

September 11, 2017

MEMORANDUM FOR: Distribution Email

FROM: Chris Caruso Magee
Configuration Manager, NCEP Central Operations

SUBJECT: Scheduled Operational Changes and Upgrades for
CPC, OPC, and WPC – updated

Climate Prediction Center

The following approved changes have implementation dates that are now TBD due to Critical Weather Day (CWD):

RFC 938 – Implement the following changes to the Seasonal 13 Lead Interactive Display:

Changes to Seasonal display processing – ‘pdt_master_Seas.sh’ - Expand Production of Temperature and Forecast files from 1 lead to all 13 leads for improved Seasonal Interactive Display. This includes changes to ‘run_outlook_conus.ksh’, ‘run_outlook_alaska.ksh’, and ‘update_time.pl’ files.

‘pdt_master_normals_Seas.sh’ - Change normal processing. Climatology files will be stored as libraries. ‘pdt_master_normals.sh’ functionality will copy over the necessary climatology files to the corresponding output directory. Files changed – ‘run_normals_conus.ksh’ and ‘run_normals_alaska.ksh’.

Webside Changes - Changes to the Seasonal Interactive Display webpage (‘index.php’) for the Seasonal Interactive Display. Functionality is added in order for users to select which lead (1-13) they wish to view. When the user makes a selection, the background files and corresponding map will be updated and displayed on the page.

Was to be implemented on August 14 at 1400Z; rescheduled for August 22 at 1400Z; rescheduled again for August 29 at 1400Z; rescheduled again for September 7 at 1400Z; postponed again to a date TBD due to CWD.

RFC 950 - In preparation for an outage of the CPC production partition /cpc/data on September 5 at 2015Z to increase partition by 2TB, the following changes are needed:

- change cron run time of application \$OPGFS/scripts/main_opgfs.sh from 2000Z to 2245Z to keep job from writing when /cpc/data partition is offline.
- change cron run time of application \$OPGFS/scripts/main_opgfs.sh back to 2000Z.

Was to be implemented on September 5 at 1500Z. This RFC corresponds to

NCO RFC 3690 (see below). NCO RFC 3690 was postponed to a date TBD due to CWD, so this RFC is also TBD now.

The following RFCs are in progress:

None

The following NCO RFCs which may affect CPC are scheduled for implementation the week of September 11:

RFC 3654 - IBM will upgrade the version of RHEL and GPFS on the shared storage servers on Tide and Gyre. This is the next step of testing the GPFS 4.1.1-15 upgrade -- it has been tested on Eddy and now IBM will expand to the shared storage before going to the larger cluster. Users will lose access to shared storage for the duration of the work. Was to be implemented beginning 2030Z on August 23 and completed by 0130Z on August 24; postponed to begin on August 30 at 2030Z and be completed by 0130Z on August 31 due to CWD; postponed again due to CWD to begin at 2030Z on September 4 and be completed by 0130Z on September 5; postponed again due to CWD to begin on September 13 at 2030Z and be completed by 0130Z on September 14.

RFC 3655 – Implement a new mirror to be put on NCOSRV to pull in NUCAPS (NOAA-Unique CrIS ATMS Product System) data from NESDIS's PDA (Product Distribution and Access) system. The data was requested by CPC and it's for Outgoing Longwave Radiation Data. Was to be implemented on August 24 at 1200Z; postponed to August 31 at 1130Z due to CWD; postponed again due to CWD to September 7 at 1400Z; postponed again to September 14 at 1400Z due to CWD.

RFC 3687 – g2tmpl v1.0.5 - For the g2tmpl lib, add parameters and new tables 4.2.3.2,4.2.3.3, 4.2.3.4, 4.2.3.5 and 4.2.3.6. Increase allocated memory for table entries from 1000 to 2500. This update needs to be done because WMO released their semiannual update in May and NCEP needs to stay in sync with WMO. Was to be implemented on September 5 at 1500Z; postponed to September 13 at 1500Z due to CWD.

RFC 3709 – cfs v2.1.26 - Consolidate archival of the CFS to archive the m2, m3, and m4 members to the permanent directory. They currently are stored in the 2-year directory. To be implemented on September 13 at 1430Z.

The following NCO RFCs may affect CPC. These have been approved for implementation, but implementation dates are TBD due to CWD:

RFC 3609 (NCO-CP) - Move NCEP routes from existing routing protocol (OSPF) to BGP (Border Gateway Protocol). This simplifies the entire network as oneNWSnet and Legacy Opsnet are already using BGP. Then, begin accepting routes via the two connections to Verizon/oneNWSnet in Boulder and College Park. This allows NCO to pass these routes into the CenturyLink and N-WAVE clouds, allowing NCO to provide services to NWS sites on those clouds. Expected Impact for this change: Route propagation and re-convergence may cause some short lived disturbances (lasting seconds) in the NCEP network. These should be very intermittent throughout the change window. NCO does not expect any "hard down time" in any part of the network during this change. NCO also does not expect any interruption to the College Park or Boulder Data Center networks. Was to be implemented on September 5 at 1300Z; postponed to a date TBD due to CWD.

RFC 3668 – Add one IP range and remove one IP range from the FTP access list for NDACC (Network for the Detection of Atmospheric Composition Change), at CPC's request. Was to be implemented on August 30 at 1415Z; postponed to September 5 at 1415Z due to CWD; postponed again to a date TBD due to CWD.

RFC 3690 - The /cpc/data volume will be moved from 7-mode (phase 1) storage to CDOT (IDP) storage and then expanded. Was to be implemented on September 5 at 2015Z; postponed to a date TBD due to CWD.

Ocean Prediction Center

The following will be implemented the week of September 11, 2017:

RFC 953 – 'www_web_monitor.pl' v2017.09.06 – The script 'www_web_monitor.pl' looks for old MP3 files on the OPC website. Update the email notification address to inform OPC's OFB chief if it finds old files. It currently only emails OAB. Was to be implemented on September 6 at 1230Z; postponed to September 13 at 1230Z due to CWD.

RFC 954 – 'ascat_top_of_the_hour.pl' v2017.09.06 - Improve logging in script 'ascat_top_of_the_hour.pl' for easier troubleshooting; use a publish directory when sending files to OPC website (sends one time instead of several dozen times). To be implemented on September 6 at 1230Z; postponed to September 13 at 1230Z due to CWD.

The following will be implemented the week of September 25, 2017:

RFC 943 - Create web surge guidance graphics with python. Update website data display. This RFC has to be done after an NCO RFC to update python modules on the operational ln7-opcops* VMs and after OPC's web implementation.
examples: https://para.ocean.weather.gov/et_surge/et_surge_info_twlev.shtml
https://para.ocean.weather.gov/estofs/estofs_surge_info.shtml
https://para.ocean.weather.gov/estofs/estofs_pacific_twlev.shtml
Was to be implemented on August 30 at 1530Z; postponed to September 6 at 1530Z due to CWD; postponed again to September 26 at 1530Z due to CWD.

RFC 949 - Activate OPC's new web layout and HTML5 formatting. The current content on the OPC operational website will be moved to an "old" folder and the new content that is currently on the OPC parallel site will be copied into place. A test run has been done successfully on the OPC development website. NCO/IWSB will also need to activate OPC's new URL <https://ocean.weather.gov> by completing ticket 116823 early in the morning of August 30. The SCN is located at <http://www.nws.noaa.gov/os/notification/scn17-74opcwebsiteaab.htm> . Was to be implemented on August 30 at 1000Z; postponed to September 6 at 1000Z due to CWD; postponed again to September 26 at 1530Z due to CWD.

The following NCO RFCs which may affect CPC are scheduled for implementation the week of September 11:

RFC 3654 - IBM will upgrade the version of RHEL and GPFS on the shared storage servers on Tide and Gyre. This is the next step of testing the GPFS 4.1.1-15 upgrade -- it has been tested on Eddy and now IBM will expand to the shared storage before going to the larger cluster. Users will lose access to shared storage for the duration of the work. Was to be implemented beginning 2030Z on August 23 and completed by 0130Z on August 24; postponed to begin on August 30 at 2030Z and be completed by 0130Z on August 31 due to CWD; postponed again due to CWD to begin at 2030Z on September 4 and be completed by 0130Z on September 5; postponed again due to CWD to begin on September 13 at 2030Z and be completed by 0130Z on September 14.

RFC 3666 - Modify the WCOSS parsing table to ensure that duplicate datasets are not being alerted from both the production and non-production supercomputers at the same time. Due to a failure of NAVGEM model data sending to FTPPRD, it was discovered that this and a handful of other datasets were improperly sending from Tide and Gyre at the same time. This can result in

clobbering of a file producing push errors. Was to be implemented on August 30 at 1400Z; postponed due to CWD to September 5 at 1700Z; postponed again to September 13 at 1330Z due to CWD.

RFC 3672 - nowCOAST has requested two additional datasets from the CPHC website for use in IDP. This change will be made on the Boulder and College Park NCODFIDP-IN servers. Was to be implemented on August 30 at 1400Z; postponed to September 5 at 1730Z due to CWD; postponed again to September 13 at 1730Z due to CWD.

RFC 3703 - OPC has requested some files from the new version of ETSS that is currently running in parallel to be put onto the IDP infrastructure so they can access it from their workstations. This change will take place on WCOSS and will send data to NCODF in College Park and Boulder. To be implemented on September 14 at 1700Z.

RFC 3711 – HMON v1.0.2 - An HMON forecast job failed on August 20 at 1800Z. The fix for this failure addresses the impact of land points (e.g. very small islands) in the nests where soil and vegetation types cannot be resolved by the parent domain. The soil temperature values in different layers at such a point are interpolated between the deep ground temperature and surface temperature from the parent domain. To be implemented on September 13 at 1230Z.

RFC 3713 – HWRF v11.0.1 – For the HWRF ensda_check1 job, change the name of the file being checked from '\$stormlabel.run_ensda' to 'run_ensda.\$stormid.YYYYMMDDHH'. This fixes a bug that occurs when a storm is run in different slots between 2 consecutive cycles. To be implemented on September 13 at 1430Z.

RFC 5029 (NCO-SS) – Allow access for two Big Brother servers in College Park to the GMDSS transceiver box in Silver Spring. To be implemented on September 13 at 1600Z.

The following NCO RFCs may affect OPC. These have been approved for implementation, but implementation dates are TBD due to CWD:

RFC 3609 (NCO-CP) - Move NCEP routes from existing routing protocol (OSPF) to BGP (Border Gateway Protocol). This simplifies the entire network as oneNWSnet and Legacy Opsnet are already using BGP. Then, begin accepting routes via the two connections to Verizon/oneNWSnet in Boulder and College Park. This allows NCO to pass these routes into the CenturyLink and N-WAVE clouds, allowing NCO to provide services to NWS sites on those clouds. Expected Impact for this change: Route propagation and re-convergence may cause some short lived disturbances (lasting seconds) in the NCEP network.

These should be very intermittent throughout the change window. NCO does not expect any "hard down time" in any part of the network during this change. NCO also does not expect any interruption to the College Park or Boulder Data Center networks. Was to be implemented on September 5 at 1300Z; postponed to a date TBD due to CWD.

Weather Prediction Center

The following will be implemented the week of September 11, 2017:

RFC 955 - Scripts that produce several tools for watch collaborator evaluation that currently run on hmtvm will be installed on the Compute Farm for operations. A "count" tool sums up the number of grid points that reached watch criteria over the last 3 forecast cycles, a "flipflop" tool takes the last 3 cycles and assess forecasts that oscillate back and forth, and a difference tool measures increases and decreases in probabilities from cycle to cycle. The wind probability tool averages hourly NDFD wind data, and commutes a CDF (cumulative distribution function) probability using the bias corrected GEFS 10-meter winds. Output from these tools will be used for WPC-WFO collaboration. Was to be implemented beginning on September 7 at 1800Z and be completed by September 21; postponed to begin on September 14 at 1800Z and be completed by September 26.

RFC 956 - Push new scripts for winter weather desk probability product generation into the operational scripts area. These scripts will enable the probabilistic products to use the upgraded winter weather ensemble data. To be implemented on September 11 at 1400Z.

The following NCO RFCs which may affect CPC are scheduled for implementation the week of September 11:

RFC 3654 - IBM will upgrade the version of RHEL and GPFS on the shared storage servers on Tide and Gyre. This is the next step of testing the GPFS 4.1.1-15 upgrade -- it has been tested on Eddy and now IBM will expand to the shared storage before going to the larger cluster. Users will lose access to shared storage for the duration of the work. Was to be implemented beginning 2030Z on August 23 and completed by 0130Z on August 24; postponed to begin on August 30 at 2030Z and be completed by 0130Z on August 31 due to CWD; postponed again due to CWD to begin at 2030Z on September 4 and be completed by 0130Z on September 5; postponed again due to CWD to begin on September 13 at 2030Z and be completed by 0130Z on September 14.

RFC 3711 – HMON v1.0.2 - An HMON forecast job failed on August 20 at 1800Z. The fix for this failure addresses the impact of land points (e.g. very small islands)

in the nests where soil and vegetation types cannot be resolved by the parent domain. The soil temperature values in different layers at such a point are interpolated between the deep ground temperature and surface temperature from the parent domain. To be implemented on September 13 at 1230Z.

RFC 3713 – HWRF v11.0.1 – For the HWRF ensda_check1 job, change the name of the file being checked from '\$stormlabel.run_ensda' to 'run_ensda.\$stormid.YYYYMMDDHH'. This fixes a bug that occurs when a storm is run in different slots between 2 consecutive cycles. To be implemented on September 13 at 1430Z.

The following NCO RFCs may affect WPC. These have been approved for implementation, but implementation dates are TBD due to CWD:

RFC 3609 (NCO-CP) - Move NCEP routes from existing routing protocol (OSPF) to BGP (Border Gateway Protocol). This simplifies the entire network as oneNWSnet and Legacy Opsnet are already using BGP. Then, begin accepting routes via the two connections to Verizon/oneNWSnet in Boulder and College Park. This allows NCO to pass these routes into the CenturyLink and N-WAVE clouds, allowing NCO to provide services to NWS sites on those clouds. Expected Impact for this change: Route propagation and re-convergence may cause some short lived disturbances (lasting seconds) in the NCEP network. These should be very intermittent throughout the change window. NCO does not expect any "hard down time" in any part of the network during this change. NCO also does not expect any interruption to the College Park or Boulder Data Center networks. Was to be implemented on September 5 at 1300Z; postponed to a date TBD due to CWD.

RFC 3692 - Make adjustments to allow new WPC CF (compute farm) systems to connect to ncosrv and intra:
- Adjust iptables and TCP wrappers on intra and ncosrv to allow access from VLAN of new WPC CF systems.
- The baseline iptables rules have the wrong subnet mask for the VLAN of the new systems, which will be corrected.
- Add DNS reverse lookup zone for the network range of the new systems.
Was to be implemented on September 7 at 1300Z; postponed to a date TBD due to CWD.

RFC 3697 - The WPC N Drive will be moved from 7-mode (phase 1) storage to CDOT (IDP) storage and then expanded. Was to be implemented on September 7 at 1800Z; postponed to a date TBD due to CWD.

Please note that security-related RFCs are never listed in the RFC memo.

---- OPERATIONAL ANNOUNCEMENTS ----

The CPC/OPC/WPC Configuration Management documents are available at <https://sites.google.com/a/noaa.gov/nws-ncep-nco-cm/>.

Please review these documents if you have questions prior to submitting changes for CPC/OPC/WPC configurable items.

Users who wish to view their network utilization via the Scrutinizer appliance may request access from NCO/IWSB. Please send an account request to the NCWCP Helpdesk at NCWCP.helpdesk@noaa.gov.