



Webinar Notes	
Date / Time	Jun 25, 2026
Notes	<u>Webinar Q/A</u> <i>Disclaimer: The responses below have been reviewed and refined by the webinar's subject matter experts following the webinar to ensure they reflect the most accurate and up to date information available.</i> ● Question: Is there a timeline for when the other models are expected to be retired? ○ The NAM, SREF, and HIRSW are planned to be retired when RRFS and REFS are implemented, not before. The RAP and HRRR models will not be retired at this time. ● Question: Will experimental RRFS data continue to be available through the AWS S3 bucket once RRFS enters the official evaluation phase? ○ The NOAA Open Data Dissemination (NODD) Program AWS S3 bucket was intended for pre-operational testing and development only. Following feedback from the webinar, the NODD program will begin to mirror the files available on NOMADS to the NODD bucket once RRFS enters the official evaluation phase. ○ Users with questions about accessing data through AWS or other cloud service providers are encouraged to contact the NODD Program for additional information at nodd.support@noaa.gov. ● Question: Will the full 3 km North American domain data be available through NOMADS? ○ Due to the large volume and file size of the 3 km North American grid, it cannot currently be disseminated through NOMADS because of bandwidth limitations. Following feedback from the webinar, the NWS will be making a coarse-resolution version of the North American domain available. Details are available in Service Change Notice 26-48. ● Question: What benchmarks will RRFS need to hit before the retirement of HRRR, and is QPF performance in mountainous terrain one of those benchmarks? ○ RRFS will need to perform as well as or better than the HRRR overall. QPF performance is one aspect of the evaluation, but there is not a single benchmark that must be met. The overall goal is to improve convection and QPF performance as well as other fields of importance (e.g., surface fields, winter weather, etc.). ● Question: With already one delay in the test feed on NOMADS and it sounds like there could be a possible second delay, will the operational data be also pushed out in order to get ample time for testing?

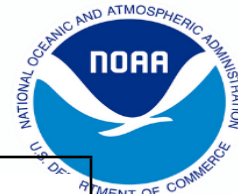


- Yes. Following the feedback received during the webinar we have made an adjustment to the schedule. Details are available in [Service Change Notice 26-48](#).
- **Question: Is Alaska not included in any part of RRFS? Or are there any particular considerations with RRFS and Alaska to be aware of?**
 - The RRFS domain covers the entire North American region, including Alaska. A 3-km output grid is available for Alaska, matching the NAM Alaska Nest grid, providing a comparable level of service to the rest of the North American domain.
- **Question: Are there any early plans for an ML-based high-res system, such as what is being done with GFS?**
 - NOAA currently has an experimental AI based convection-allowing system called [HRRRCast](#) that provides ensemble guidance at the convective scale. The speaker noted that it was developed by NOAA's Global Systems Laboratory in collaboration with the Environmental Modeling Center(EMC). The HRRRCast is driven from HRRR initialization data and GFS forecasts, and produces ensemble forecasts with a cadence similar to the operational HRRR. Additional AI based systems may be developed in the future.
- **Question: How should RRFS be pronounced, and how was the name chosen?**
 - There is no preferred pronunciation. Team members use both "R-R-F-S" and "ROO-fuss," and the naming reflects differences in usage across organizations.
- **Question: Will model output products such as MOS and FOUS be available for RRFS?**
 - There are currently no plans to provide MOS-type data from RRFS. While there is no direct text-based output comparable to the FOUS product from NAM, the BUFR output provides point forecast data for individual stations at a higher temporal resolution than is provided by FOUS. The National Blend of Models, which will use the RRFS, is the preferred source for statistically post-processed guidance.
- **Question: Will larger-scale model outputs be available, such as for ocean forecasting that requires data farther offshore than the current NAM domains?**
 - Following feedback from the webinar, the NWS will be making a coarse-resolution version of the North American domain available. Details are available in [Service Change Notice 26-48](#).
- **Question: Are there any aspects of RRFS performance or weather events that users should be aware of?**
 - The speakers highlighted that RRFS generally performs well for 2-meter temperature, dew point, and QPF. Although there may be a high or heavy precipitation bias, they stated that overall RRFS performs as well as or better than the systems it is replacing.
- **Question: Is there enough bandwidth for users to download a good**



portion of the data on a regular basis? Or should we filter for only the variables and datasets we need?

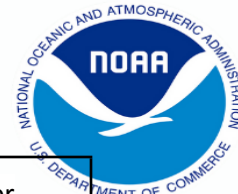
- The NOMADS website will continue to allow for up to 120 requests per minute. Users may choose to download full files or partial file downloads with selected variables as desired. Grib Filter service will not be available for RRFS or REFS data.
- **Question: More generally it will be detrimental to forecasters to lose a model cold turkey (e.g., the NAMs) that, while they have major flaws, we know them well and have learned to account for them over decades, without being able to compare them side by side at least through one storm and snow season.**
 - It is not possible to run and disseminate NAM/HiRes Window/HREF and RRFS/REFS data simultaneously given computational and bandwidth constraints. Pre-operational RRFS/REFS data from the developmental system has been available via the NODD for over a year (<https://registry.opendata.aws/noaa-rrfs/>).
- **For weakly forced systems, for example, progressive derechos, how has the RRFS/REFS performed**
 - We do not have this degree of stratification in our verification database at this time. We took your question to colleagues from the Storm Prediction Center and they examined three recent derechos (June 10, 11, & 20 of 2026). The RRFS/REFS was on par with HRRR/HREF in terms of guidance for predicting those events.
- **For example, I rely heavily on NAM's 500mb vort and 700mb RH/VV fields which have proven vital for forecasting precipitation, and I have not seen that RRFS provides the same level of detail or accuracy.**
 - Specific examples may be shared with developers at rrfs.feedback@noaa.gov. When comparing the verification of forecast precipitation between the RRFS and NAM, the RRFS outperforms the NAM on average.
- **Will there be any model data like MOS, FOUS available?**
 - There are currently no plans to provide MOS-type data from RRFS. While there is no direct text-based output comparable to the FOUS product from NAM, the BUFR output provides point forecast data for individual stations at a higher temporal resolution than is provided by FOUS. The National Blend of Models, which will use the RRFS, is the preferred source for statistically post-processed guidance.
- **Can you explain the rationale behind not allowing for a full warm and cold season for forecasters to be able to compare and contrast the NAM 3k/12k side by side and learn a new model, versus terminating the NAMs the same day RRFS becomes operational?**
 - It is not possible to run and disseminate both NAM and RRFS data given computational and bandwidth constraints. Pre-operational RRFS data from the developmental system have been available via the NODD for over a year



(<https://registry.opendata.aws/noaa-rrfs/>).

Registration Form Q/A

- **Question: Is comprehensive documentation comparing (the final operational implementation of) RRFS and HRRR available?**
 - The HRRR is not being retired alongside the implementation of RRFSv1; we therefore do not have statistics to share at this time.
- **Question: Will NWS make any RRFS station output text bulletins available to replace the loss of the NAM MOS? Or is parsing the GRIB2 files the only way to get model-specific output? The NBM bulletins are useful, but hide the sources of the deterministic consensus.**
 - There are currently no plans to provide MOS-type data from RRFS. While there is no direct text-based output comparable to the FOUS product from NAM, the BUFR output provides point forecast data for individual stations at a higher temporal resolution than is provided by FOUS.
- **Question: How / when will RRFS replace HRRR?**
 - The HRRR is not being retired with the upcoming RRFSv1 implementation. The HRRR's retirement is expected to come alongside a follow-on implementation to RRFS when we upgrade the atmospheric dynamical core, the timing for which is still being determined.
- **Question: Prerendered previews of model runs. Similar to the SPC <https://www.spc.noaa.gov/exper/href/pages>. I'm mostly asking for the open source app I casually use. I did not see any reference to that, but the app uses the MAG webpages to access the available models.**
 - SPC develops and maintains this webpage. We encourage follow-up with SPC regarding their viewer. The MAG site will be updated the same day RRFS/REFS become operational.
- **Question: Would like confirmation on whether output over the entire North America domain (i.e. beyond CONUS), will be available in grib files please.**
 - We acknowledge that some of the uniqueness of RRFS is tied to its large, high-resolution domain. Unfortunately, disseminating such a product is cost prohibitive due to current bandwidth limitations. Following feedback from the webinar, the NWS will be making a coarse-resolution version of the North American domain available. Details are available in [Service Change Notice 26-48](#).
- **Question: Performance of the RRFS compared to the NAM in events related to cold air damming east of the Appalachians**
 - The NAM is known to perform well for cold-air damming events. A comprehensive assessment of the RRFS's ability to capture cold air damming events has not been conducted. However, subjective assessments indicate that it likely does not perform as well as the



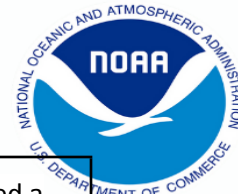
NAM for this phenomenon. This is a development priority for future releases.

- **Question: Will the grib files be uploaded to AWS S3 as part of the open data program from day one? Will there be a backfill of historical forecasts or will forecasts only be available going forward?**
 - The NOAA Open Data Dissemination (NODD) Program AWS S3 bucket (<https://registry.opendata.aws/noaa-rrfs/>) was originally intended for pre-operational testing and development only. Following feedback from the webinar, the NODD program will begin to mirror the files available on NOMADS to the NODD bucket once RRFS enters the official evaluation phase.
 - Users with questions about accessing data through AWS or other cloud service providers are encouraged to contact the NODD Program for additional information at nodd.support@noaa.gov.
- **Question: What is the most complete full year of previous data that can be used for side by side implementation testing with HRRR?**
 - The HRRR is not being retired with the upcoming RRFSv1 implementation. We do not have an officially supported, public archive of RRFS output.
- **Question: Is plan to have GRIB output availability similar to existing HRRR.**
 - Yes, although RRFS is augmenting rather than replacing HRRR GRIB output at this point.
- **Question: Will the RRFS data on AWS continue to be published on AWS here: <https://registry.opendata.aws/noaa-rrfs/> Will there be any format changes on AWS? Should we use NOMADS instead?**
 - The NOAA Open Data Dissemination (NODD) Program AWS S3 bucket (<https://registry.opendata.aws/noaa-rrfs/>) was originally intended for pre-operational testing and development only. Following feedback from the webinar, the NODD program will begin to mirror the files available on NOMADS to the NODD bucket once RRFS enters the official evaluation phase.
 - Users with questions about accessing data through AWS or other cloud service providers are encouraged to contact the NODD Program for additional information at nodd.support@noaa.gov.
- **Question: Will HRRR be discontinued at the same time as RRFS is implemented? If not, is it planned for HRRR to be discontinued at a future date?**
 - The HRRR is not being retired with the upcoming RRFSv1 implementation. The HRRR's retirement is expected to come alongside a follow-on implementation to RRFS when we upgrade the atmospheric dynamical core.
- **Question: Will the full North American domain be available from the RRFS?**
 - We acknowledge that some of the uniqueness of RRFS is tied to its large, high-resolution domain. Unfortunately, disseminating such a product is cost prohibitive due to current bandwidth



limitations. Following feedback from the webinar, the NWS will be making a coarse-resolution version of the North American domain available. Details are available in [Service Change Notice 26-48](#).

- **Question: How are users of AI models that may rely on FFS for training considered in your retirement plans? Some of these will have big implications for users.**
 - We recognize that this is a rapidly growing use case, however we do not have the resources to provide a sufficient volume of data to meet AI training needs to the public at this time.
- **Question: Is the HRRR being retired? I couldn't find confirmation in the relevant SCNs. Thank you.**
 - The HRRR is not being retired with the upcoming RRFSv1 implementation. The HRRR's retirement is expected to come alongside a follow-on implementation to RRFS when we upgrade the atmospheric dynamical core.
- **Question: Addressing continuation of HRRR model and any known plans/estimates to EoL it in favor of the RRFS.**
 - The HRRR is not being retired with the upcoming RRFSv1 implementation. The HRRR's retirement is expected to come alongside a follow-on implementation to RRFS when we upgrade the atmospheric dynamical core, the timing for which is still being determined.
- **Question: I'm aware NWS primarily has used / uses BUFKIT for sounding data. With the loss of the NAM suite and introduction of RRFS/REFS, are there plans for pivoting to a new sounding source? Or is there possibility for RRFS data to be used within BUFKIT in the future? Sharpy? ...**
 - RRFS will provide BUFR-based station time series output, just as the NAM has, which includes model soundings. The individual ensemble members of RRFS also will provide BUFR-based station time series output.
- **Question: Regarding the retirement of those legacy models, will they be completely unavailable for use? Or will they still be available on traditional websites (such as TropicalTidbits), but no longer being provided improvements? I strongly believe a buffer period of utilizing older legacy models and newer operation models (in their final form) is important. ...**
 - The only buffer period will be during the RRFS/REFS IT stability evaluation parallel that will run for at least 30 days prior to implementation.
- **Question: The SPC HREF Viewer (<https://www.spc.noaa.gov/exper/href/>) has been a pivotal resource for high-resolution data, especially as it relates to the 'Storm Attributes' data. Many in the private sector are familiar and comfortable with this legacy site accessed directly from the SPC Homepage. Are there plans to develop a similar (ideally identical) viewing website with comparable variables for the REFS? ...**



- SPC develops and maintains this webpage. SPC has developed a “REFS viewer” that currently is only available internally to NOAA, but will be made available to the public when the REFS is implemented. The MAG site (<https://mag.ncep.noaa.gov/>) will be updated the same day RRFs/REFS become operational.
- **Question: When will BUFKIT compatible data be distributed?**
 - RRFs/REFS will provide BUFR-based station time series output, just as the NAM has, which includes model soundings. Data will be available on NOMADS when the IT stability parallel begins, at least 30 days in advance of the implementation.
- **Question: Will 10m gusts using a graphic be added like other guidance in the near future?**
 - RRFs/REFS will provide 10-m wind gust guidance.
- **Question: Will RRFs data on the native levels be available?**
 - Unfortunately the native-level data are too large to distribute at this time.
- **Question: BUFKIT availability for RRFs?**
 - RRFs/REFS will provide BUFR-based station time series output, just as the NAM has, which includes model soundings.
- **Question: A general overview and how it compares to the current model runs being replaced**
 - Please see the recorded webinar.
- **Question: Will the REFS family be expanded in the near time as computational power is unlocked/released with the shutdown of the SREF, HREF, NAM, and NAMNest ?**
 - At this time, computational constraints do not allow for additional members to be added. The computational power unlocked by regional model retirements is already allocated. Expansion of membership is under consideration should resources permit.
- **Question: Will the HRRR be retired on August 31, 2026 as well?**
 - The HRRR is not being retired with the upcoming RRFsv1 implementation.
- **Question: Will RRFs on August 31, 2026 have the FV3 core or MPAS core?**
 - FV3.
- **Question: If RRFs will implement with the FV3 core, when is the MPAS core version planned for release?**
 - The HRRR’s retirement is expected to come alongside a follow-on implementation to RRFs when we upgrade the atmospheric dynamical core to MPAS.
- **Question: Timeline for implementation?**
 - It is currently scheduled for October 6th, 2026. Any changes to the timeline will be communicated via SCN.
- **Question: Are there sources that can be found which show verification stats and comparisons to legacy or existing models?**
 - Please see the recorded webinar.
- **Question: Any concerns with a non-multi core ensemble?**



- The REFS is largely as-good or better than the HREF (see recorded webinar). While multi-core ensembles have been useful in the past they are difficult to develop and maintain, requiring dedicated staff and expertise for each core. Convergence around a single core makes the development process more efficient and allows for NOAA, and the wider developer community, to focus efforts on a common framework for innovation.
- **Question: Is there a timeline for when the other models are expected to be retired?**
 - Yes, the legacy regional applications (SREF, NAM, HiResW, and HREF) will be retired when the RRFS/REFS are implemented. This is scheduled for October 6th, 2026. Any changes in schedule will be communicated via SCN.
- **Question: Will there be a MOS version of the model and where do we find it?**
 - RRFS will not have a MOS product. The National Blend of Models, which will use the RRFS, is the preferred source for statistically post-processed guidance.
- **Question: I am old school and use the FOUS MESSAGE from the NAM as a poor man's sounding. Is there a numerical output equivalent that can lend a hand to an old school met like myself.**
 - While there is no direct text-based output comparable to the FOUS product from NAM, the BUFR output provides point forecast data for individual stations at a higher temporal resolution than is provided by FOUS.
- **Question: When will the archive of RRFS data become available via a data access (DAAC) portal?**
 - There are no plans at this time for a public archive of RRFS data.
- **Question: Will the individual "2dfld" member files still be available on AWS?**
 - No, the REFS member "2dfld" member files will not be disseminated at this time.