. For example, hypothetical users of our database, such as the weather channel, ABC, etc... do not care that here in La Crosse our ridge tops are 5 degrees cooler than the valleys. They want an IDEA of what is expected when they are discussing a national map type forecast. If a smoother was applied to the database and have it placed on a 20km grid for the larger scale maps of NDFD (or even 40 km), all of the information is still there when they get down to the WFO scale, but bandwidth is saved and cross WFO data integrity increases when manipulating that national NDFD maps. This would be done without the increasing burden being placed on the forecaster, where they are already being overwhelmed by workload issues.

* The expectations for coordination and seamlessness are simply not realistic, considering the volume of grids that must be generated and maintained, the number of adjacent offices that an office must coordinate with, and the time available on shift to do the forecast. The text formatters leave a lot to be desired and require far too much trouble shooting on the part of the focal point(s) after each and every "upgrade."

* I hate NDFD. Pain in the butt. But, hey! We have no choice, right?

* It is a good concept, but the focus on collaboration is at the expense of a quality forecast sometimes. A national picture should be smoothed out after each individual forecast is done. Apply some smoothing for a regional picture, but let the individual forecasters forecast to the best of their ability.

* none.

* I can't stand the fact that we are measuring consistency within offices without measuring accuracy. The pressure to be consistent can overwhelm any pressure to be good. Measure how

well a forecast verifies when we were different from our neighbors, then we will have a reasons (meteorological) to change what we have going. I use the NDFD feedback pages, but a vast majority 70-80% of forecasters never use them.

* Consistency criteria have become too important. When inconsistencies occur I believe only the newer grid should be blamed (unless it is within, say, 10 minutes of the older grid) and the stats should be adjusted accordingly.

* The statistics are goofy and don't really help offices figure out where to correct mistakes. It would help if some WFO personnel helped design useful web pages.

* seems like nws thinks all forecasters are created equal. i worked hard to be the forecaster i am, and i know others we are collaborating with could really care less about forecasting. that's the big problem.

* Need an observation of record.

* Still got a way to go.

* No comments.

* Most inefficient...ineffective software to create a product ever used in my 30 years experience. Am proficient in most software products. Part problem is trying to merge and collaborate 122 WFO products (for us...7 other sites).

* The focus on 'consistency' is driving some of the forecasters crazy. Seems the NDFD world is driving us toward being more office consistent than accurate.

* Too much information...and not organized very well. Hard to know what you are looking at. Maybe there should be more/better descriptions of what I'm looking at.

* none

* MANY DO NOT SHARE MY POSITIVE OPINION OF NDFD, BUT STILL IT IS A MOVE IN THE RIGHT DIRECTION.

* Please go to: http://www.srh.noaa.gov/data/ifps/jan/GFE/Hazards.html We should have some hazardous weather probability grids in NDFD.

* IFPS is a terrible method of preparing forecasts.

* The resolution of the data and the color scheme are improper for the purpose. The CONUS scale image should be at a lower resolution as not to highlight the differences between the individual WFO's grids. The color scale often exaggerates those differences. The higher resolution and non-smoothed display should be reserved for when you click on a particular WFO to see the details.

* Collaboration is still a problem. Offices need to work together to provide for a better product. Offices need to consider other offices as a customer also.

* None.

* Nothing that specifically relates to MDL.

* I believe too much emphasis is placed on the NDFD and not enough on LDFD (Local Digital Forecast Database). Weather is not always 'seamless' and local offices are spending too much time in the longer ranges. The emphasis should be on the 'high res' detail in the short-term. Time wise, the NDFD sort of enslaves forecasters. Exactly who is using it and why has not exactly been resolved and explained to those who create the NDFD (ie.. the WFOs). Has the time investment been worth it? Are we doing too many grids too fast? Finally, the local WFOs really add to the detail of even the Days 4-7 forecast through giving their local expertise. This is still better than: 1) blindly accepting MOS and 2) depending upon HPC to add all required mesoscale detail such as sea-breezes, terrain etc..

* The NWS should not be doing these enhanced graphical forecasts! This should be left to a private meteorological firm for the enhanced data. If the NWS is to continue to do the NDFD, the GFE program should be reversed. That is, write the ZFP product (or perhaps fill in a matrix like the AFM/PFM) and have the software develop the graphic maps from it. NDFD ruined my desire to be a forecaster in the NWS, as it is no longer enjoyable to prepare a forecast. What was enjoyable is now an arduous chore.

* Too clunky to navigate around in.

* At this point in NDFD's young life, the work it takes to create the grids is way more than the use of NDFD by our customers. We receive very little feedback on NDFD from outside the office. Sometimes I think if we didn't create it at all, nobody would notice. Maybe that will change in the future.

* The consistency / timeliness pages are improving. We would like additional verification feedback at observation points other then MOS points.

* Smart Tools are essential, though even with them an inordinate amount of time is still spent fiddling around with grids rather than forecasting the weather.

* None

* Use by public is small.

* Too much forecaster time required for limited use output. Using a simple mouse for this amount of drawing is damaging to hands and arms. Application continues to be unstable. Programming language used for development much too weak, like using a box of 8 crayons to paint the Sistine Chapel. Application uses too many system resources.

* There needs to be a question 34 below, for general comments on MDL. So here is an entry for question 34: In general, there is a hot and cold feeling toward MDL in the FOs. Forecasters really like the MOS and AvnFPS, but they hate getting clunky buggy software applications like WWA. WWA was crash-prone and even when it worked in required way too much mousing and clicking to get anything done. Many of MDL's applications don't work at OCONUS WFOs. It would be best if applications worked in CONUS and OCONUS alike.

* NDFD continues to mature and has gotten much better within the past year (accuracy and consistency with other offices). We still have a way to go with respect to the paradigm shift among forecasters, but that should come with time.

* Too big a problem to open up here...

* I rarely look at the NDFD...so I have no helpful feedback

* Would like better descriptions of the NDFD statistics and variables, and how this information is derived. Sometimes I wonder if some of this information is not "voodoo science"

* The terminology can be confusing. Sometimes it is difficult to find out if we have correctly published our Day 7 grids. Not always sure which graphic to look at.

* The awips WAN pages seem to be inconsistent at times.

* Sometimes it's difficult to obtain consistency with your neighboring offices but new smart tools and new methodologies are very helpful.

* NDFD site is only used to check our timeliness of getting our grids out.

* While I understand why the questions have to be multiple choice, they really oversimplify the complexity of use of these pages, as well as our understanding of how and how much customers use them.

* Too many offices working on the day 4-7. collaboration is not necessarily the best forecast. Statistics show that more often than not, forecasts fiddling with the GFS are going the wrong way.

* We need real-time verification statistics. Monthly data is useless if you want to improve performance. We look at the verification stats for informational purposes only, but has no impact on improving our performance of the forecasters.

* It's a necessity if the digital option is to be pursued. Too bad the emphasis on bean counting and making the picture look good degrades any meteorology that can be employed. Unfortunately this is another aspect of meteorological cancer and it will only get worse as everyone trys to conform to their neighbor.

* NDFD is a wonderfully complex albatross. It fails and bogs down often and the update times are slow and relatively unresponsive. The philosophy of NDFD is critically flawed, in the arena of science and operations. Primarily, NDFD is trying to make a smooth and seamless picture of weather events that occurred because of non smooth and discontinuities in the atmosphere. There has yet to be any reasonable explanation of how to get smooth continuous presentations with high res mesoscale value added input. Verification is simply a joke, current point verification is inadequate in the digital database, and observations at gridded data points is scientifically under represented.

* Still a relatively new thing.

* Obviously need gridded verification, but need Analysis of record and gridded climatology first. My main concern is with the conclusions that are being reached about forecast accuracy using point verification derived from gridded forecasts. WFO are not longer making point forecasts so why should we be verified with point based data. It's an unfair advantage to MOS.

* Forecasters have to water down their forecast for the sake of getting elements within the collaboration limits. Forecast trend toward mediocrity. This refers to question 32 below... When I have been able to get in touch with someone at MDL (usually about a problem with some application) they have always been quite helpful. The problem is finding out who is responsible for a particular program. Often calls to NCF don't seem to make it over to MDL very fast and in some cases seems like they relay information to wrong person or in a case recently to a person no longer working at MDL. We were trying to solve a problem with the hourly weather program which wasn't outputting all the stations. Some irate customers. NCF was called and they said they relayed to MDL. After no results for many hours finally got in touch with someone at MDL and they said the person NCF supposedly relayed info to was no longer there so the problem had not even been looked at. For this reason it would be nice to have a list of people at MDL and the applications they are responsible for so that in an emergency we could get in touch with someone. Know we still need to go through NCF but sometimes it doesn't seem like the wheels move fast enough to solve a critical program.

* I think collaboration thresholds ought to be wider farther out in time, similar to the TPC "cone of uncertainty" in its track forecasts.

* Way too much to write here.

* Makes for too much knobology, and a lot less meteorology. People too concerned about being within tolerance with all offices instead of getting the correct forecast sometimes.

* Many of the statistics are not well understood even with the explanation provided. Occasionally there is conflicting information about consistency in the NDFD and what we are seeing in the local database.

* Interesting that I cannot unselect the radio buttons and choose only one. In any event, I don't know what a NDFD feedback page is and I am guessing.

* Lots of boundary issues that, IMO, are going to be tough to remove completely. For its generally purpose, I think NDFD grids are useful.

* NDFD is the best thing that ever happened to the weather service, but I think users should be given the actual grids instead of images of a lower resolution.

* Would like to see it update more often than once an hour.

* Great in concept, but poor in implementation. Too much emphasis on smooth grids at the expense of meteorology. Where are the real-time grid verification statistics? Inconsistent collaboration methodology is also a problem.

* As for question 28, I believe most of our customers go to local web page for local web images (similar to NDFD) and text products. As far as providing forecast information to customers, I never go to the NDFD site. I guess this is an option I really never thought of. As for question 30, the idea of a digital database is well thought out and clearly useful in this era; however, the process of producing a collaborated grid forecast can be cumbersome and at times overwhelming. Ex. MOS guidance is beating us with respect to certain elements because we are producing hourly grids out to seven days. It is difficult to adjust all the grids due to known systematic model biases. In our office, we have been overdoing the winds at night and have a positive bias. While MOS is suffering from the same positive bias, it is outperforming the office staff. I think we are missing these biases because of the amount of data and because forecasters never dealt with hourly diurnal trends. We use to forecast a high and low temperature and a general wind range. There needs to be some training on this!

* Overall, I think that the NDFD is a good product. There are some forecast differences between office boundaries, but a knowledgeable user should understand that the boundaries are byproducts of having a human in the forecast loop. As long as the forecast offices consistently beat model guidance, I don't think that this should be an area of concern.

* I strongly support ISST positions.

* none

* This may not be an issue with NDFD, per se, but about the process. Looking at the verification stat page on the NDFD web site for a number of WFO offices, it is quite clear that MOS, for the most part, outperforms the WFOs for nearly all of the variables for Days 1 through 8. My question, why in the world are we spending so much time manually editing these grids when we could simply load in the data (MOS, e.g.) for the model of the day? There are only a few situations for which we could actually improve upon model guidance. The only grid we should routinely spend much time on is the sky grid because the models often perform poorly here. Furthermore, there should be a consistent manner, across WFOs, in how the grids are edited. Currently, some offices use modified model data as the source of the grids, some just paint most of or their entire CWA's grids with one value, which is very unrealistic. The grids should make sense (meteorologically and topographically) across borders. Finally, the discrepancy thresholds should be revisited. For example, meteorologically there could be quite a difference in the

weather occurring over the west slopes of the Cascades versus the east slopes. There are times when clouds (100% sky cover) are banked up against the west slopes while the opposite side could be cloud free and vice versus. In this case, the sky grid threshold would exceed 25%. We should NOT base our forecasts on grid thresholds but on sound, realistic, METEOROLOGICAL reasoning. If the thresholds cannot be changed, then perhaps we should reconsider which neighboring offices's grids discrepancies should be calculated against; that is, perhaps 'compare' offices with similar climates instead of, for example, comparing a maritime climate versus a continental one (which makes no sense).

* Certainly the NDFD has shown improvements over the past, however it still suffers from the need of having all local offices work on removing any 'conflicts' with surrounding offices. This adds a tremendous workload to the staff, possibly taking away valuable time in actually looking at the meteorology. The interface for accessing the NDFD online can be laggy at times - some users find this annoying. Users would like to have as many options to view the NDFD in various data forms as possible. We tend to use our local database most often when discussing the forecast with our partners and customers, rather than the national version.

* We need to begin to shift more focus on the science of the NDFD and not just the nice pictures.

* Aside from the fact that grids are not used by anyone, the NDFD site seems to be working ok.

* The NDFD is far from perfect! Really need a reliable "analysis of record" so forecasters can see how their forecast measured up vs what actually occurred. We can create hi resolution grids out to however many days we want...but once we begin to verify what actually occurs, maybe we'll want to reconsider our approach at the medium-long range portion (day 4 and beyond).

* We sometimes see discrepancies between the NDFD depiction and the fields we that are in our local forecast data base. Apparently some of the national scale fields (RH for example) are derived differently. We need to find a way to collaborate more efficiently, and produce better grids with less workload. Extended periods and derivation of hourly grids seem to be the most obvious opportunities for exploring time saving possibilities.

* We're trying to go too far, too fast with the grids. I agree that offering a digital forecast is a good idea, but we do not yet have the technology to accurately do hourly T/Td grids among other "official" elements. We are boasting higher capabilities than we have yet, and this will eventually lead to a degradation of services. I understand this is the course the NWS has set, and will do the best I can to put out the best products anyway.

* This is a question for users, not forecasters. We interface with grids via GFE, not NDFD!

* NDFD is a double edged razor...increasing our workload and removing much of the "fun" of forecasting due to the incessant focus on getting those coordination statistics higher vs offering data-rich graphics to our customers.

* I seem to be spending more time on grids then I do on forecasting.

* Way too time consuming.

* Oh where to start?? One problem that I have with NDFD is that I'm not sure who is using it. Yes, of late David Ruth has been sending out a few more email links to web pages I've never heard of that some form of our digital data. However, when a person goes to the Weather Underground (www.wundergroud.com) or Weather bug, as friends of mine actually do, they are presented with our text based forecast which we have been told is becoming obsolete. In many ways, at least online, the ZFP appears to be getting wider dissemination. I don't mean to complain, and I try hard to keep my grids fresh and consistent, but I would feel much better about the work I'm doing if it could be better demonstrated that I'm not wasting my life by doing the grids. Please help!!

* The resolution of NDFD needs to be reduced to match the ability of forecasters to predict the weather. A 2.5-5km grid is ridiculous given the state of meteorology today. There isn't even an ability for WFOs or the general public to see how accurate our NDFD grids are at this resolution given that there still is no Analysis of Record. WFOs are also being asked to do too many grids...like 1-3 hourly temps/dewpts thru Day 7. NDFD is way too deterministic.

* We've had issues with the quality of the data being summarized for our WFO. However, many of those issues have been resolved. I think the NDFD feedback pages are helpful in determining where our office needs to perform better.

* The wording formatters have got to be better. A lot of the general public still look at our text ZFP and/or listen to NOAA Weather Radio for the forecast, and there seems to still be a lot of text editing to make the forecast make sense, mainly during critical weather situations, mixed precip events.

* Need higher resolution.

* NDFD stats do not reflect forecast usefulness or accuracy, but merely whether the GFE process has been completed. I feel that NWSHQ folks use these stats to bolster their view of positive progress in the NWS and in the GFE process, but NDFD says nothing of the sort. I would hope that NWSHQ and the corporate board have finally begun to get a clue and see how imperfect the GFE process is, how it has increased office workload, and decreased the time true meteorological analysis is conducted in the field. We need to go graphical, indeed, but fair weather staffing and almost double the workload do not make for a more efficient agency.

* It is too labor-intensive and the wording of text products (formatters) still is not to the point where it is satisfactory. Case in point...two days ago we had a snow storm. The snow total grids were not exactly what we had drawn out in our Advisory/Warning map, and the wording for one set of zones came out "rain or snow accumulating 10 inches"...when we really intended 5 inches there. Granted that's our problem in fine-tuning the grids, but with more than 50 parameters to fill in through Day 8, it's difficult to spend the time needed to make the words come out exactly right. And 12Planet chat for collaboration takes a LOT of time. I think our written products have suffered tremendously, at the expense of producing new (and exciting) graphics, which some

customers -- not all -- are growing to like.

* The database needs to be QCd in order for the feedback to be effective. Either commit the resources to get it right, give it to the WFOs to complete, or don't do it at all.

* WFOs are spending too much time ensuring consistency between grids at the expense of providing accurate forecasts to our local customers. Collaboration between offices should be encouraged, but should discrepancies occur, a system which smoothes data between offices would be step in the right direction. Discrepancies could also be reduced quite significantly if a real-time verification program were available to forecasters as well. This would also enhance the dependability of NDFD information.

* Collaboration continues to be the biggest challenge for us, but with the increased pressure on accuracy as of late our forecasters feel like they're shooting at a moving target. It also seems that the verification process heavily favors MOS since we're comparing a point forecast to a grid. There continues to be a level of frustration connected to the forecast process related to NDFD, but there is also an increasing level of awareness of the benefits of such a system. The transition is always the toughest part.

* There is little if any support from higher levels in regard to training or policies. There needs to be a national requirement for residence training for all forecasters in the use of the software and smart tools and the importance of collaboration.