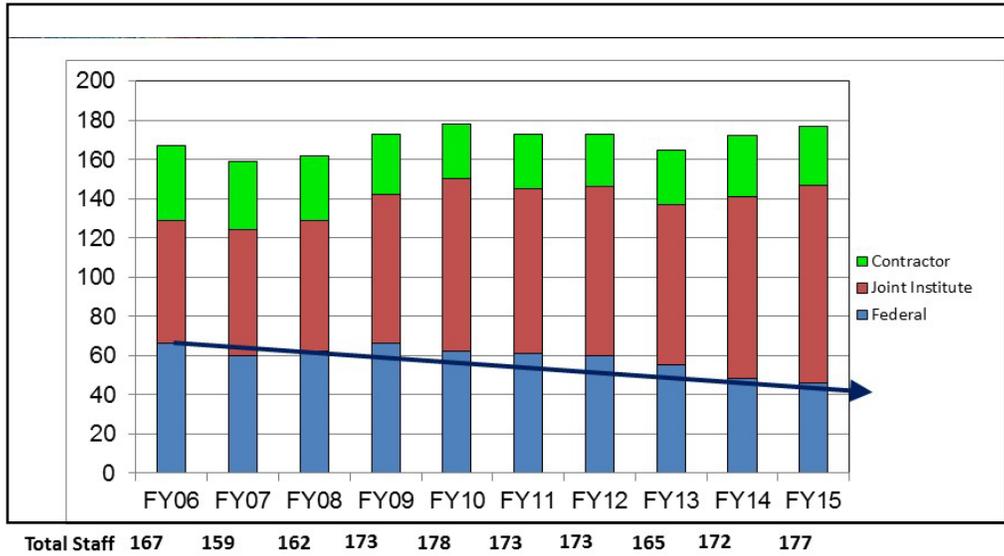
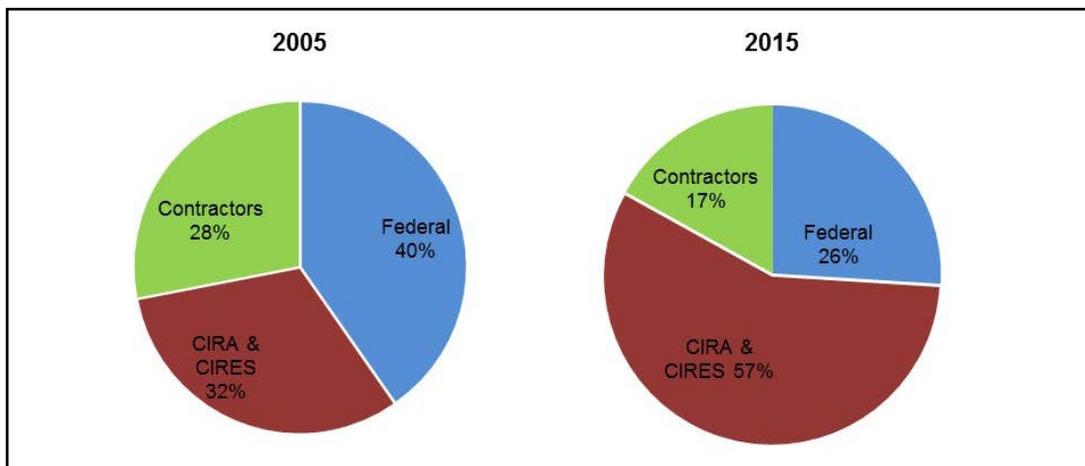


B. GSD Staffing, Budget, and Annual Operating Plan

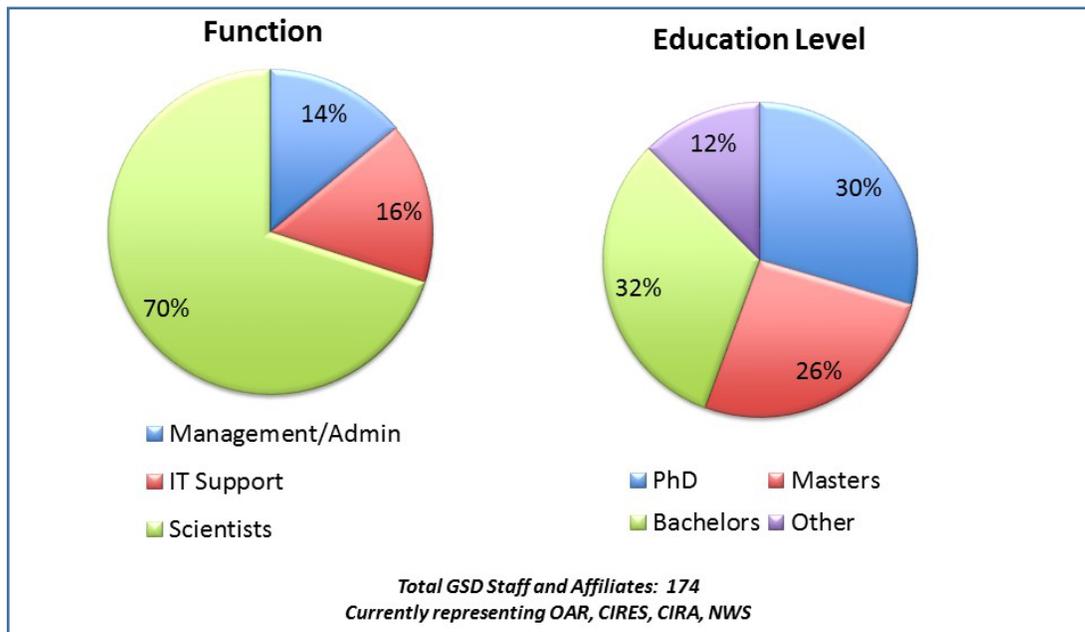
10-Year Workforce Profile



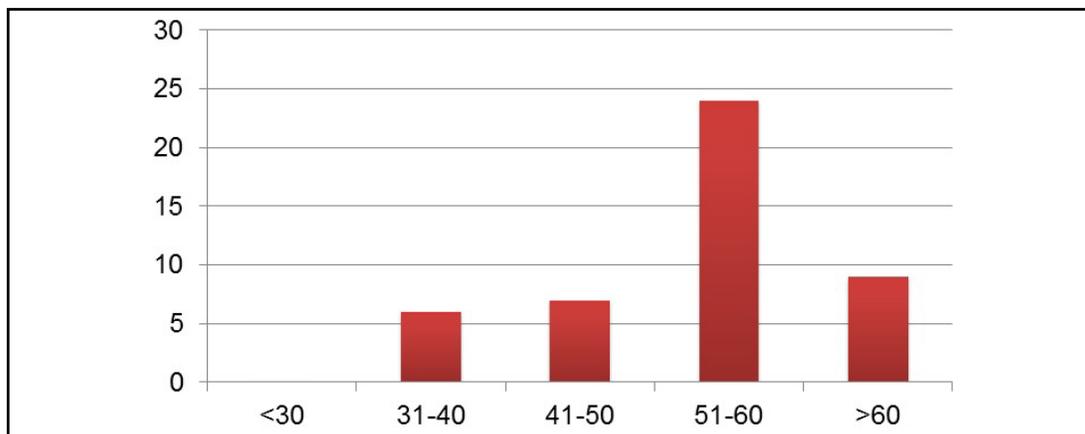
Workforce Distribution



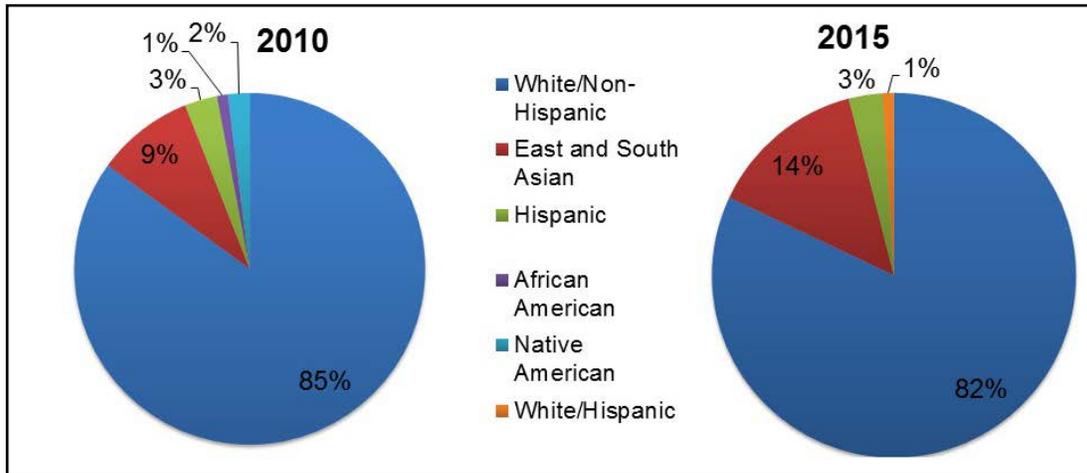
Workforce Demographics



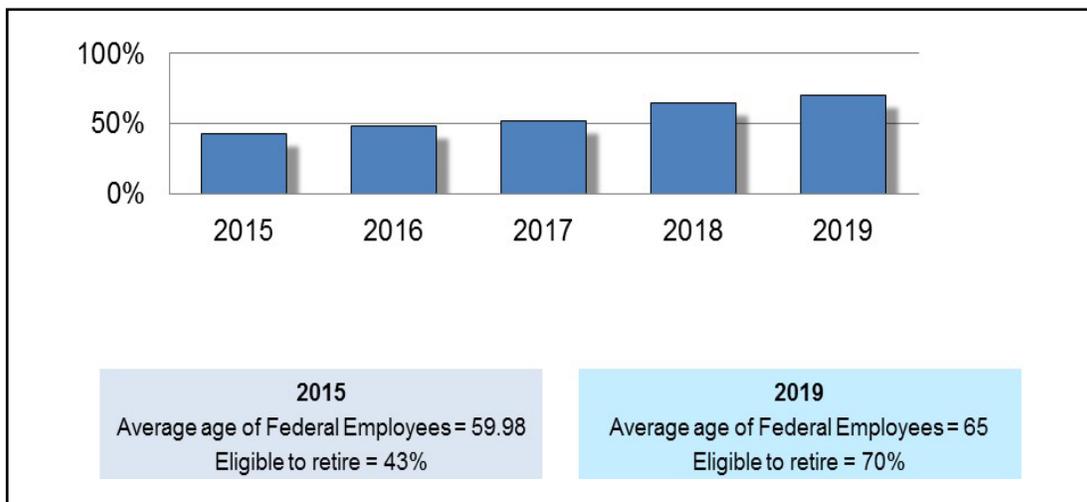
FY15 Age of Federal Workforce



Workforce Diversity

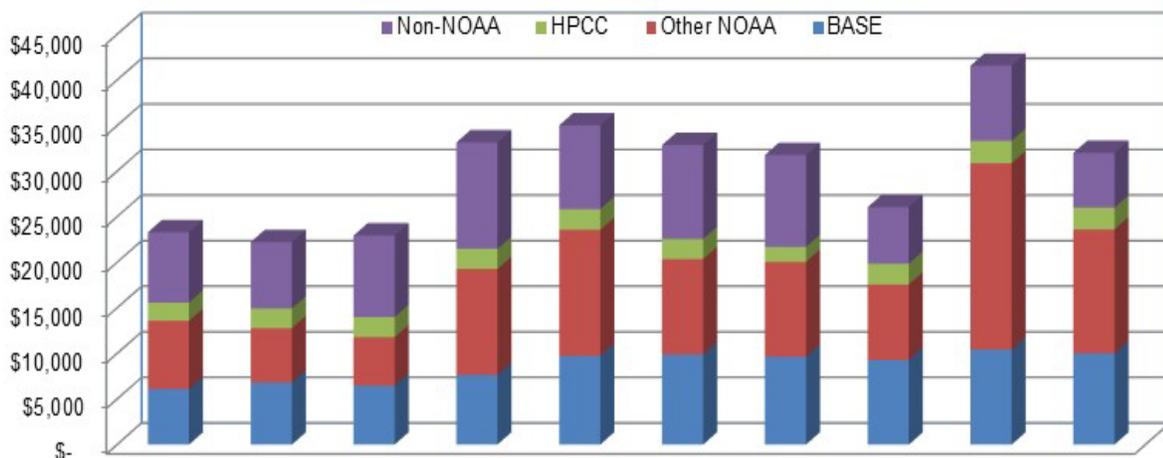


Federal Retirement Eligibility



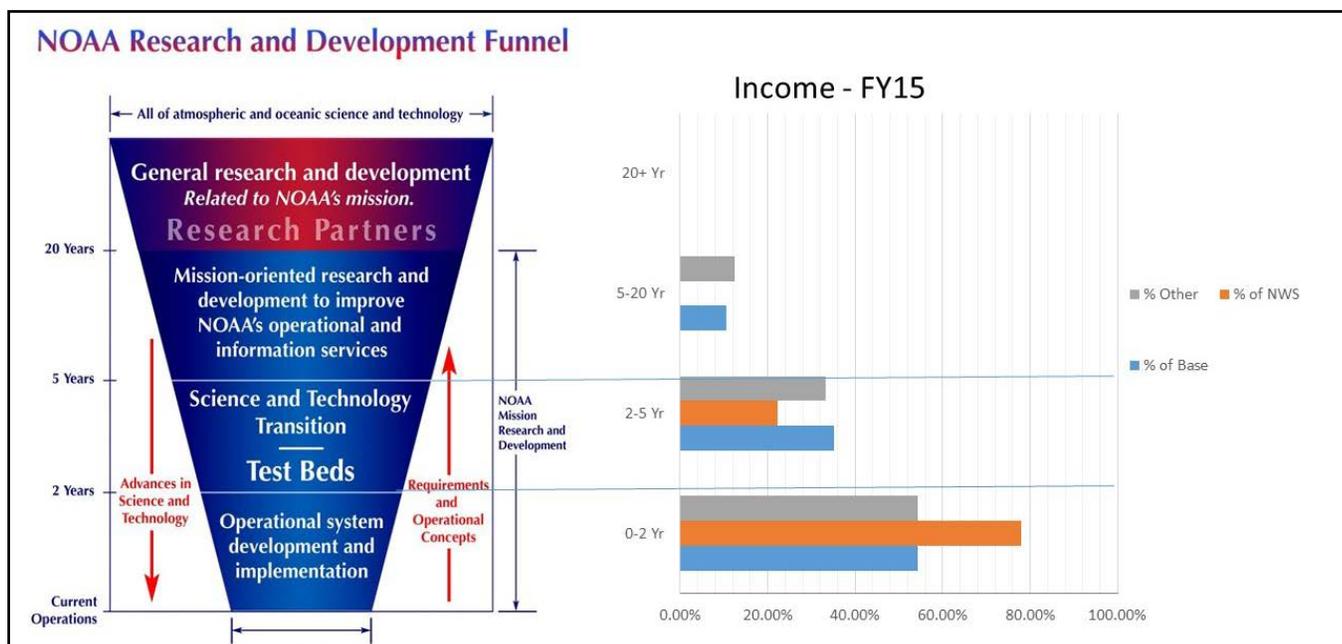
Budget

GSD 10-Year Funding Profile



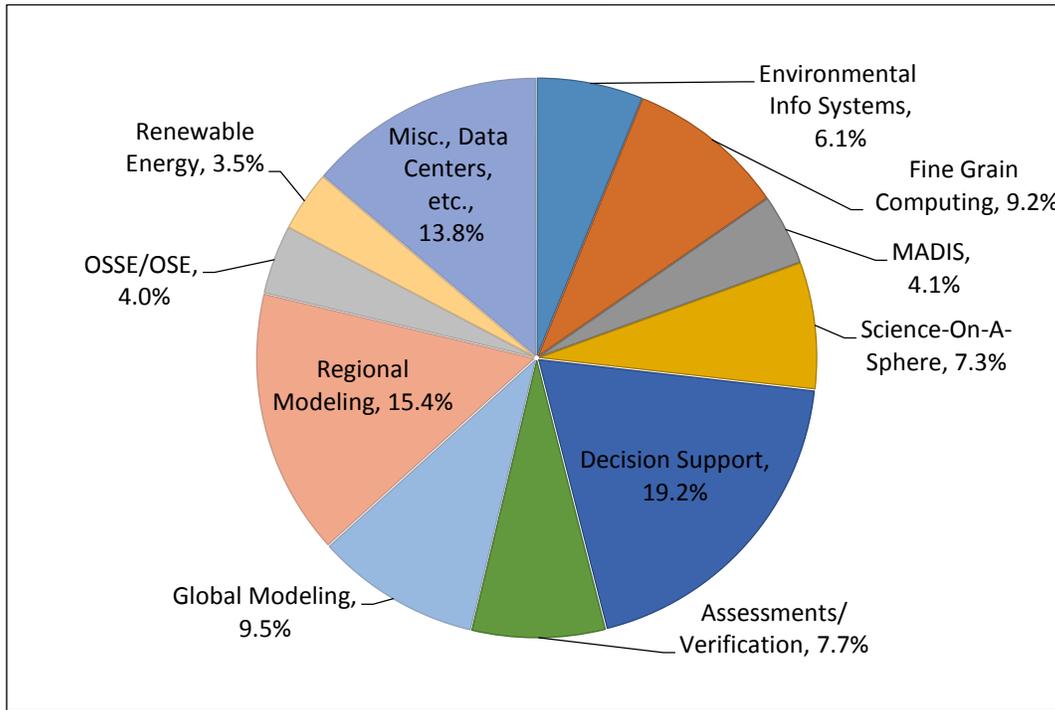
| | FY06 | FY07 | FY08 | FY09 | FY10 | FY11 | FY12 | FY13 | FY14 | FY15 |
|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| BASE | \$ 6,086 | \$ 6,806 | \$ 6,457 | \$ 7,644 | \$ 9,735 | \$ 9,868 | \$ 9,626 | \$ 9,290 | \$ 10,409 | \$ 9,990 |
| Other NOAA | \$ 7,490 | \$ 5,977 | \$ 5,343 | \$ 11,630 | \$ 13,831 | \$ 10,495 | \$ 10,426 | \$ 8,281 | \$ 20,466 | \$ 13,622 |
| HPCC | \$ 2,000 | \$ 2,153 | \$ 2,191 | \$ 2,206 | \$ 2,265 | \$ 2,191 | \$ 1,629 | \$ 2,275 | \$ 2,448 | \$ 2,385 |
| Non-NOAA | \$ 7,718 | \$ 7,277 | \$ 8,949 | \$ 11,682 | \$ 9,209 | \$ 10,322 | \$ 10,091 | \$ 6,216 | \$ 8,244 | \$ 6,006 |
| Yearly Totals | \$ 23,294 | \$ 22,213 | \$ 22,940 | \$ 33,162 | \$ 35,040 | \$ 32,876 | \$ 31,772 | \$ 26,062 | \$ 41,567 | \$ 32,003 |

Distribution of GSD Incoming Funds Allocated to R&D Time Horizon (2015)



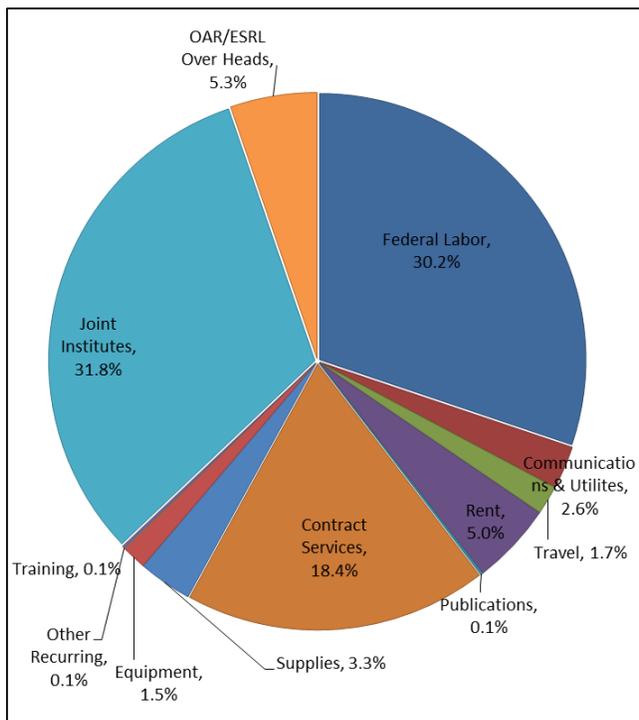
GSD Funding by Project

FY 2015 Total \$32M

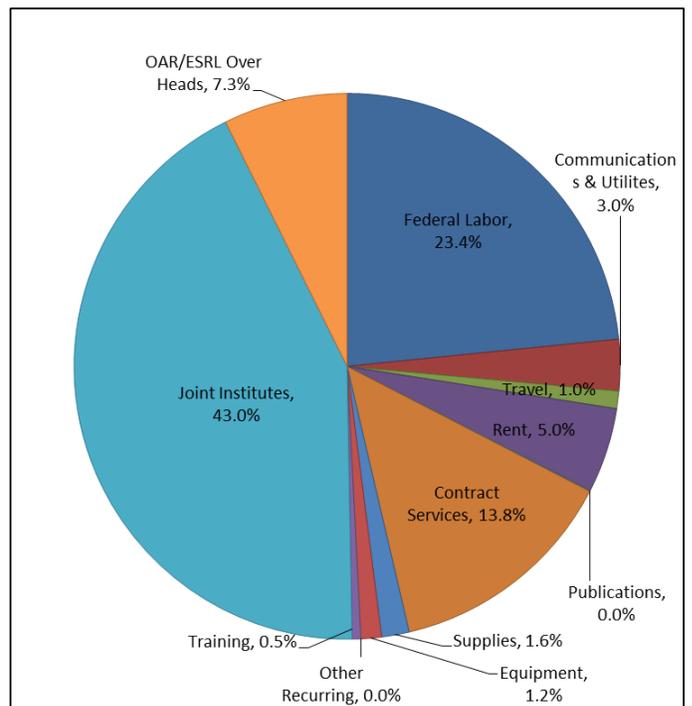


GSD Expenditures

FY 2010 Total \$28M



FY2015 \$32M



GSD Annual Operating Plan 2010-2015 Summary

| SUMMARY OF GSD ANNUAL OPERATING PLANS FY2010-2015 | | | | | | | | | |
|--|-----------|---|---------|----|-----------|------------|----------------------|---|--------|
| Performance Measure | Milestone | Objective | Actuals | | | | | | Target |
| | | | 10 | 11 | 12 | 13 | 14 | 15 | 20 |
| Number of ESRL-GSD journal articles published in peer-reviewed literature | | NOAA Science and Technology Enterprise: Holistic understanding of the Earth System through research | 33 | 31 | 24 | 34 | 30 | 27 | 25 |
| Annual number of technologies transferred to NWS, other government organizations or the private sector | | NOAA FY2015 Goal: Evolve the National Weather Service | | | 1 - RAPv1 | 1 - FX-Net | 2 - RAPv2 and HRRRv1 | 2 - MADIS Real-Time system and MADIS data recovery system | 2 |
| Cumulative percentage improvement in accuracy (total skill score of ceiling <1000 ft) of the 3-hour cloud ceiling for aviation forecasts | | NOAA Goal - Weather Ready Nation: Improved transportation efficiency and safety | 0% | 0% | 2% | 5% | 6% | 7% | 10% |
| Cumulative percentage improvement in accuracy in forecasts of radar reflectivity as measured against observed radar reflectivity. Accuracy metric is equitable threat score for 3-hour forecasts of reflectivity exceeding 25 dbZ averaged to a 40km grid. | | NOAA Science and Technology Enterprise: An integrated environmental modeling system | 0% | 0% | 0% | 0% | 0% | 3% | 8% |
| Cumulative percentage improvement in Probability of Detection (POD-y) from HRRR model forecasts of change in 10m wind speed of >5m/s in one hour over CONUS land areas. | | NOAA Science and Technology Enterprise: An integrated environmental modeling system | 0% | 0% | 0% | 0% | 0% | 2% | 12% |
| Cumulative number of assessments conducted on aviation weather products to evaluate potential for transition to NWS operations supporting FAA activities | | NOAA Engagement Enterprise: Integrated services meeting the evolving demands of regional stakeholders | 4 | 8 | 10 | 12 | 18 | 21 | 36 |

| SUMMARY OF GSD ANNUAL OPERATING PLANS FY2010-2015 | | | | | | | | | |
|---|--|---|---------|----|----|-----|----|------|--------|
| Performance Measure | Milestone | Objective | Actuals | | | | | | Target |
| | | | 10 | 11 | 12 | 13 | 14 | 15 | 20 |
| | Complete assessment of MRMS/CIWS forecasts for NWS sponsor by 12/31/2014. | | | | | | | 100% | |
| Cumulative number of major tests and evaluations of numerical weather prediction forecast system components to inform decisions for NWS operational systems | | NOAA FY2015 Goal: Evolve the National Weather Service | 2 | 5 | 10 | 16 | 21 | 26 | 50 |
| Annual number of retrospective multi-week experiments of the atmospheric Flow-following finite-volume Icosahedral Model (FIM) | | NOAA Science and Technology Enterprise: An integrated environmental modeling system | 0 | 10 | 20 | 20 | 20 | 20 | 20 |
| | Complete coupled atmospheric-ocean-chem FIM-HYCOM-chem model with some retrospective runs completed to be considered a candidate member for the National Multi-Model Ensemble (NMME) | NOAA Science and Technology Enterprise: An integrated environmental modeling system | | | | | | X | |
| Annual number of retrospective year-long experiments of FIM (Flow-following, finite-volume, Icosahedral Model) to support the development of the High-Impact Weather Prediction Project (HIWPP) ensemble. | | NOAA Science and Technology Enterprise: An integrated environmental modeling system | 0 | 0 | 0 | 0 | 1 | 3 | 2 |
| Cumulative number of NOAA Environmental Information System (NEIS) to demonstrate new visualization capabilities for High Impact Weather Prediction Project (HIWPP) global data | | NOAA Engagement Enterprise: Integrated services meeting the evolving demands of regional stakeholders | 0 | 0 | 0 | 0 | 1 | 3 | 0 |
| Annual number of 7-day parallel tests of experimental High Resolution Rapid Refresh (HRRR) model upgrades at 3-km for future incorporation into NWS/NCEP suite of operational models | | NOAA Science and Technology Enterprise: An integrated environmental modeling system | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Number of 1-week retrospective tests of the GSD North American Rapid Refresh ensemble (NARRE) | | NOAA Science and Technology Enterprise: An integrated environmental modeling system | | | | n/a | 2 | 6 | na |

| SUMMARY OF GSD ANNUAL OPERATING PLANS FY2010-2015 | | | | | | | | | |
|--|--|---|---------|----|----|-----|-----|-----|--------|
| Performance Measure | Milestone | Objective | Actuals | | | | | | Target |
| | | | 10 | 11 | 12 | 13 | 14 | 15 | 20 |
| Cumulative number of models or components (eg. dynamics, physics) coded to run on Fine-grain Computing systems including GPUs (Graphics Processing Units) and MIC (Many Integrated Core) | | NOAA Science and Technology Enterprise: An integrated environmental modeling system | 1 | 1 | 1 | 2 | 4 | 5 | 7 |
| | FY15 Global Forecast System Physics coded for fine grain. | NOAA Science and Technology Enterprise: An integrated environmental modeling system | | | | | | X | |
| Annual number of Forcaster Decision Support Environment (FDSE) prototype applications developed for AWIPS II in the forecast office of the future | | NOAA Engagement Enterprise: Integrated services meeting the evolving demands of regional stakeholders | 0 | 0 | 0 | 2 | 2 | 1 | 1 |
| | Develop a Gridded Forecast Monitor prototype | | | | | | | X | |
| Annual number of tasks performed to transition MADIS components and functions to NWS operations towards achieving Final Operational Capability | | NOAA Engagement Enterprise: Integrated services meeting the evolving demands of regional stakeholders | 20 | 20 | 5 | 10 | 10 | 3 | 0 |
| | Transition MADIS realtime system to NCEP/NCO/IDP | | | | | | | X | |
| | Transition MADIS data recovery system to NCEP/NCO/IDP | | | | | | | X | |
| | Transition MADIS data archive functionality to NESDIS/NCDC | | | | | | | X | |
| Annual number of MADIS updates submitted to NWS operational MADIS | | NOAA FY2015 Goal: Investing in Observational Infrastructure | | | | | | 0 | 4 |
| Annual number of stations added to feed observations data to MADIS | | NOAA FY2015 Goal: Investing in Observational Infrastructure | | | | | | 100 | 500 |
| Cumulative number of domestic and international Science On a Sphere exhibits permanent and temporary installations in science museums and other venues | | NOAA Engagement Enterprise: An engaged and educated public with an improved capacity to make scientifically informed environmental decisions. | 52 | 74 | 87 | 103 | 118 | 130 | 178 |

| SUMMARY OF GSD ANNUAL OPERATING PLANS FY2010-2015 | | | | | | | | | |
|---|------------------|---|----------------|-----------|-----------|-----------|-----------|-----------|---------------|
| Performance Measure | Milestone | Objective | Actuals | | | | | | Target |
| | | | 10 | 11 | 12 | 13 | 14 | 15 | 20 |
| Cummulative number of datasets visualizations available for use within the Science On a Sphere network as made available by NOAA. | | NOAA Engagement Enterprise: An engaged and educated public with an improved capacity to make scientifically informed environmental decisions. | 100 | 150 | 225 | 400 | 460 | 484 | 536 |
| Annual number of visitors to Informal Education Institutions displaying Science On a Sphere® | | NOAA Engagement Enterprise: An engaged and educated public with an improved capacity to make scientifically informed environmental decisions. | 0 | 0 | 0 | 33M | 34M | 35M | 39M |

