Hydrometeorological Prediction Center (HPC) Action Plan

Director Jim Hoke and staff

September 29, 2011

CATEGORY	RECOMMENDATION (PARAPHRASED)	ACTION	STATUS	DUE DATE	ORIGINAL TIME RANGE
Mission and Vision	**Recommendation MV1:** Develop an effective, forward-looking strategic plan, with a limited number of prioritized milestones and detailed implementation activities.	MV1.1: Participate in the NWS MIC-HIC meeting in Lansdowne, Virginia, in April 2010. A major theme of the meeting will be the new NWS Strategic Plan. MV1.2: Inform the HPC staff and the NWSEO of plans to develop an HPC strategic plan. MV1.3: Develop an HPC strategic plan.	MV1.1: Completed. Three of the four HPC supervisors attended the meeting. MV1.2: Completed. MV1.3: The near final form of the strategic plan is awaiting approval from the NWS Director.	MV1.1: Apr 2010 MV1.2: FY10Q2 MV1.3: FY12Q1	MV1.1: Short (FY10) MV1.2: Short (FY10) MV1.3: Medium (1-3 yrs)
Customers and Partners	**Recommendation CP1:** Continue and strengthen communication with HPC stakeholders, especially in the areas of retiring products or developing new products, and in developing effective internet-based user interactions. Continue to foster and markedly accelerate the collaborative partnerships through visiting scientist programs and CSTAR.	CP1.1: Conduct user surveys of several of HPC's products suites. CP1.2: Participate in NCO-led customer service conference calls	CP1.1: HPC conducted user surveys of its Basic Weather suite and its QPF suite of products. As the result of the former, HPC added the 6-h and 60-h basic weather forecast products. HPC products will be further surveyed as part of the upcoming HPC strategic planning process, with stakeholders receiving the survey in April 2011. CP1.2: Ongoing. From February 2 - September 13, 2010, HPC participated	CP1.1: FY10-11 CP1.2: FY10 (and then sustain annually	CP1.1: Medium (1-3 yrs) CP1.2: Short (FY10)

		with NCEP customers to determine their current and future needs.	in 10 such conference calls.	as resources permit)	
		CP1.3: Expand the HPC Visiting WFO and RFC Forecaster Programs, resources permitting.	CP1.3: Seven WFO forecasters and five RFC forecasters visited HPC and four HPC forecasters visited field offices under this program in FY10. In FY11 because of budget constraints the visiting WFO forecaster program was suspended. There were five exchange visits under the visiting RFC forecaster program.	CP1.3: FY10 (and then sustain annually as resources permit)	CP1.3: Short (FY10)
		CP1.4: HPC will engage in more outreach with partners and stakeholders, such as with individual field forecasters, at NWS regional meetings, and at NWS partners meetings.	CP1.4: HPC staff visited a number of forecast offices, field headquarters, national headquarters, and NCEP centers and participated in numerous regional and national scientific meetings during FY11	CP1.4: FY11 (and then sustained annually as resources permit)	CP1.4: Medium (1-3 yrs)
		CP1.5: HPC will use the HMT to expand its interactions with the academic and research communities, including participation in the CSTAR program.	CP1.5: HPC are collaborating with three universities and other partners on three funded CSTAR projects totaling about $1 million over the next three years. Projects are focused on high-resolution and ensemble guidance for QPF and assessing forecast uncertainty. These programs were initiated in FY10 and continued in FY11.	CP1.5: FY10 (and then sustained annually as resources permit)	CP1.5: Short (FY10)
		CP1.6: Through the HMT-HPC pursue opportunities presented by the COMET Partners Program.	CP1.6: In FY10 the COMET Partners Program has funded the project “Identifying and understanding displacement biases in numerical forecasts of elevated convective systems” with Russ Schumacher of Texas A&M. The activity was completed in FY11.	CP1.6: FY10 (and then sustained annually as resources permit)	CP1.6: Short (FY10)

Customers and Partners	**Recommendation CP2:** Establish a Warning Coordination Meteorologist (WCM) at HPC to further promote HPC-customer interactions.	CP2.1: Pursue the creation of an HPC WCM position through the NOAA budget planning process.	CP2.1: HPC continues to be unsuccessful at securing funding for this position but continues to advocate for it.	CP2.1: FY11 (and then sustained annually until successful)	CP2.1: Long (1-5 yrs)
Customers and Partners	**Recommendation CP3:** Consider more strategic engagement and interactions with emerging communities of non-traditional users (e.g., emergency managers, farmers, energy sector managers) through internet-based communications, attendance at stakeholder meetings / workshops, joint activities with RISAs, and other appropriate forums.	CP3.1: Work with the emergency management community to expand HPC's ability to respond in real time to high-impact weather situations through the use of the web and state-of-the-art video-teleconferencing equipment at HPC.	CP3.1: HPC worked with FEMA to upgrade significantly the videoteleconferencing equipment in the Media Center. In addition, HPC procured a new large presentation monitor for the Media Center and worked with NCO and TPC to get it installed in July 2010. FEMA representatives visited HPC on May 18, 2010, to discuss plans for summer 2010 and beyond. HPC used the new equipment while working with the FEMA/NOAA Hurricane Liaison Team during summer 2010 and 2011. In FY11 HPC continued to seek additional ways to support the emergency management community, including the development of a National Forecast Chart for days 2 and 3. The day 2 chart was implemented on June 6, 2011, and the day 3 chart on September 12, 2011.	CP3.1: FY10 (and then sustained annually)	CP3.1: Medium (1-3 yrs)
		CP3.2: Enhance the HPC website to encourage increased input from nontraditional users.	CP3.2: The addition to the HPC website of probabilistic QPF in FY10 and probabilistic winter precipitation forecasts in FY11 has been well received by nontraditional users. To begin reaching the growing Hispanic community in the U.S., a Spanish version of the National Forecast Chart was developed and subsequently implemented on March 1, 2011. The development of additional products is	CP3.2: FY10 (and then sustained annually)	CP3.2: Long (1-5 yrs)

			in the discussion phase.		
		CP3.3: Increase the use of new technology such as NWSChat and RSS feeds to make HPC products more readily available to users.	CP3.3: In discussion phase. HPC worked with the NCEP Office of the Director and NWSH to codify in the appropriate NWS Directive the use of NWSChat by NCEP centers. HPC has been actively engaged in the development of the AWIPS II workstation capability, which among other things will facilitate on-line collaboration capabilities between NWS field offices. HPC implemented a Facebook page on June 2, 2011, and updates it daily.	CP3.3: FY11	CP3.3: Medium (1-3 yrs)
Customers and Partners	**<u>Recommendation CP4:</u>** Formalize and strengthen the efforts through which HPC provides feedback to EMC on model development.	CP4.1: Establish a visiting scientist program between EMC and HPC.	CP4.1: The program was established. The first week-long visit occurred in May 2011	CP4.1: FY11 (and then sustained annually)	CP4.1: Medium (1-3 yrs)
		CP4.2: Compile a list of all HPC-EMC forecast improvement activities.	CP4.2: Complete. There are nine forecast improvement activities ongoing. Opportunities for additional means of collaborating are being nurtured.	CP4.2: FY10 (and then sustained annually)	CP4.2: Short (FY10)
		CP4.3: Request that EMC provide a point of contact and an attendee for the daily HPC/CPC map discussion.	CP4.3: Dana Carlis was appointed the EMC point of contact for the HPC/CPC map discussion. EMC attendance at the map discussion has increased.	CP4.3: FY10 (and then sustained annually)	CP4.3: Short (FY10)
		CP4.4: Establish a program in which HPC forecasters diagnose and document major weather events. Provide these reports to EMC for possible use in future development activities.	CP4.4: Program is in the proof-of-concept phase. The first event review report was prepared in November 2010. More than 12 have been completed. A portal is being set up to increase the visibility of the event reviews on HPC's external website. A plan was developed to focus the event reviews on major winter weather	CP4.4: FY11 (and then sustained annually)	CP4.4: Medium (1-3 yrs)

			events, with the goal of developing an annual review paper for submission to *Weather and Forecasting.*		
		CP4.5: Conduct a monthly meeting of the HPC and EMC Directors for the purpose of discussing topics of mutual interest, including strengthening the interactions between HPC and EMC.	CP4.5: The meetings begun July 6, 2010, and have continued monthly since then.	CP4.5: FY10 (and then sustained annually)	CP4.5: Short (FY10)
		CP4.6: Include HPC participation in the GFS Drop-out Team diagnosing occasional significant accuracy problems with specific GFS forecasts.	CP4.6: HPC participation involving the HPC Science and Operations Officer, the Coordinator of the HPC International Desks, and others began in November 2010.	CP4.6: FY11 (and then sustained as long as needed)	CP4.6: Medium (1-3 yrs)
		CP4.7: Re-engineering the Winter Storms Reconnaissance Program for the Atlantic to be similar to the program for the Pacific and use this as a further opportunity to strength HPC-EMC interactions and model performance feedback.	CP4.7: Program for the Atlantic was developed in conjunction with NCO and EMC. It was implemented operationally on January 10, 2011.	CP4.7: FY11 (and then sustained annually)	CP4.7: Medium (1-3 yrs)
Customers and Partners	**Recommendation CP5:** Strengthen activities with NCO to provide improved web services and related technologies to its stakeholders.	CP5.1: Meet with NCO staff to discuss ways of improving web-based services to partners and customers.	CP5.1: in discussion phase.	CP5.1: FY12	CP5.1: Medium (1-3 yrs)
Products and Services	**Recommendation PS1:** Develop a plan for streamlining the delivery of operational products and services to increase resources for development activities.	PS1.1: Each year develop a proposal in which at least one component of the HPC product suite could be streamlined to reduce preparation time.	PS1.1: In FY11 HPC proposed streamlining the preparation of the surface analysis of the Daily Weather Map series. (See PS1.4 for details.)	PS1.1: FY11 (and then sustained annually)	PS1.1: Medium (1-3 yrs)
		PS1.2: Eliminate the use of non-management HPC/DTB staff as substitutes for the HPC International Desks Coordinator so this staff can	PS1.2: Complete. Implemented FY10Q1.	PS1.2: FY10Q1	PS1.2: Short (FY10)

		focus more time on scientific and technological development activities for HPC.			
		PS1.3: Pursue funding for a second instructor for the HPC International Desks.	PS1.3: HPC secured funding from USAID/Office of Foreign Development Assistance to provide for a second instructor and support the development of new analysis and forecast capabilities for South, Central, and Caribbean America. HPC is currently in the hiring process to fill the new position.	PS1.3: FY12 (and then sustained annually)	PS1.3: Medium (1-3 yrs)
		PS1.4: Pursue the further automation of the Daily Weather Map (DWM) series.	PS1.4: Following an extensive development effort, on January 3, 2011, HPC began producing surface analyses in the DWM series without the need for preparation by technicians. The DWM analyses are now based directly on the daily 12 UTC HPC surface analysis. Further develop-ment enabled the totally automated preparation of the DWM series on June 20, 2011.	PS1.4: FY11 (completed)	PS1.4: Medium (1-3 yrs)
Products and Services	**Recommendation PS2:** Develop procedures to transition products towards smaller spatial scales and longer temporal scales, together with probabilistic content, as supported by the science.	PS2.1: Implement a probabilistic QPF capability for evaluation by NWS field offices and other partners and customers.	PS2.1: Ensemble-based prototype was developed for Hanson Dam support in FY10Q2. A CONUS-wide system was released for evaluation and comment by partners and customers on June 1, 2010. Feedback was very positive and the product became operational on April 5, 2011..	PS2.1: FY10 (and then improved annually)	PS2.1: Short (FY10)
		PS2.2: Develop an enhanced probabilistic snowfall and freezing rain forecast capabilities.	PS2.2: Experimental probabilistic forecasts of snow and freezing rain were implemented by HPC on November 23, 2010, for evaluation during winter 2010-2011. Response	PS2.2: FY11	PS2.2: Short (FY10)

			from customers was very positive.		
		PS2.3: Explore the development of probabilistic products in the medium-range time frame.	PS2.3: In discussion phase.	PS2.3: FY12	PS2.3: Medium (1-3 yrs)
		PS2.4: Establish the prediction of warm-season QPF as a high priority of the Hydrometeorological Testbed (HMT).	PS2.4: Incorporated into the science plan for the HMT-HPC in FY10Q3. A Summer QPF Experiment (June 2010) and HPC's lead in the QPF component of the Hazardous Weather Testbed's Spring Experiment in 2010 and in 2011 indicate HPC's focus on improving warm-season precipitation forecasting.	PS2.4: FY10Q3 (and then sustained annually as resources permit)	PS2.4: Short (FY10)
		PS2.5: Establish a program by which HPC forecasters participate in the evaluation of numerical models of higher resolution than the current operational models and using ensembles for warm-season precipitation.	PS2.5: From June 7-18, 2010, HPC forecasters and HPC-HMT staff participated in the first Summer HPC QPF Experiment. HMT-HPC staff led the experiment testing high-resolution models including ensembles in parallel with HPC operational forecast operations for heavy precipitation. HPC forecasters also participated in the Spring Experiments of the Hazardous Weather Testbed in 2010 and 2011.	PS2.5: FY10 (and then sustained annually as resources permit)	PS2.5: Short (FY10)
		PS2.6: Establish a program by which HPC forecasters participate in the evaluation of numerical models of higher resolution than the current operational models and using ensembles for cool-season precipitation.	PS2.6: The inaugural HMT-HPC Winter Weather Experiment was held January 10 - February 14, 2011, at HPC. The primary goals of the experiment were to examine 1) whether high-resolution models can add value for Day 1 forecasts of precipitation type and amount and 2) whether we can better quantify and communicate winter weather uncertainty for Day 1-2 forecasts. In addition to HPC forecasters and HMT staff, there were participants from other NCEP centers,	PS2.6: FY11 (and then sustained annually as resources permit)	PS2.6: Short (FY10)

			NWS forecast offices, and OAR.		
		PS2.7: Serve as a lead and major participant in the development and execution of the SPC/NSSL Spring Experiment evaluating storm-resolving model QPF output and the use of ensembles.	PS2.7: HPC led the QPF component of the 5-week Spring Experiments of 2010 and 2011. Plans are underway for 2012.	PS2.7: FY11 (and then sustained annually as resources permit)	PS2.7: Short (FY10)
		PS2.8: Provide longer-range precipitation forecasts when feasible upon request from NWS field offices.	PS2.8: Upon request of the NWS Western Region HPC provided QPFs to days 6 and 7 for the Pacific Northwest during winter 2009-2010 in support of the Hanson Dam project. Similar support is being provided for winter 2010-2011. Also at the request of the Western Region, HPC provided QPFs to days 6 and 7 for the California-Nevada area during a particularly intense series of storms impacting the West Coast from Dec 2010-Jan 2011. Because of the popularity of this product, at Western Region request HPC agreed to continue its production through the Spring 2011 snow-melt season. In September 2011, NWS Western Region requested HPC days 6-7 QPFs for winter 2011-2012. At the request of the Director of the U.S. Office of Science and Technology Policy, the National Security Staff, and NWS Weather Forecast Office Guam, on March 21, 2011, as a result of the Japan nuclear crisis HPC began providing precipitation and wind forecasts out through seven days for Fukushima and Tokyo. These forecasts were issued four times daily until May 13.	PS2.8: FY10 (and then sustained annually as resources permit)	PS2.8: Short (FY10)

		PS2.9: Increase the resolution of the creation and distribution of HPC QPF from 10 km to 5 km. PS2.10: Continue efforts to improve the accuracy of HPC medium-range gridded forecasts. PS2.11: Explore daily forecasting to 10 days using Model Output Statistics as a benchmark.	PS2.9: In planning phase. PS2.10: April 15, 2010: methods used to derive dew point and sky cover were changed. MAE improved up to 20%. May 11, 2010: on the Alaska Desk, the method to create and downscale Tmax and Tmin was improved, a bias correction based on the RTMA was added to the derivation of HPC wind forecasts, and the forecast grids can now be edited by GFE. On November 15, 2010, the accuracy of HPC medium-range temperature forecasts was improved for the CONUS through the use of the RTMA to downscale instead of PRISM data and the explicit use of model forecast low-level temperatures instead of Model Output Statistics. PS2.11: HPC requested the NWS Meteorological Development Laboratory begin providing MOS forecasts for 8, 9, and 10 days into the future. These forecasts became available in Jan 2011. Their thorough evaluation and application are currently on hold pending AWIPS II development.	PS2.9: FY12 PS2.10: FY10 (and then sustained annually) PS2.11: FY11 (and then sustained annually until decision whether to implement operationally)	PS2.9: Medium (1-3 yrs) PS2.10: Medium (1-3 yrs) PS2.11: Medium (1-3 yrs)
Products and Services	**<u>Recommendation PS3:</u>** CPC and HPC should formally create a week-2 development team (W2DT).	PS3.1: Convene an HPC-CPC working group to explore the feasibility of HPC producing skillful daily forecasts beyond day 7.	PS3.1: HPC and CPC management met on April 12, 2011, to discuss the creation of hazards charts for days 4-7 and week 2. A plan was prepared, coordinated, and submitted to NWS Headquarters for review. The new products were implemented by CPC in September 2011. Discussion continues	PS3.1: FY11 (and then continuing in FY12)	PS3.1: Medium (1-3 yrs)

			between HPC and CPC on extending daily forecasts beyond day 7. Because of the shortage of resources to develop the capability, progress on this effort has been small.		
Products and Services	**Recommendation PS4:** Transfer open-ocean forecasting responsibilities to OPC.	PS4.1: Meet with OPC leadership to discuss ways of streamlining and improving high-seas forecasting at NCEP.	PS4.1: In discussion phase.	PS4.1: FY12	PS4.1: Medium (1-3 yrs)
Information Systems	**Recommendation IS1:** NCEP should establish policies, processes, and practices that will allow users to create customized interactions with HPC information systems.	IS1.1: Make HPC products available in universal standards, including GIS formats.	IS1.1: A number of HPC products were made available in kml format of Google Earth in FY10. GIS-kml versions of probabilistic categorical forecasts of snow and freezing rain were made available in FY11Q1. GIS-kml versions of HPC's forecasts of snow and freezing rain amount were implemented before winter 2011-2012 at the request of FEMA. In addition, work is underway to determine whether frontal symbols can be encoded in kml format.	IS1.1: FY11	IS1.1: Long (1-5 yrs)
		IS1.2: Explore the provision of HPC gridded and graphical products as an extension of the NOAA Operational Model Archive and Distribution System (NOMADS) for grids and the Model Analysis and Guidance (MAG) system for graphics.	IS1.2: In discussion phase.	IS1.2: FY12	IS1.2: Long (1-5 yrs)
		IS1.3: Explore the dissemination of information by new methods (such as podcasts).	IS1.3: Policies regarding the development of new dissemination methods are currently under development at both the NOAA and NWS levels. In FY11 HPC implemented a Facebook page that has been very successful at reaching the public.	IS1.3: FY11 (and then sustained annually)	IS1.3: Long (1-5 yrs)
		IS1.4: Because this	IS1.4: In discussion phase.	IS1.4: FY12	IS1.4:

		recommendation was directed at NCEP as a whole, HPC is exploring with the NCEP Office of the Director the formal transfer of this recommendation from HPC.			Long (1-5 yrs)
Information Systems	**Recommendation IS2:** NCEP should establish policies, processes, and practices that will foster interoperability among products and tools for non-NOAA stakeholders. HPC must participate sufficiently in the development of AWIPS-II to make sure that their NWS stakeholders get the maximum benefit from HPC products and services.	IS2.1: Because the first part of this recommendation was directed at NCEP as a whole, HPC is exploring with the NCEP Office of the Director the formal transfer of that part of the recommendation from HPC. IS2.2: Transition HPC N-AWIPS and AWIPS capabilities to AWIPS II.	IS2.1: In discussion phase. IS.2.2: A high percentage of HPC developmental staff have been assigned to the transition to AWIPS II, one of the top priorities specified by the NCEP Director. HPC is on track with this transition, but considerable effort remains.	IS2.1: FY12 IS2.2: FY11-12	IS2.1: Long (1-5 yrs) IS2.2: Long (1-5 yrs)
Information Systems	**Recommendation IS3:** HPC should, working with NCO, institute programming teams having shared responsibility for specific software development, maintenance, and extensions.	IS3.1: Meet with NCO leadership to discuss ways programming teams could be created for HPC-NCO software development and maintenance.	IS3.1: In discussion phase.	IS3.1: FY12	IS3.1: Long (1-5 yrs)
Information Systems	**Recommendation IS4:** HPC with NCEP OD should establish policies, processes, and practices that more effectively leverage external partner capabilities in designing and implementing new products and decision support tools.	IS4.1: Because this recommendation was directed at NCEP as a whole, HPC is exploring with the NCEP Office of the Director the formal transfer of this recommendation from HPC.	IS4.1: In discussion phase.	IS4.1: FY12	IS4.1: Long (1-5 yrs)
Information Systems	**Recommendation IS5:** HPC should provide external research groups with explicit guidance on HPC	IS5.1: Add to HMT-HPC website a section providing guidance to external developers as to HPC	IS5.1: In discussion phase.	IS5.1: FY12	IS5.1: Long (1-5 yrs)

	requirements that new products or tools must meet to be compatible with their operations or information systems.	requirements for IT compatibility of new tools and other developed capabilities.			
Information Systems	**Recommendation IS6:** NCEP should provide HPC with software engineering capabilities through changed policies that allow hiring outside the meteorologist classification or by assignment of NCEP NCO staff to HPC.	IS6.1: The next time a vacancy arises in HPC/DTB for a position requiring programming / IT capabilities, advertise the position to be filled by either an IT specialist or a meteorologist. IS6.2: Meet with NCO management to discuss the possibility of the assignment of additional NCO staff to support HPC.	IS6.1: No vacancy has arisen since this strategy was adopted by HPC in FY10. IS6.2: In discussion phase.	IS6.1: FY10 (and then sustained annually) IS6.2: FY12	IS6.1: Long (1-5 yrs) IS6.2: Long (1-5 yrs)
Science and Technology	**Recommendation ST1:** Develop a science and implementation plan for the HMT that provides an articulation of HPC's R2O priorities, unresolved scientific questions that the HMT would address, and a vision for engaging the research community that includes academic institutions and national labs, including NOAA OAR labs and cooperative institutes.	ST1.1: Complete the development of the HMT science and implementation plan. ST1.2: Create an HMT website and include on this a list of priority questions and research gaps that the HMT is addressing or would like to address. ST1.3: See CP1.5 regarding CSTAR proposals.	ST1.1: Completed FY10Q2. ST1.2: Implemented May 2010. ST1.3: See CP1.5 regarding CSTAR proposals.	ST1.1: FY10Q3 ST1.2: FY10 ST1.3: See CP1.5 regarding CSTAR proposals.	ST1.1: Short (FY10) ST1.2: Short (FY10) ST1.3: Short (FY10)
Science and Technology	**Recommendation ST2:** Develop plans to accelerate the infusion of science and technology into its operations and development branches. Two particular areas of emphasis should be verification and ensemble techniques.	ST2.1: Continue efforts to hire a second contractor in the HMT. ST2.2: Through the HMT-HPC, further the development of object-	ST2.1: HPC is currently in the final stage of hiring a second contractor with a job offer expected to be made by mid-October 2011. ST2.2: DTC Met Tool (including MODE) installed and running in the HMT.	ST2.1: FY12 (and then sustained annually as resources permit) ST2.2: FY10 (and then	ST2.1: Short (FY10) ST2.2: Short

		oriented verification techniques having application to HPC products.		sustained annually)	(FY10)
		ST2.3: Conduct a review of HPC verification techniques with the goal of streamlining and improving them.	ST2.3: In discussion phase following preliminary exploratory activities.	ST2.3: FY12	ST2.3: Medium (1-3 yrs)
		ST2.4: Through the HMT, develop additional objective ensemble techniques for use by HPC forecasters.	ST2.4: In planning phase.	ST2.4: FY12	ST2.4: Medium (1-3 yrs)
		ST2.5: Leverage CSTAR results to transition objective ensemble techniques into operations.	ST2.5: Funding has been approved.	ST2.5: FY10-FY13 (3-year effort)	ST2.5: Medium (1-3 yrs)
		ST2.6: Pursue funding for the hiring of a contractor to facilitate the transfer into operations of future GOES-R capabilities.	ST2.6: HPC, OPC, and NESDIS/SAB submitted a proposal to fund a GOES-R contractor, which was accepted. A contractor was hired on April 19, 2011, and he reported for duty on May 25, 2011.	ST2.6: FY11 (and then sustained annually)	ST2.6: Medium (1-3 yrs)
People and Organizational Change	**<u>Recommendation POC1</u>:** Implement additional mechanisms for rewarding and nurturing efforts to advance the scientific envelope in the process of generating forecast products and services.	POC1.1: Continue ongoing activities to encourage and reward HPC staff for participating in the scientific advancement of HPC.	POC1.1: Ongoing. Staff are expected to keep their supervisors apprised of their non-operational activities. Through a number of mechanisms, staff are recognized for both their forecasting and nonforecasting accomplishments.	POC1.1: FY10 (and then sustained annually)	POC1.1: Short (FY10)
		POC1.2: Provide HPC forecasters the opportunity to participate in the activities of the HMT-HPC.	POC1.2: Opportunities for HPC forecasters to work with the HMT-HPC have greatly increased. For example, HPC forecasters used high-resolution and ensemble guidance in the 2010 and 2011 HWT Spring Experiments and in the Summer 2010 HPC QPF Experiment and did so again in the Jan-Feb 2011 HMT-HPC Winter Weather Experiment. HPC forecasters will	POC1.2: FY10 (and then sustained annually)	POC1.2: Short (FY10)

			participate in the 2011-2012 HMT-HPC Winter Weather Experiment.		
		POC1.3: Conduct a Local Office Team meeting to explore additional ways of encouraging staff to undertake scientific endeavors.	POC1.3: Meeting of Local Office Team (HPC Director and NWSEO Steward) was held. The LOT endorsed activities involving HPC forecasters in such efforts as the HWT Spring Experiment, the HPC Summer QPF Experiment, and the HMT-HPC Winter Weather Experiment.	POC1.3: FY11 (completed)	POC1.3: Medium (1-3 yrs)
People and Organizational Change	**<u>Recommendation POC2:</u>** Convey to the staff that their initiative, creativity, and contributions to advances in science, technology and HPC practices are valued.	POC2.1: By memo and/or all-hands meeting the HPC Director will reiterate the importance of staff initiative, creativity, and contributions in scientific endeavors to the long-term future of HPC. POC2.2: Continue to encourage staff to make suggestions to HPC plans and programs, in accordance with Article 8 of the Collective Bargaining Agreement.	POC2.1: Completed Feb 2010. POC2.2: In Feb 2010 the HPC management team developed a draft Action Plan in response to the UCAR Review recommendations. The NWSEO steward reviewed and commented on the plan in March 2010. The entire HPC staff was given the opportunity to review and comment on the plan in April 2010. The plan was revised based on those comments. Since then the Action Plan has been periodically updated. The latest version of the plan was distributed to the HPC staff on March 9, 2011. In addition, HPC's proposed Annual Operating Plan milestones for FY11 were provided to the entire HPC staff on September 1, 2010, for review in a way consistent with Article 8. As part of the HPC strategic planning process, a professionally facilitated	POC2.1: FY10Q2 (and then whenever the opportunities present themselves) POC2.2: FY10Q3 (and then sustained annually)	POC2.1: Short (FY10) POC2.2: Short (FY10)

			employees meeting was held on June 7, 2011, to receive employee input. Working with the NWSEO steward HPC staff was given the opportunity to comment on the draft HPC Annual Operating Plan for FY12.		
		POC2.3: Continue to follow HPC's long-standing practice of hiring the best qualified candidate for each position, based on the quality ranking factors appropriate to the position.	POC2.3: Ongoing.	POC2.3: Already in effect	POC2.3: Short (FY10)
		POC2.4: Conduct a survey of HPC staff in which the staff evaluates the strengths and weaknesses of the HPC management team, in accordance with Article 8 of the Collective Bargaining Agreement. Provide feedback to the staff of the results of the survey through the HPC Director. Address employee comments provided in the survey.	POC2.4: Survey was conducted in October and November 2010. Results were analyzed by the HPC union steward and presented by him to the HPC management team on February 24, 2011. The HPC Director provided feedback on the survey results and comments in an email to the entire HPC staff on March 9, 2011. Efforts to address suggestions received in the survey are ongoing.	POC2.4: FY11Q2 (and then sustained biennially)	POC2.4: Short (FY10)
People and Organizational Change	**Recommendation POC3:** Enhance diversity.	POC3.1: Continue to encourage strong staff participation in DoC, NOAA, and NWS leadership development programs.	POC3.1: Ongoing. Among other things HPC had one forecaster participate in a NOAA internship program with the NOAA Preserve America Initiative in FY10 and has one forecaster participating in the DoC Executive Leadership Development Program in FY11. Another HPC forecaster participated in a two-week developmental detail in the NWS Office of Climate, Water, and Weather Services in Feb 2011.	POC3.1: Whenever the opportunity arises, such as during Q1 and Q3 of each year at performance meetings.	POC3.1: Short (FY10)
		POC3.2: Participate in the creation of an NCEP employee development	POC3.2: Awaiting guidance from the NCEP Office of the Director.	POC3.2: Deadline not yet	POC3.2: Medium

		program. POC3.3: Continue active participation in hosting summer student interns to the HPC. POC3.4: Continue HPC's active outreach to school children in the Washington metropolitan area.	 POC3.3: HPC hosted four university students in summer 2010. Three of these were minority students and three were female. HPC hosted four university students in summer 2011. Three of these were minority students and two were female. POC3.4: Outreach is ongoing at local schools and on site at HPC.	established. POC3.3: FY10 (and then sustained annually as resources permit) POC3.4: FY10 (and then sustained annually)	(1-3 yrs) POC3.3: Short (FY10) POC3.4: Short (FY10)
Business Processes	**<u>Recommendation BP1:</u>** Develop mechanisms to encourage improved products by HPC providers (i.e., EMC and NCO) and to articulate to its stakeholders how it will better serve them. Develop and implement a stronger business process plan.	BP1.1: Meet daily with NCO staff to discuss daily operational support issues and longer-term plans for support. BP1.2: Meet monthly with EMC and NCO staff to discuss ongoing activities to improve NCEP's products and services. BP1.3: Meet with NCEP leadership to discuss ways of improving the NCEP business process plan.	BP1.1: Ongoing each administrative day. BP1.2: Ongoing each month. BP1.3: Meeting has not been scheduled yet.	BP1.1: Already in effect. BP1.2: Already in effect. BP1.3: FY12	BP1.1: Short (FY10) BP1.2: Short (FY10) BP1.3: Medium (1-3 yrs)
Business Processes	**<u>Recommendation BP2:</u>** Implement mechanisms for rewarding and nurturing efforts to advance the scientific scope of HPC as part of the process of generating forecast products and services.	BP2.1: Addressed in POC 1.1.	BP2.1: Addressed in POC 1.1.	BP2.1: Addressed in POC 1.1.	BP2.1: Short (FY10)