

EMC Federal Award Winners

(EMC Employees/Organizations in boldface)

2020

Commerce Department Group Gold Medal – Scientific/Engineering Achievement

Vijay Tallapragada – Fanglin Yang – Russ Treadon – Jun Wang – Geoff Manikin – Steven Earle – Carissa Klemmer – Rusty Benson – Lucas Harris – Jeffrey Whitaker

Recognized for development and accelerated implementation of a new FV3 dynamic core-based state-of-the-art Global Forecast System (GFS) v15.1 in June 2019, replacing the 38-year old spectral model-based legacy operational GFS. Such an implementation of this magnitude typically takes 5–10 years, and the group accomplished it in less than 3 years after the selection of FV3 dynamic core by the Next Generation Global Prediction System (NGGPS) Program. This advancement initiates the use of NOAA's community-based Unified Forecast System for operations and research, and is the cornerstone of the National Centers for Environmental Prediction's production suite for numerical guidance.

AMS Banner I. Miller Award

Jun Zhang - David S. Nolan - Robert F. Rogers - **Vijay Tallapragada**

For their paper, "Evaluating the impact of improvements in the boundary layer parameterization on hurricane intensity and structure forecasts in HWRF" which significantly advanced the prediction of hurricanes in an operational numerical weather prediction model

AMS Weather Analysis and Forecasting Distinguished Scientific or Technological Achievement Award

Vijay Tallapragada

In recognition of his exceptional leadership of the HWRF and FV3 model implementations and noteworthy scientific achievements in numerical weather prediction over a twenty-year period.

National Isaac Cline Award

Yuejian Zhu, Dingchen Hou, Jeff McQueen, Jessica Meixner, Lin Gan, Jun Wang, Geoff Manikin, Alicia Bentley

For accomplishing significantly improved probabilistic guidance for medium-range and sub-seasonal predictions from UFS global ensemble forecast system.

NOAA Administrator's Award

Pius Lee, Rick Saylor, **Jeff McQueen, Ivanka Stajner**, Dorothy Koch

For implementing and upgrading NOAA's Air Quality Forecasting Capability for improving the lives of Americans and saving billions of dollars per year.

NOAA Silver Sherman Award

Curtis Alexander, **Jacob Carley**

For leadership and exceptional cross Line Office collaboration in development, improvement and operational implementation of NOAA convection-allowing weather models and nowcasting capabilities.

2019

Distinguished Career Award - Scientific Achievement

Dennis A. Keyser

Nominated by NWS for over thirty-two years of scientific and technical contributions towards the improvement of United States Weather, Water, and Climate Prediction.

American Meteorological Society Editors Award (Monthly Weather Review/Weather and Forecasting)

Daryl Kleist

For thorough, constructive, and scientifically insightful reviews that assisted authors in strengthening their work while providing an operational perspective.

NOAA Silver Sherman Award

Geoffrey Manikin

For leading the GFSv15 field evaluation, the most extensive model evaluation ever performed on a new NCEP modeling system.

2017

Regional Isaac Cline Award – Leadership

Avichal Mehra

For leading significant improvements in operational hurricane track and intensity forecast guidance through model systems for the 2016-2017 seasons

NOAA Administrator's Award

Vijay Tallapragada - Frederick Toepfer - Jeffrey Whitaker - Timothy Schneider - **Ivanka Stajner**

For leading and executing the selection of the new dynamical core, the engine of a numerical weather prediction model, 2 years ahead of schedule.

Commerce Department Group Bronze Medal – Scientific/Engineering Achievement

Yuejian Zhu, Dingchen Hou, Shrinivas Moorthi, Steven Earle

For implementing GEFS to improve probabilistic guidance for public safety, quality of life and business decisions that drive U.S. economic growth.

2016

Regional Isaac Cline Award – Meteorology

Russell E. Treadon, Shrinivas Moorthi, Hui-Ya Chuang, Qingfu Liu, and Lin Gan

For accomplishing significantly improved forecast guidance from Global Forecast System upgrades using NOAA environmental modeling system framework

2015

Commerce Department Group Gold Medal – Scientific/Engineering Achievement

Assimilation and Modeling Branch (Office of Oceanic and Atmospheric Research) - NCEP Central Operations – **NCEP Environmental Modeling Center**

The organizations are honored for success in transitioning an innovative weather research model into operations. The High-Resolution Rapid Refresh model increases resolution fourfold, giving forecasters and others highly localized guidance when hazardous weather looms. Development of a novel radar data assimilation procedure and new supercomputing capacity were critical to this success, and the ultimate outcome is that decision makers such as emergency managers and wind farm operators have more time to prepare for high-impact weather. This team's work will save lives and property.

Commerce Department Group Gold Medal – Scientific/Engineering Achievement

NCEP EMC Global Climate and Weather Modeling Branch – NCEP Central Operations Production Management Branch – MDL Statistical Modeling Branch

The organizations are honored for development and operational implementation of the 13-km Global Forecast System. Changes include increased horizontal resolution, improved data assimilation, physics and post-processing. The system will deliver more accurate predictions of the onset and location of high-impact weather associated with hurricanes, blizzards, excessive rainfall, heat, and cold. Only 2 weeks after implementation, the system outperformed all other global models in predicting the complex heavy snow distribution associated with the New England Blizzard of January 2015.

Commerce Department Group Silver Medal – Scientific/Engineering Achievement

Annarita Mariotti - Gabriel Vecchi - Rich Gudgel - William Stern - Jin Huang - Huug van den Dool - Qin Zhang - **Suranjana Saha**

Recognized for developing the North American Multi-Model Ensemble (NMME), a research to operations transition project coordinated between OAR and NWS, with contributions from DOE, NASA, and NSF. The NMME system adheres to NOAA's operational launch schedules, providing the Nation with timely, credible seasonal forecasts that enhance decision making to protect life and property. The NMME has enabled pioneering research on seasonal predictability, stimulated model improvements at operational and research centers, and provided critical information for risk management.

2014

Commerce Department Group Gold Medal – Scientific/Engineering Achievement

Vijay Tallapragada - Qingfu Liu - William Lapenta - Richard Pasch - James Franklin - Simon Tao-Long Hsiao - **Frederick Toepfer** - Sundararaman Gopalakrishnan - Thiago Quirino - Frank Marks, Jr.

For development and implementation of an advanced Hurricane Weather Research and Forecast System model for the 2013 hurricane season. The model — operating at 3-km resolution with ocean coupling and inner-core aircraft reconnaissance data assimilation — is the world's highest resolution operational hurricane model and the first dynamic model to demonstrate intensity forecast skill that exceeds statistical models and official

National Hurricane Center forecasts. This advance promises the first substantial improvement in hurricane forecasts in more than two decades.

Commerce Department Group Silver Medal – Scientific/Engineering Achievement

Annarita Mariotti - Roger Pulwarty - Martin Hoerling - Chad McNutt- Kingtse Mo - Brian Cosgrove - Jin Huang - Arun Kumar - **Michael Ek**

Honored for outstanding scientific assessment of the origins of the 2012 Central Great Plains Drought. Precipitation deficits May–August 2012 were the most extreme since official measurements began in 1895, eclipsing the driest summers of 1934 and 1936 that occurred at the height of the Dust Bowl. By early September, nearly half the contiguous U.S. was experiencing unprecedented severe drought that official seasonal forecasts in April 2012 did not anticipate. The team's assessment of causes has helped to identify pathways for improved predictions of future drought events.

National Isaac Cline Award – Outreach

Katherine Howard, Mark Iredell and Shrinivas Moorthi

For providing an important step forward in developing interactions and collaboration with the academic community and outside agencies for NCEP/EMC.

2013

Commerce Department Group Bronze Metal – Superior Federal Service

Luis Cano - **Michael Young** - **Mark Iredell** - **Geoff DiMego** - Kathryn Gilbert

For dedication in acquiring supercomputing services to sustain production of the Nation's operational numerical weather and climate forecast systems.

National Isaac Cline Award – Leadership

Vijay Tallapragada

For leading development and operational implementation of the 2013 HWRF Model, providing the National Hurricane Center and the Nation with improved guidance on hurricane prediction.

2012

WMO 57th International Meteorological Organization (IMO) Prize

Zavisa Janjic

In recognition of his outstanding life-long contributions to the advancement of theory and practice of atmospheric modeling and numerical weather prediction, in particular, for the development of generations of atmospheric models based on his innovative numerical and parameterization schemes.

Commerce Department Group Bronze Metal – Superior Federal Service

Eric Rogers – Thomas L. Black – Zavisa Janjic – Geoffrey S. Manikin – Wan-Shu Wu – Matthew E. Pyle – Hui-ya Chuang – Rebecca L. Cosgrove – Christine C. McGee – Brian S. Gockel

For implementing a new North American prediction system providing improved numerical guidance/products to the Nation's weather enterprise

American Meteorological Society Editors Award (Weather and Forecasting)

Jun Du

For completing several prompt reviews that were beneficial, constructive and of high quality.

2011

Commerce Department Group Silver Medal – Scientific/Engineering Achievement

Shrinivas Moorthi - Jordan C. Alpert - Glenn H. White - Hui-Ya Chuang - Yu-Tai Hou

For the development and implementation of significant upgrades to the NCEP Global Forecast System (GFS), which resulted in major improvements to the numerical forecast guidance products. Major areas of forecast guidance improvement include a 30 percent reduction in Hurricane Track Error in the Eastern Pacific and a significant reduction in erroneous excessive precipitation associated with small-scale convective activity. These improvements represent the largest single improvement in Global Model Performance in the last 15 years.

2010

Commerce Department Group Bronze Medal – Scientific/Engineering Achievement

Stan Benjamin, John Brown, **Geoff Manikin**, Steve Weygandt

For developing the first NCEP operational radar reflectivity assimilation technique and improving convective storm forecasting.

2008

Commerce Department Group Silver Medal – Scientific/Engineering Achievement

Edward O'Lenic - Dan Collins - Jon Hoopingarner - **Zoltan Toth** - David Unger - **Yuejian Zhu**

Honored for collaborating with Canada and Mexico to develop and implement the North American Ensemble Forecast System (NAEFS). The NAEFS combines state-of-the-art weather forecast tools developed at the Meteorological Service of Canada and the U.S. National Weather Service. Combined, these tools provide weather and climate forecast guidance for the extended range that is much higher quality than previous operational guidance. This has contributed to all-time record high skill scores for Climate Prediction Center's extended range temperature forecasts and North American temperature forecasts, seamless across national boundaries.

2007

AMS Francis W. Reichelderfer Award

Zavisa Janjic

For outstanding contributions to developments and implementation of NCEP limited-area weather prediction models (Eta and NMM). The numerical and parameterization schemes he developed ideally combine theoretical and technical solutions, as well as a balance between elegance and practicality.

Commerce Department Group Gold Medal – Scientific/Engineering Achievement

Geoffrey J. DiMego - Thomas Lee Black - Dennis A. Keyser - Geoffrey Stephen Manikin - Matthew E. Pyle - Eric Rogers - Wan-Shu Wu - Ying Lin - David L. Michaud - David Franklin Parrish

Honored for the implementation of a new Weather Research and Forecast (WRF) system, a common modeling system which promotes efficient transition of scientific collaborative research into operations. This collaboration is an advance for the Nation's scientific community and binds the operational and research communities to realize full societal benefits of the WRF system. In addition, there has been an accelerated use of

this model by training groups supporting the advancements of the workstation version of the model in underdeveloped areas, such as Africa.

2006

Commerce Department Group Gold Medal – Scientific/Engineering Achievement

Morris Bender - Timothy Marchok - **Naomi Surgi** - David Michaud

Cited for development of critical improvements to the Geophysical Fluid Dynamics Laboratory Hurricane Prediction System and its implementation into operational hurricane forecasts. In addition, this group greatly expanded the suite of model guidance available to forecasters. These improvements were crucial in producing outstanding operational track and intensity forecasts of Hurricanes Katrina and Rita, two of the most powerful storms to hit the U.S. in 2005. Advanced warning of these devastating catastrophes was vital to mitigating the loss of life and property.

2005

Commerce Department Group Gold Medal – Scientific/Engineering Achievement

Mitchell Goldberg - Fuzhong Weng - Larry McMillin - **John Derber** - **Russell Treadon**

Recognized for developing and testing scientific techniques to assimilate the observations of advanced satellite instruments into NOAA operational numerical weather prediction models. The team developed innovative techniques for rapidly processing and extracting information from massive amounts of new, high-quality satellite observations of the atmosphere. Tests show that the new data will significantly improve the accuracy and extend the range of weather predictions. As a result of the group's accomplishments, NOAA is better prepared for uses of these data to improve operational weather forecasts at least one year earlier after the satellite's launch and realize a 20 percent productivity increase, assuming a satellite life span is typically 4 to 5 years.

Commerce Department Group Gold Medal – Scientific/Engineering Achievement

Hua-Lu Pan - **Shrinivas Moorthi** - **Yu Tai Hou** - **Wanqiu Wang** - Jae Kyung Schemm - Wesley Ebisuzaki - Huug Vandendool - **Suranjana Saha** - **David Behringer** - **Diane Stokes**

Honored for implementing a new Climate Forecast System for Seasonal-to-Interannual (S/I) prediction one year ahead of schedule, with groundbreaking results. The goal was to develop an advanced technology system producing superior results to all incumbent models and to obtain sufficient computing resources for the system to become operationally useful. The group implemented an atmosphere-ocean coupled Climate Forecast System (CFS) for S/I climate prediction. The CFS is a fully-coupled, dynamical system representing critical weather and climate interactions between the earth's oceans and atmosphere. Historical forecasts demonstrated the CFS to be at least as accurate as the best statistical models for S/I forecasting, a breakthrough for dynamically-based models.

Commerce Department Group Silver Medal – Scientific/Engineering Achievement

Kenneth L. Schere - Jonathan Pleim - George Pouliot - Tanya Otte - Jeffrey Young - Paula Davidson - Wilson Shaffer - **Geoffrey DiMego** - **Jeffery McQueen** - Allan Darling

Honored for the development, testing, and deployment of the National Air Quality Forecast Capability. The group implemented an initial operational capability for predicting ground-level ozone for the northeastern United States through the next day, at hourly time intervals. The forecast guidance improves the basis for state and local health-based alerts and provides information for those at risk from poor air quality. NOAA's air quality forecast capability was developed and implemented in partnership with the U.S. Environmental Protection Agency, combining the two agencies' strengths in air quality measurements and atmospheric modeling.

EMC/NCEP Extraordinary Performance Award

Jun Du

For developing and implementing the WRF ensemble system.

Presidential Rank Award

Stephen Lord, Director, Environmental Modeling Center

For contributions to numerical weather prediction models for hurricanes for the 2004 season.

EMC Federal Peer Awards

October 2020

- **Russ Treadon:** For his crucial and totally voluntary efforts during the transition of the NAM Data Assimilation to run using GFS v16 input using a new GSI code,

which will allow the NAM to maintain its current level of skill when GFS v16 is implemented.

- **Logan Dawson:** For his innovative work in enhancing verification of high-resolution ensembles, greatly facilitating the formal evaluation of HREFv3 and building a foundation to assess the performance of the RRFS in the years ahead.

July 2020

- **Dingchen Hou:** For his innovative work and leadership in improving the GEFS system at EMC.
- **Rahul Mahajan:** For his work across groups and branches helping unify development efforts and bring in new tools and best practices which are helping to improve the Unified Forecast System at EMC.

April 2020

- **Kate Friedman:** For her contribution to maintaining global dump archives on both operational and research computer platforms, which are critical for GFS development and evaluation, and for her contribution to managing the global workflow and providing user support.
- **Robert Grumbine:** For his innovative work and leadership in improving the sea ice and sea surface temperature analyses for use in the nation's operational numerical weather prediction models.
- **Lin Gan:** For his innovative work and leadership in improving the GEFS v12 system at EMC.

January 2020:

- **Jessica Meixner:** For her contribution to develop the Unified Forecast System application for use in the GEFS v12
- **Jun Wang:** For her contribution to develop the inline Unified Post Processing (UPP) capability and the parallel I/O interface for reading and writing compressed netCDF files for the development of the Global Forecast System (GFS) version 16.
- **Yuejian Zhu:** For his innovative work and leadership in improving Global Ensemble Forecast System at EMC.

November 2019:

- **Jeff Ator**
- **Tom Black:** In recognition of his enduring dedication to EMC's mission to improve operational mesoscale prediction for the nation's Weather and Climate Enterprise.

July 2019:

- **Shrinivas Moorthi:** For his hard work in making numerous crucial updates to both the operational FV3-GFS and the coupled FV3GFS+MOM6+CICE5.
- **Jacob Carley:** For his guidance on two critically important projects for EMC, RTMA/URMA and FV3-CAM. He is also recognized for his significant community engagement and participation on collaborative research projects which will be leveraged to improve our unified modeling systems.
- **Jordan Alpert**

April 2019:

- **Eric Rogers:** In recognition for his continued dedication to EMC by helping to achieve EIB's goals to consolidate implementation efforts effectively, enable and enforcement of common standards, and for his longstanding work to improve operational mesoscale prediction.
- **Ying Lin:** In recognition of her longstanding dedication to leading the NCEP Stage II/IV precipitation analysis effort for the past two decades.
- **Dingchen Hou:** For his outstanding achievement in maintaining, developing and implementing the NCEP Global Ensemble Forecast System.

December 2018:

- **Boi Vuong:** For his dedication to NOAA customers in providing and improving value-added products important for their mission to ensure public safety.
- **Geoffrey Manikin:** For his leadership of the MEG team and their role in stakeholder engagement, evaluation collection, and independent assessment of the FV3-based Global Forecast System.

July 2018:

- **Russ Treadon:** For his critical contributions to the NOAA milestone of transitioning to the new FV3 dynamic core as part of the NCEP Global Forecast and Data Assimilation Systems.
- **Wan-Shu Wu:** For her contribution to NOAA's mission to integrate the GFDL's FV3 model into NCEP's operational systems in both the global and the regional data assimilation for the FV3 system.
- **Fanglin Yang:** For leading the NGGPS FV3GFS development and implementation effort at NCEP EMC.

April 2018

- **Hui-Ya Chuang:** For her dedication to NOAA customers in providing and improving value-added products important for their mission to ensure public safety. She has worked on additional tasks on numerous occasions and has mentored junior members of EMC staff so operational implementations and milestones are delivered on time.

- **Kate Friedman:** For her work preparing and disseminating the v1 public release of the new FV3GFS modeling system for community engagement.
- **Jun Wang:** For her outstanding work integrating the GFDL FV3GFS model into the NCEP/NEMS system and deploying her technical expertise to develop an asynchronous IO component to resolve the IO bottleneck for FV3GFS operational implementation.

July 2017

- **Matthew Pyle**

EMC Contractor Performance Recognition Awards

October 2020

- **Yi-Cheng Teng:** Recognized for significant progress on adding regional ocean DA capability to current GODAS/JEDI-SOCA development. In supporting the EMC HSUP2/HAFS project, he has provided a key role in enhancing the jedi-soca system with mom6-based high resolution regional DA applications. In the marine DA team, he is also a key member in maintaining current and new DA workflow systems as well. We further expect his future contribution in the various collaborations of the regional ocean DA project: real time cross validation of the high-resolution model and observation data.
- **Iliana Genkova:** Recognized for significant contributions to diagnosing and investigating June's forecast dropouts - inspected global winds observations, ran data denial experiments to evaluate the model's sensitivity to missing winds in specific geographic domains. Persevered at developing code changes for updated observation data formats in v15.3.3 and v16, and the code's timely hand-over to NCO. Fixed code bugs and helped regional models with implementing the AMVs format changes.
- **Jeff Whiting:** For coordinated efforts to get BUFR format buoy and synoptic reports encoded into prepbufr files for GFS, GDAS, CDAS, NAM, RAP, RTMA, and URMA. This major milestone is planned to be implemented by NCO on 10/20/2020. Jeff's efforts for TAC2BUFR are ongoing as he now is focusing on ships and cman data.
- **Jiarui Dong:** For coordinated efforts to get BUFR format buoy and synoptic reports encoded into prepbufr files for GFS, GDAS, CDAS, NAM, RAP, RTMA, and URMA. This major milestone is planned to be implemented by NCO on 10/20/2020.

- **Weizhong Zheng:** Recognized for working diligently on addressing the issues coming from both operational and parallel GFS. The last physics upgrade into GFSv16 made by him has significantly reduced the surface cold bias, which prevents the delay of the completion of GFSv16 retrospective runs. He has received high praise for his prompt response to some issues raised during the MEG meeting.
- **Zulema Garraffo:** For outstanding work in bringing to operational implementation RTOFSv2, which incorporates NOAA's first-ever ocean DA initialization, removing the dependency on the Navy's ocean initializations used to date.
- **Yan Luo:** For outstanding development and support work in precipitation for RTMA/URMA v2.8 and model verification support for GEFSv12 development
- **Jiande Wang:** Recognized for his work on the implementation of the GFDL MOM6 in the UFS. He worked hard ensuring the accuracy of the ocean module, and detected several deeply hidden bugs. Jiande recently took the challenge of implementing the half degrees and 1x1 degree ocean model, as requested by the UFS user community, and set them up successfully. His superior performance helped advance the UFS development.
- **Li Pan:** For his significant contributions and efforts to complete the extensive pre-implementation and diagnostic testing in support of GEFS/Aerosol, which was successfully placed in operations on Sept. 23.
- **Minsuk Ji:** For his contributions to the ufs-s2s-model including the unified testing framework
- **Mallory Row:** For her work in generating the verification interface for the GFSv16 retrospective and real-time runs. This site has been critical to the GFSv16 evaluation, and it looks far more professional than any previous GFS parallel verification site. Mallory went above and beyond with her work on this project including finding optimal color choices for traces, contributing to important documentation in the evaluation plan, and working to resolve discrepancies with TC stats.
- **Ben Blake:** Recognized for his work with DTC, GSL, NSSL and the wider FV3-CAM community to unify the workflows used in the FV3-CAM into one central capability suitable for the community and EMC/NCO. This was a significant achievement and milestone that required excellent collaborative and technical skills. His work will undoubtedly accelerate development of the FV3-CAM project.
- **Keqin Wu:** Recognized for her hard work in addressing security vulnerabilities in hurricane web pages. After EMC Webmaster Crystal Logan left the contract in July, Keqin had to work very hard to fix high vulnerability issues with the HMON web page that NCO found in their monthly scan. She downloaded a copy of the scanner tool NCO uses for these scans and after considerable trial and error was able to install fixes that passed NCO's scan. She ended up applying the fixes to 8 web pages (HWRf, HMON, HAFA, HAFJ, HAFSEPS, HAFsv0p1a, and hafsv0.1a, and newly found HWRFEPS).
- **Chan-Hoo Jeon:** Recognized for his excellent work on developing comprehensive documentation for the FV3-SAR system. Chan-Hoo spun up incredibly fast, already has a fairly complete set of (draft) documentation for the

FV3-SAR system, is taking a deep look at just about everything, and is helping our international visitor from Brazil get spun up with the model. This is all without prior experience in atmospheric NWP. In addition, Chan-Hoo has contributed to the EMC Slack channel offering advice, answering questions, and providing help when available.

- **Praveen Kumar:** Recognized for leading the effort to untangle the 20+ year old complicated Observation Processing code, generate documentation, and prep the systems for integration with JEDI. Praveen is not an atmospheric scientist by trade (but has previous experience with some NASA datasets). Praveen has been able to execute this work with great results, even during telework and while waiting for WCOSS access.
- **Jiayi Peng:** For outstanding support for tropical cyclone forecast evaluation and TC tracker utility in GEFSv12 and GFSv16 development

May 2020

- **Mitchell Weiss:** Recognized for supporting the switch from NSR to FSR for NPP CrlS direct broadcast data
- **Shastri Paturi and Yan Hao:** Recognized for the development, operationalization and testing of the RTOFS DA system.
- **Xiaoyan Zhang:** For excellent work and outstanding commitment to both the RTMA and FV3-CAM data assimilation efforts.
- **Cory Martin (Redline):** For his integral role in the transition from NEMS to netCDF as well as incorporating parallel I/O into the GSI, EnKF, and all of the associated utilities.
- **Denise Worthen:** For her support for development of the CMEPS coupler and management of the ufs-s2s-model repository.
- **Bo Cui:** For her great support to the NAEFS system's maintenance and upgrade, re-forecast bias correction for GEFS, and EMC_post re-re-engineering work.
- **Dusan Jovic:** For outstanding contributions to Version 1.0 of the Unified Forecast System (UFS) Medium Range Weather Application.
- **Roberto Padilla:** For valuable assistance in integrating two major wave modeling systems, Global WW3 and Global Wave Ensemble System (GWES), into the UFS framework
- **Lin Zhu:** For significant contributions to the FY20 operational HMON system upgrades and implementation
- **Jack Woollen:** For excellent work on porting the operational CFSv2 to the Dell Computers.
- **Walter Kolczynski:** For his successful work in coordinating with the aerosol team and wave team to integrate atmosphere, wave and aerosol components for GEFSv12
- **Shannon Shields:** For her work during the performance of the GEFSv12 evaluation.

- **Jongil Han (SRG):** For improvements to the physics in GFS V16, particularly the proposed solution to deal with the cold bias.

February 2020

- **Bing Fu, Wei Lei, Hong Guan (SRG) and Xianwu Xue (SRG):** For outstanding support of GEFS reforecast and retrospective forecast efforts.
- **Bin Liu, Keqin Wu:** Their outstanding work in pre-processing for HAFS and production of IC's for multiple UFS-based applications.
- **Kristen Bathmann, Cathy Thomas:** For outstanding support of the v16 GSI/GFS implementation
- **George Gayno:** For work in support of the GFS v16 implementation including coding, testing and documentation and preparation of GLDAS for gfs v16 testing and real time parallels
- **Chris Hill:** For his hard work ensuring a seamless transition to the use of BUFR data from Chinese radiosondes.
- **Jong Kim:** For innovative work on the JEDI-CICE6 interface

November 2019

- **Catherine Thomas:** Hard work and significant contribution for getting ready for 127-level data assimilation - significant work in retuning background error specifications (both static and ensemble), giving feedback to the FV3 global model and diagnosing and fixing bugs in the GSI that this transition has exposed; significant contributions to the development of GFS version 16, in particular in the area of data assimilation in the upper stratosphere and mesosphere.
- **Kristen Bathmann:** Hard work and significant contribution for getting ready for 127-level data assimilation - significant work in retuning background error specifications (both static and ensemble), giving feedback to the FV3 global model and diagnosing and fixing bugs in the GSI that this transition has exposed.
- **Mary Hart:** Continued excellent support, by collecting information on EMC personal computers to determine which ones can be upgraded to RHEL7 and Windows 10 and which need to be replaced. Effective coordination with NCO enabled EMC to successfully determine new desktop and laptop computers purchase needs and compatibility of monitors. This involved a lot of data gathering and coordination and Mary's role was critical for the success, earning written compliments from EMC Deputy Director.
- **Eric Sinsky:** Dedicated support for GEFSv12 reforecast production, SubX real-time forecasts for CPC, and ensemble development
- **Bin Liu:** Significant contributions to the workflow establishment and source code development for Hurricane Analysis and Forecast System (HAFS), and delivering

a reliable system for HFIP 2019 hurricane season real time demonstration project in timely fashion within the Hurricane Team

- **Jili Dong:** Significant contributions to the workflow establishment and source code development for Hurricane Analysis and Forecast System (HAFS), and delivering a reliable system for HFIP 2019 hurricane season real time demonstration project in timely fashion with the Hurricane Team
- **Hang Lei:** While managing the NCEP Libraries, Hang took on additional duties as a code manager for the global workflow. He has been doing an exceptional job streamlining and advancing the global workflow. This is the workflow that drives the GFS model and we have been working to make it the global workflow for all our applications and manage the repository as a community repository. Together with Kate Friedman, Hang Lei is working to set up gitflow standards, testing and integrating work for gfs v15.2 implementation, including the gldas workflow into the global system, adding metplus capability etc.
- **Jian Kuang:** For both his excellent support of the NWPS system, and taking over development of the CROW configuration system. He created a training class as well as working with developers who provided feedback to add more capability. He also created a full documentation for the system. Jian, at the behest of the coupling team also created a framework to develop a modular version of exglobal_fcst for the global workflow. He now almost has the global workflow running as a coupled system. He is also helping the marine DA team to set up a DA workflow in the global workflow.
- **Gang Zhao:** Excellent support as the primary developer on the 3DRTMA project. He was key in getting the system running at the 2019 HWT, where the 3DRTMA received high praise from testbed attendees and evaluators. Recently Gang attended the Aviation Weather Testbed in support of 3DRTMA and did an overall wonderful job being a great representative of our organization. He continues to play an important role in growing a healthy working relationship between EMC and GSD via the 3DRTMA project.
- **Partha Bhattacharjee:** Outstanding performance by stepping up and making critically important contributions to the GEFS-aerosol implementation effort. His resourceful diagnostics and verification statistics were extremely valuable and allowed EMC to make rapid progress to meet the implementation deadline with confidence.
- **Todd Spindler:** Work to provide Wavewatch III access within the Navy network. For excellent development and support of ocean verification tasks, including developing a method that reduced run time from 3 hours to 5 minutes for V&V applications
- **Travis Elless:** Valuable assistance provided during this year's Atmospheric Rivers Reconnaissance Campaign.
- **Henry Winterbottom:** For making innovative contributions towards both operational HWRF and HAFS DA developments.

- **Dusan Jovic:** For his major efforts in transitioning the UFS weather code to GitHub as well as providing support for code management and getting the system ready for Public Release
- **Denise Worthen:** For making significant contributions towards the development of the next generation global coupled system with a focus on sea ice.
- **Zulema Garraffo:** For single handedly deploying and conducting real time RTOFS DA cycles runs in preparation for T2O
- **Wen Meng:** Exceptional support of the Unified Post Processing system, often going above and beyond to ensure system upgrades meet deadlines.
- **Guang Ping Lou:** For developing the GEFS BUFR sounding capability and assisting with downstream product validation prior to model implementations
- **Yali Mao:** Exceptional support of the World Area Forecast System software
- **Matthew Morris (SRG):** Excellent support and work on RTMA v2.8 development with several immediate, tangible contributions. With his efforts several changes were put into this package that, until his involvement, we never would have been able to consider. This includes re-tuning the sky cover analysis, adding new QC to the sky cover analysis, updates to provide a more consistent ceiling analysis, improvements to the moisture analysis, and now he has taken over running the RTMA/URMA monitoring webpage and is using the tools he developed in the FAA project to handle the assessment for the v2.8 RTMA/URMA package. He has also written and submitted a manuscript to WaF on his FAA work.
- **Cory Martin (Redline):** For his outstanding development and support in facilitating the transition to netCDF model history files in support of the planned GFSv16 upgrade.
- **Crystal Logan (Redline):** Recognized for her tireless efforts in setting up and deploying the new EMC website. Also, for all her work in upgrading the supporting web pages for the different modeling and monitoring systems.
- **Edward Strobach:** Excellent work toward understanding and working toward optimizing the FV3-SAR configuration at convective-allowing scales through careful analysis and collaboration.
- **Eric Aligo:** Excellent work toward understanding and working toward optimizing the FV3-SAR configuration at convective-allowing scales through careful analysis and collaboration.
- **Michael Lueken:** Outstanding code manager for the data assimilation group. Recently, he worked with GMAO to integrate two years of updates into the GSI. This upgrade was particularly complex and is an example of Mike's exceptional skills and diligence.
- **Melinda Lovins:** For consistently providing great support including her tasks to enable new contractor employees to begin work, property inventory, contractor travel and many other tasks that help our organization run efficiently in a particularly challenging time for our organization.

