

# NWS Strategic Plan

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Vision 2005 - America's No Surprise Weather Service

September 13, 1999

# Importance of Weather, Water, and Climate to America in the 21<sup>st</sup> Century

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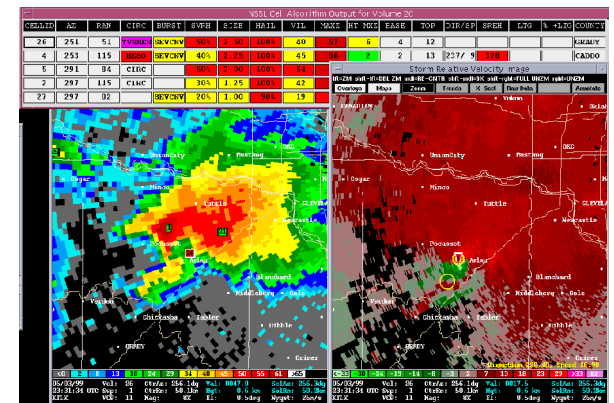
America's well being and prosperity depends on a safe environment

- 90 percent of all presidentially declared disasters are weather and flood related
- 40 percent (100 million) currently reside in areas of high risk to natural disasters
- Water resources are the lifeblood of the economy and standard of living
- Nation and global economies are becoming more and more interdependent with large scale weather and flood events

# NWS Mission

- Provide weather, water and climate forecasts and warnings :

- ▶ To America
- ▶ To protect life and property
- ▶ To enhance the national economy



- Provide a national information database for:

- ▶ Government agencies
- ▶ Private sector
- ▶ Public
- ▶ Global community



# Forces Shaping Our Future

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- Information technology
- Weather, water, and climate prediction linkages
- Need to work better with partners and the private sector
- Continued demand for a more responsive and efficient government



# NWS Vision

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- America's no surprise weather service
- A world class team of professionals who:
  - ▶ Produce and deliver quality forecasts you can trust when you need them most
  - ▶ Use cutting edge techniques
  - ▶ Provide services in a cost effective manner
  - ▶ Strive to eliminate weather related fatalities and improve the economic value of weather information



# NWS Core Values

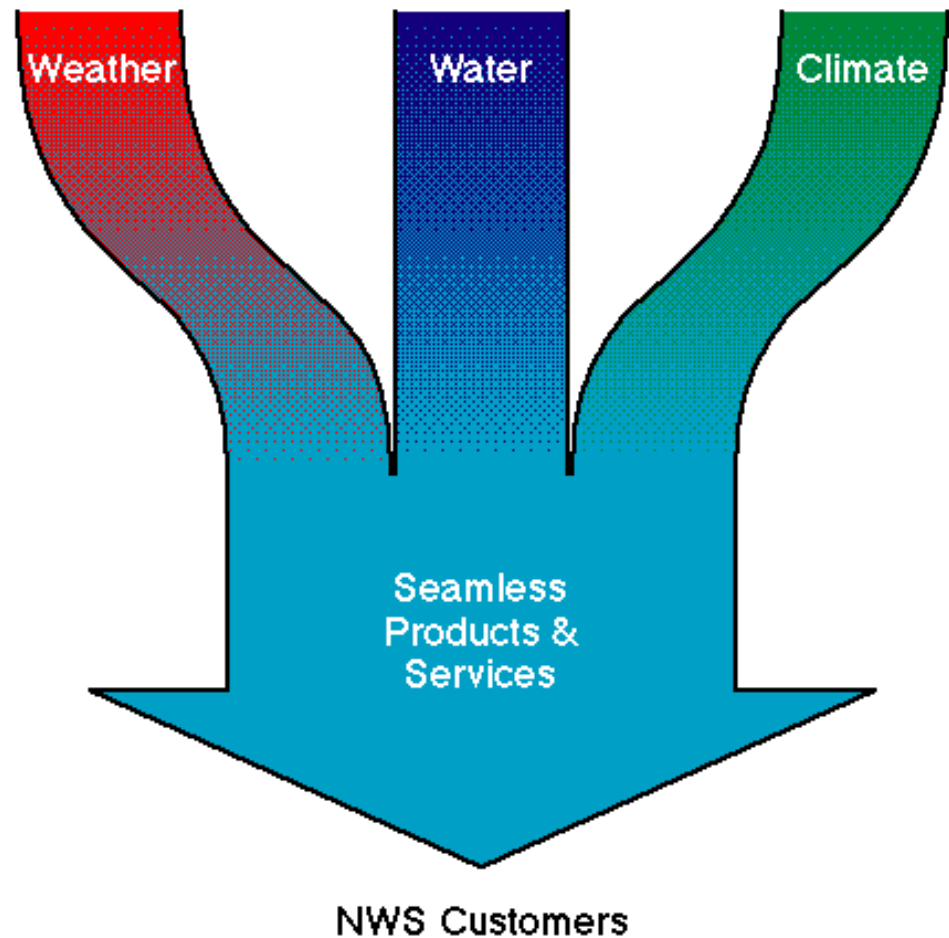
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- Service above self
- Our customers and partners
- Respect and trust of others, and the diversity of our agency
- The open exchange of information and ideas
- Commitment to integrity, teamwork, self-improvement, high standards, and the scientific approach to our mission
- An innovative and empowered work force



# NWS Strategic Focus

Our focus through 2005 will be to build on the NWS modernization and provide a seamless suite of weather, water, and climate products and services with time scales ranging from minutes to years. These products will be relevant to user needs, accurate, and timely.




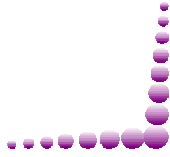


# Serving Our Customers

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Through partnership with other government agencies, academia, nonprofit organizations, and private sector:

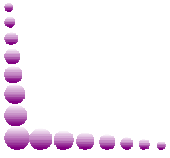
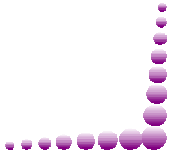
- Collect and share user needs
  - Distribute NWS products directly to the American public
  - Better understand and apply technology and science, and obtain observational data
  - Better service to America achieved by building on knowledge base and best practices of partners
  - Improve cooperation among all components of the weather provider system
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# **Interlocking Goals for Advancement**

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1. Deliver Better Products and Services
  2. Capitalize on Scientific and Technological Advances
  3. Exercise Global Leadership
  4. Change the NWS Organizational Culture
  5. Manage NWS Resources
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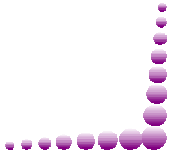
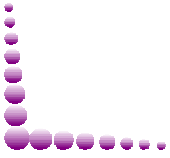


# **Deliver Better Products and Services**

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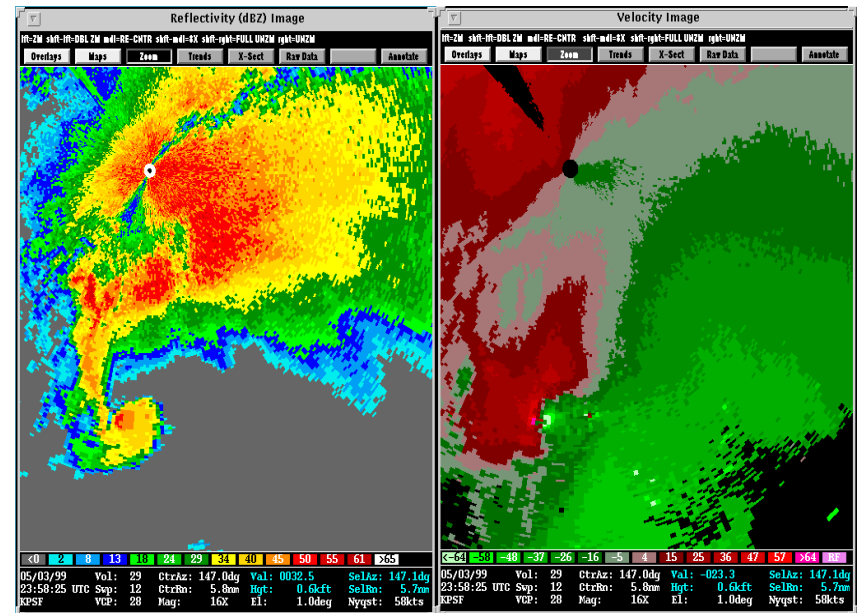
Deliver a credible, timely, and relevant suite of seamless weather, water, and climate products and services which exploit technology to the fullest to meet customer and partner needs.

Our passion is to meet our customer and partner needs. It is the essence of our mission delivery. Our highest priority is to translate customer and partner needs into products and services that are trusted when needed most. We will meet these needs with a seamless suite of weather, water, and climate products of increasingly higher resolution and accuracy.



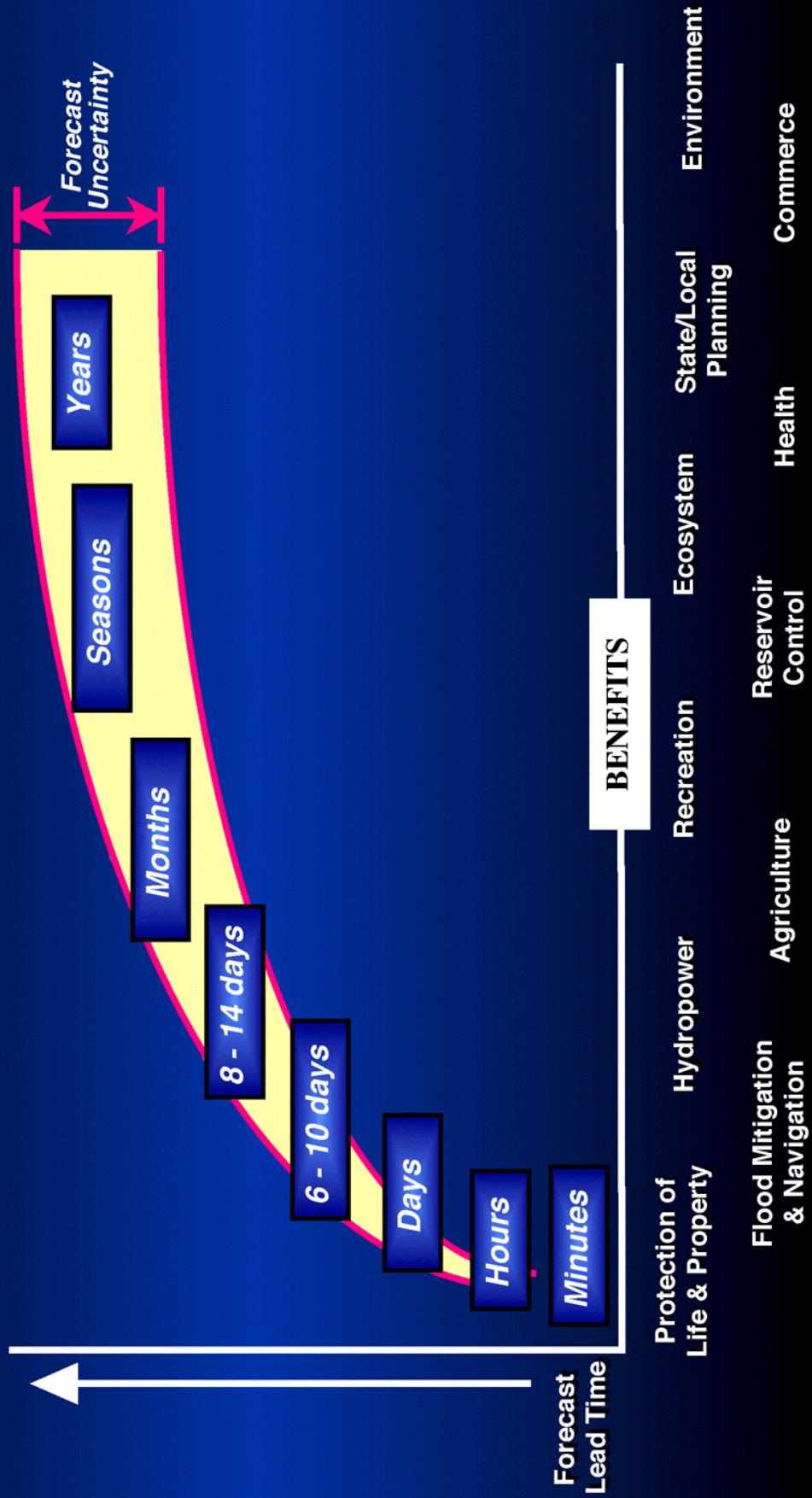
# Deliver Better Products and Services

- Expand and improve the existing weather, water, and climate product and service line.
- Produce a seamless suite of products and services
- Nurture critical partnerships to provide effective and efficient delivery of NWS products and services
- Implement a customer service improvement program





# Future NWS Seamless Suite of Forecast Products



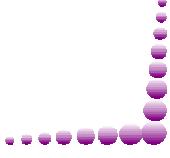
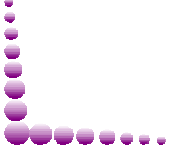


# Capitalize on Scientific and Technological Advances

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Aggressively and continually infuse science and technological advances to improve products and delivery of services that best meet and anticipate customer needs.

Sound science and innovative technologies are the foundation of NWS product and service quality. Improving products and services to meet customer and partner needs in the future is critically dependent on providing a well trained work force with a continual infusion of new and proven scientific ideas and technological systems.



# Capitalize on Scientific and Technological Advances

- Promote and guide research & development toward product & service improvement goals.
- Reduce time required to implement proven research & technology into operations.
- Improve data assimilation systems & numerical forecasts.
- Improve understanding & prediction of long-term climate variability.
- Prepare & disseminate NWS products in a form offering maximum flexibility to customers & partners.







# Exercise Global Leadership

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Strengthen U.S. leadership on emerging applications of weather, water, and climate information to meet environmental and economic challenges.

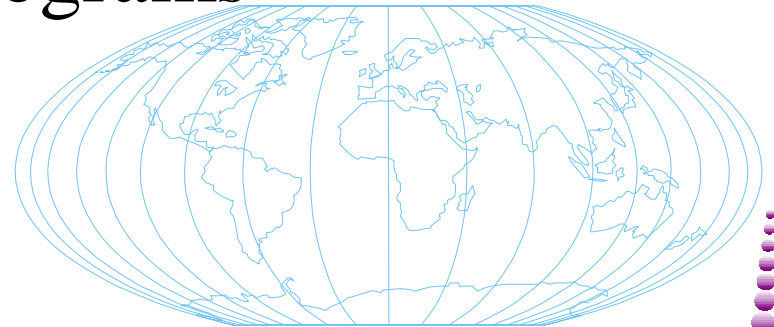
Global weather, water, and climate issues will dominate the attention of the international community through 2005 and beyond. Economic and technological linkages among countries will further translate international concerns to the local level and from the local to regional and global levels. NOAA/NWS is positioned to take advantage of emerging applications to work with our partners in addressing global challenges for the betterment of the Nation and the world. We are poised with the tools, capabilities, and partnerships to seize the opportunity to provide leadership for these emerging and exciting challenges.



# Exercise Global Leadership

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- Promote the open exchange of data and information worldwide
- Increase U.S. participation in international activities
- Foster national and international education efforts and technology transfer programs
- Continue U.S leadership of the International Tsunami and Volcanic Ash Programs









# Change the NWS Organizational Culture



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Work with our people to create an organizational culture which embraces change; values service; promotes teamwork with customers, partners, and each other; and fosters innovation in mission and vision accomplishment.

The heart and soul of the NWS are its people. They accomplish the mission and convert the vision into reality. With energized, highly trained, and service-oriented people, we will achieve success. We are committed to building on the organizational culture which embraces change, values service and professionalism, and promotes teamwork in serving our customers and partners.



# Change the NWS Organizational Culture

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- Implement human resource and management practices to support Vision and Core Values
- Place decision and budget authority at the lowest and most effective levels
- Encourage, recognize, and reward innovation at all levels, especially for improved customer service
- Enhance professional development and training programs to include teamwork, leadership, diversity, EEO, customer service, and implementing change
- Capitalize on diversity of work force to improve participation, communication, and overall organizational performance
- Increase representation of women and minorities in NWS

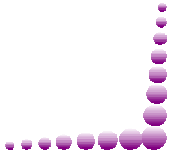
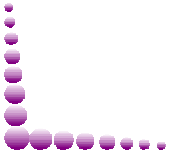


# Manage NWS Resources

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Create a responsive support system, adaptable to changing needs and opportunities which maximizes the return on investment to America.

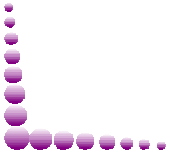
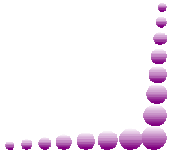
Supporting the mission and vision of the NWS are the critical systems, processes, relationships, mechanisms, and equipment. Our support systems must be quickly adaptable to changing conditions and challenges. We are committed to shaping our infrastructure to facilitate the effective, productive, and cost-effective delivery of products and services to our customers and partners.





# Manage NWS Resources

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- Implement integrated policy, planning, budgeting, assessment, and accountability system linking decision making and goals to program implementation and evaluation
  - Leverage information technology to improve cost effectiveness of NWS systems, programs, and operations
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# Deliver Better Products and Services

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Expand/improve existing weather, water, and climate product and service line:

## Public Services

- **Increase the accuracy and timeliness of NWS warnings.**
  - ▶ Reduce national average Tornado Warning FAR from .8 (1998) to .4 or less; increase POD from .64 (1998) to .8 or higher; increase lead time from 11 minutes (1998) to 15 minutes (2005).
  - ▶ Increase average lead time for hurricane landfall forecasts from 19 hours (1998) to beyond 24 hours with no increase in warned area. Improve hurricane wind speed forecasts by 20% (2005).



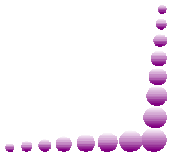
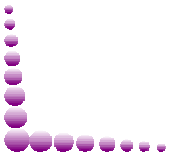
# Deliver Better Products and Services

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Expand/improve existing weather, water, and climate product and service line:

Public Services

- **Increase accuracy and timeliness of NWS warnings (continued).**
  - ▶ Increase POD of winter storms to 90% and lead time to 18 hours (2005).
  - ▶ Increase flash-flood lead time from 52 minutes (1998) to 65 minutes (2005).



# Deliver Better Products and Services

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Expand/improve existing weather, water, and climate product and service line:

## Public Services

- **Extend time periods and improve accuracy and formats of weather, water and climate forecast products.**
  - ▶ Extend weather forecasts to 7 days (2000).
  - ▶ Provide weather, water, and climate forecasts in probabilistic terms (2005).
  - ▶ Extend precipitation forecasts to 3 days and attain current Day 2 accuracy at Day 3 (2005).
  - ▶ Provide West Coast forecasts as accurate as forecasts for rest of the country (2005).

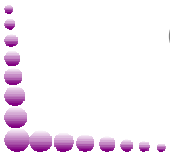
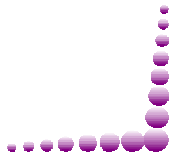


# Deliver Better Products and Services

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Expand/improve existing weather, water, and climate product and service line:

## Public Services

- **Improve accessibility and availability of weather, water, and climate information to the American people.**
    - ▶ Post NWS products and data on the Internet in graphic-oriented format (2002).
    - ▶ Increase coverage of the NOAA Weather Radio transmitter network to 95% of U.S. population (2005).
    - ▶ Deploy improved NOAA Weather Radio voice for critical products (2003).
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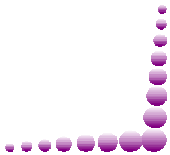
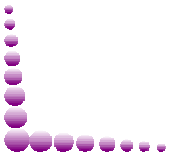
# Deliver Better Products and Services

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Expand/improve existing weather, water, and climate product and service line:

## Public Services

- **Improve accessibility and availability of weather, water, and climate information to high risk communities**
  - ▶ Increase NWR coverage to 100% in hazardous weather high-risk areas (2004).
  - ▶ Where demographics demand, convert NWR products into multi-lingual formats (2002).



# Deliver Better Products and Services

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Expand/improve existing weather, water, and climate product and service line:

Emergency Management

- Enhance partnerships with the emergency management community and increase the lead time for information delivered on emergency weather and water situations.
  - ▶ Establish "StormReady" community recognition program, and designate 20 communities as "StormReady" each year.
  - ▶ Establish two-way links to state emergency management communications infrastructure (2005).

# Deliver Better Products and Services

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Expand/improve existing weather, water, and climate product and service line:

## Aviation Services

- **Improve terminal and domestic en-route warnings and forecasts.**
  - ▶ Ensure local airport warnings for established criteria have a probability of detection of at least 0.80 and a false alarm rate of 0.40 or less (2005).
  - ▶ Reduce false alarm rate by 50 percent and increase the probability of detection by 50 percent for critical ceiling (200 feet) and visibility (1/4 mile) forecasts as contained in aviation terminal forecasts (2005).

# Deliver Better Products and Services

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Expand/improve existing weather, water, and climate product and service line:

## Aviation Services

- **Improve terminal and domestic en-route warnings and forecasts (continued).**
  - ▶ Reduce the number of amendments to Aviation Terminal Forecasts by 30 percent. (2005).
  - ▶ Increase the probability of detection for turbulence, icing, and thunderstorm warnings by 50 percent, and reduce the false alarm rate by 50 percent (2005).
  - ▶ Implement graphical aviation products capable of cockpit display. (2005).

# Deliver Better Products and Services

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Expand/improve existing weather, water, and climate product and service line:

## Marine Services

- **Extend and improve the accuracy of marine (wind and wave) forecasts.**
  - ▶ Improve the accuracy by 30% of wind and wave forecasts (2005).
  - ▶ Extend wind and wave forecasts from 36 hours out to 7 days (2005).
  - ▶ Improve by 20% the lead time and accuracy for Storm, Gale, and Special Marine Warnings and Small Craft Advisories (2005).
  - ▶ Reduce over-warned coastline from the 1998 average of 45 miles to 30 miles (2005).



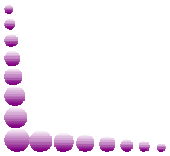
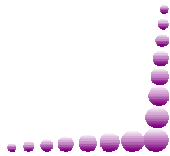
# Deliver Better Products and Services

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Expand/improve existing weather, water, and climate product and service line:

Marine Services

- **Improve the format and distribution of marine products.**
    - ▶ Increase NWR programming to include routine and special marine products, and tailor it to needs of marine community (2005).
    - ▶ Increase the number of graphic marine forecasts (2005).
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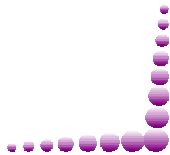
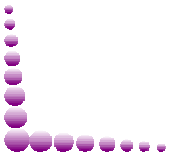
# Deliver Better Products and Services

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Expand/improve existing weather, water, and climate product and service line:

Flood Forecasting and Water Management

- **Improve the accuracy and lead time of hydrological forecasts and relevance of products.**
  - ▶ Deploy the Advanced Hydrologic Prediction System (AHPS) to 50 percent of river forecast sites (2005).
  - ▶ Specify the confidence level of all river and flood forecasts produced by the AHPS and increase accuracy at AHPS points by 25 percent (2005).



# Deliver Better Products and Services

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Expand/improve existing weather, water, and climate product and service line:

## Fire Services

- **Implement a seamless suite of fire-weather products and services uniformly across the nation.**
  - ▶ Implement Day 1 to seasonal outlook products for critical fire-weather elements and patterns (2002).
  - ▶ Specify the forecast confidence on all national outlook and local forecast products (2005).
  - ▶ Develop baseline for fire-weather parameters and improve accuracy by 30 percent (2005).





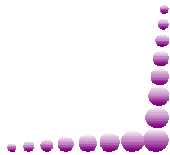
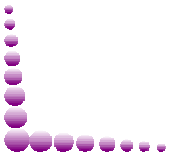
# Deliver Better Products and Services

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Expand/improve existing weather, water, and climate product and service line:

Space Services

- Integrate space weather forecasts into the NWS operational product suite.
  - ▶ Integrate totally the operational forecast production process into NWS operations (2005).



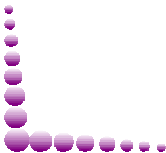


# Deliver Better Products and Services

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## Produce a seamless suite of products and services

- Produce a seamless suite of products and services linking weather, water, and climate with an emphasis on emerging climate products.
  - ▶ Introduce threat assessments which link climate events to hazardous weather forecasts (2000).
  - ▶ Link climate forecasts and threat assessments to local weather and water forecasts (2002).



# Deliver Better Products and Services

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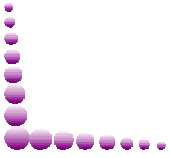
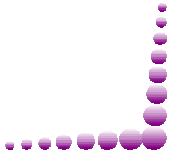
## Produce a seamless suite of products and services

- Improve the use, integration, quality, and cost effectiveness of observations.
  - ▶ Achieve the optimal mix of observing and data processing systems to support the NWS mission (2005).
  - ▶ Complete modernization or replacement of the Radiosonde Network, Cooperative Observer Program, Marine Observation Networks, and Voluntary Observing Ship Program (2005).
  - ▶ Support the Global Ocean Observing System (known as GOOS) and Global Climate Observing System (known as GCOS) by building on NWS and other observing systems (2005).



# Deliver Better Products and Services

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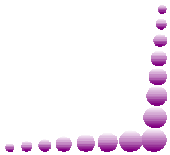
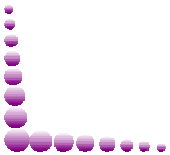
- Nurture critical partnerships to provide effective and efficient delivery of NWS products and services.
    - ▶ Train all state and county officials in the NOAA/Federal Emergency Management Agency core hazard courses (2005).
    - ▶ Expand fire-weather incident response from regional to nationwide and for all hazards (2005).
    - ▶ Eliminate backlog of Federal Aviation Administration pilot weather briefer certifications (2005).
    - ▶ Ensure, in concert with the U.S. Coast Guard, a delivery rate of 99.5 percent of all marine weather products within 5 minutes of schedule (2005).
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# Deliver Better Products and Services

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- Implement a customer service improvement program.
  - ▶ Establish a customer satisfaction index (2003).
  - ▶ Track customer index with the goal of a 10 percent increase yearly (2005).



# Capitalize on Scientific and Technological Advances

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- As operational leaders in weather, water, and climate, expand cooperation with the entire research community to promote and guide research and development toward product- and service-improvement goals.
  - ▶ Link NOAA research and development activities to NWS improvement goals (2000).
  - ▶ Based on NWS service priorities, develop a multi-year research plan and process involving the NWS and its research partners (2005).
  - ▶ Assess annually the impact of NWS service improvement goals on R&D programs and initiatives including the Natural Disaster Reduction Initiative, the U.S. Global Change Research Program, the U.S. Weather Research Program, and the Collaborative Science Technology and Applied Research Program.

# Capitalize on Scientific and Technological Advances

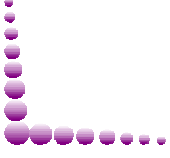
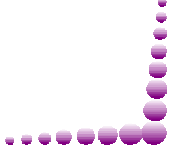
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- Reduce the time required to implement proven research and technology into operations.
  - ▶ Increase the number of cooperative alliances by 5% per year.
  - ▶ Establish six experimental test beds to accelerate the infusion of new science and technology into the forecast process (2005).
  - ▶ Sustain the NWS/Cooperative Program for Operational Meteorology, Education, and Training (known as COMET) outreach program.
  - ▶ Develop and implement standardized procedures for introducing science and technology into the forecast process (2005).



# Capitalize on Scientific and Technological Advances

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- Improve data assimilation systems and numerical forecasts.
    - ▶ Develop and implement a weather research and forecast community model (2004).
    - ▶ Develop and implement the next generation Global/Climate prediction system (2005).
    - ▶ Decrease by 50% the time necessary to incorporate new satellite data sets into an operational assimilation system (2005).
    - ▶ Incorporate Doppler radar data into operational mesoscale models (2002).
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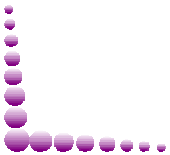




# Capitalize on Scientific and Technological Advances

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- Improve understanding and prediction of long-term climate variability.
  - ▶ Increase forecast accuracy for long-term decadal trends by 25% (2004).
  - ▶ Implement, with our partners, a coupled atmospheric-oceanic model for global data assimilation and for seasonal to interannual to decadal prediction. (2005).

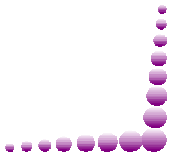
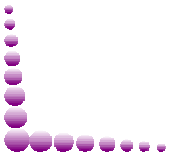




# Capitalize on Scientific and Technological Advances

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- Prepare and disseminate NWS products in a form that offers high resolution and maximum flexibility to customers and partners.
  - ▶ Prepare and disseminate NWS forecast products in digital form (2003).

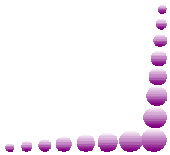
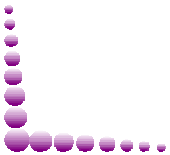




# Exercise Global Leadership

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- Promote the open exchange of data and information worldwide.
  - ▶ Continue to actively advocate open exchange of information worldwide.
  - ▶ Use regional/international forums to disseminate information on new affordable data and information systems as they become available.
  - ▶ Expand the number of international Emergency Manager Weather Information Network (EMWIN) receiving stations by 50% (2005).

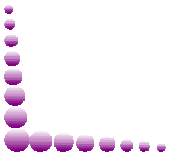




# Exercise Global Leadership

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- Increase U.S. participation in international activities.
  - ▶ Develop and implement in association with all meteorological service agencies in the World Meteorological Organization (WMO) Region IV, an integrated regional observing system (2005).
  - ▶ Establish a regional maintenance activity for surface and upper-air observing systems in developing countries in WMO Region IV (2002).

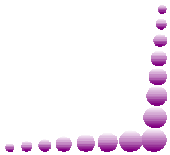
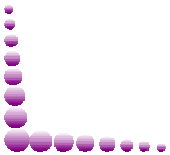




# Exercise Global Leadership

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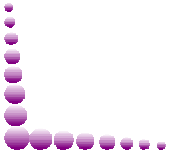
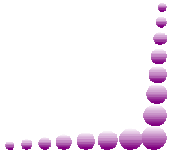
- Foster national and international education efforts and technology transfer programs.
  - ▶ Develop courses in "distance learning over Internet" in meteorology and hydrology in at least two languages (initiate 3 courses by 2000, and 10 courses by 2005).
  - ▶ Develop a course in "Application of Climate Data" for international students (2002).





# Exercise Global Leadership

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- Continue U.S. leadership of the International Tsunami and Volcanic Ash Programs.
    - ▶ Expand U.S. Tsunami Program to the Caribbean area (2005).
    - ▶ Host one meeting a year of the Coordinators of the Volcanic Ash Advisory Centers.
    - ▶ Continue active U.S. support to the International Tsunami Warning Program.
    - ▶ Continue U.S. efforts to standardize global response to volcanic activity.
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# Change the NWS Organizational Culture

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- Implement human resource and management practices to support our Vision and reflect our Core Values.
  - ▶ Identify elements of the NOAA Survey Feedback and Action (SFA) program applicable to the implementation of the NWS Vision (2000).
  - ▶ Set targets, using 1999 as a baseline, for applicable SFA elements in 2001 and beyond.
  - ▶ Implement effective tools to assess management performance, and provide feedback to managers (2002).
  - ▶ Implement core competencies for all supervisors and leaders (2005).

# Change the NWS Organizational Culture

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- Place decision and budget authority at the lowest and most effective levels.
  - ▶ Implement a financial information management system which supports delegation of budget authority; periodically review operating procedures to ensure delegation of authority to lowest appropriate level (2005).



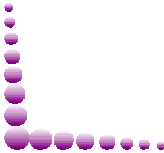


# Change the NWS Organizational Culture



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- Encourage, recognize, and reward innovation at all levels, especially for improved service to customers.
  - ▶ Incorporate customer satisfaction indices and reduced operating costs when performing employee appraisals and determining employee recognition (2005).



# Change the NWS Organizational Culture

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- Enhance the professional development and training program for our work force to include teamwork, leadership, diversity, EEO, customer service, and implementing change.
  - ▶ Complete leadership training for all supervisors and leaders (2005).
  - ▶ Establish and apply Baseline Proficiency Standards (known as BPS) to all operational positions (2005).
  - ▶ Ensure all employees have an individual development plan (2003).
  - ▶ Expand the National Strategic Training Evaluation and Education Program (known as NSTEP) to address all training needs of the work force (2005).

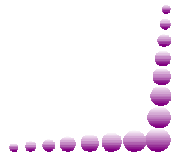
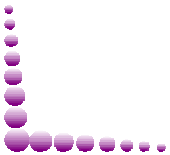


# Change the NWS Organizational Culture

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- Capitalize on the diversity of our work force to improve participation, communication, and overall organizational performance.
  - ▶ Use geographically and functionally diverse teams to implement this strategic plan (2000).
  - ▶ Set targets, using 1999 as a baseline, for SFA elements relating to diversity in 2000 and beyond.



# Change the NWS Organizational Culture

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- Increase the representation of women and minorities in NWS.
  - ▶ Increase the representation of women and minorities in the NWS as compared to the National Civilian Labor Force (NCLF). Use 1999 as baseline; set targets for 2000 and beyond.

# Manage NWS Resources

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Implement an integrated policy, planning, budgeting, assessment, and accountability system that links decision making and goals to program implementation and evaluation.

- **Link planning processes into a system that cascades from strategic to operational to individual performance plans**
  - ▶ Align NWS budget and reporting process with the strategic plan for 2003 budget (2002).
  - ▶ Put performance measures in place for all programs and operations (2000).
  - ▶ Put annual operating plans in place for all entities of NWS linked to the strategic plan (2000). Individual performance plans linked to annual plan (2001).

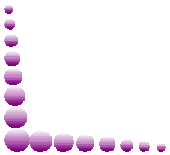


# Manage NWS Resources

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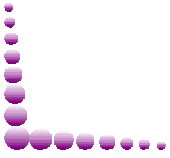
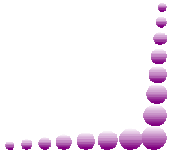
- Ensure operational costs are the minimum required to carry out the NWS mission and meet the goals of this strategic plan.
  - ▶ Base decisions to eliminate or add services or activities on assessment of costs to be incurred and the benefits to be achieved.





# Manage NWS Resources

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- Leverage information technology to improve the cost effectiveness of NWS systems, programs, and operations.
    - ▶ Base decisions on use of information technology on business needs and an NWS-wide systems architecture.
    - ▶ Base decisions concerning telecommunications on business needs and the NWS telecommunications architecture and strategic plan.
    - ▶ Equip NWS facilities with computer power necessary to achieve planned and evolving operational and strategic results.
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# Summary

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- NWS Strategic Plan is complete.
- Plan Focus: To build on modernization and provide a seamless suite of weather, water, and climate products and services that are:
  - ▶ Relevant to user needs
  - ▶ Accurate
  - ▶ Timely
  - ▶ Improve S & T infusion

