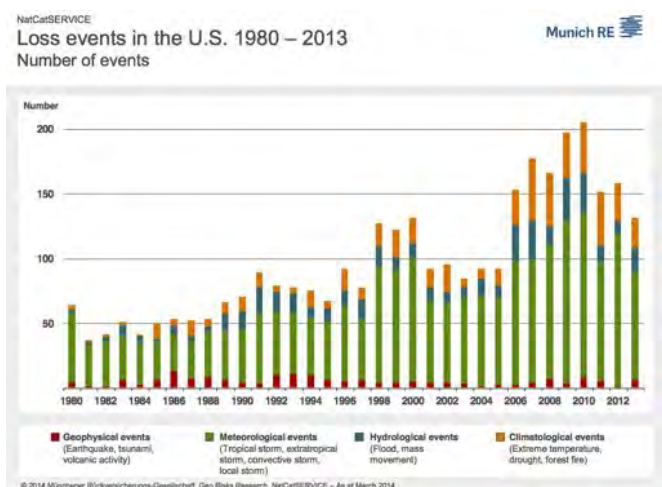


Building a Weather-Ready Nation



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Across the United States of America and around the globe, extreme weather is wreaking havoc on increasingly vulnerable communities. Coastal populations are growing¹ and development is expanding into higher risk areas such as floodplains and wildlands. Sea level is rising. Over the past 30 years, losses related to geophysical, meteorological, hydrological and climatological events have risen three to fourfold in the United States.



The United States National Oceanic and Atmospheric Administration's (NOAA) primary mission since its inception has been to reduce the loss of life and property, as well as disruptions from, high impact weather and water-related events. However, in recent years, the significant societal losses resulting even from well forecast extreme events have shifted the attention from the forecast alone toward ensuring the societal response is equal to the risks that exist for communities, businesses and the public. The responses relate to decisions ranging from coastal communities planning years in advance to mitigate impacts from rising sea

level, to farmers minimizing drought impacts heading into the growing season, to immediate lifesaving decisions such as a family seeking adequate shelter during a tornado warning.

To this end, NOAA is committed to building a "Weather-Ready Nation" where communities are prepared for and respond appropriately to these events. The Weather-Ready Nation (WRN) strategic priority is building community resilience in the face of increasing vulnerability to extreme weather, water, climate and environmental threats. To build a Weather-Ready Nation, NOAA is enhancing Impact-Based Decision Support Services (IDSS), transitioning science and technology advances into forecast operations, applying social science research to improve the communication and usefulness of information, and expanding its dissemination efforts to achieve far-reaching readiness, responsiveness and resilience. These four components of Weather-Ready Nation are helping ensure NOAA data, products and services are fully utilized to minimize societal impacts from extreme events.

Impact-based Decision Support Services

IDSS is a fundamental shift toward active involvement by weather forecasters in better understanding societal impacts from certain types of weather conditions. This knowledge has made the information and services they provide more relevant to decision-makers. These weather forecasters participate directly in government decision-making where their expertise is fundamental, especially to the protection of life and property. When high impact events are expected, this may require on-location support by trained emergency response specialists. With government partners, the goal of IDSS is to make NOAA interactions part of the standard operating procedures of core partner agencies.

¹ <http://stateofthecoast.noaa.gov/>

Science and technology advances

Scientific and technological (S&T) advances continue to result in improved accuracy of weather, water and climate predictions. Supercomputing output, radar advances, like the recent Dual-Polarization upgrade of the NEXRAD system, and weather satellite programs, like JPSS and GOES-R, all contribute to improving forecast accuracy. However, a new focus on social science research exists to ensure products and services convey risk and uncertainty in a manner that elicits live-saving actions by decision-makers.



A new experimental potential storm surge flood map was first displayed during the Hurricane Arthur landfall along the North Carolina coastline in July 2014

Communications and outreach

Preparedness messaging and education – on how to apply forecast information from NOAA and its weather industry partners to decision-making – are focusing on three objectives: action-oriented, consistent messaging of the expected risks and reaching out to vulnerable populations in more meaningful ways. Preparedness outreach information and community events are designed to elicit an action, not just awareness. Consistency in the message is critical for users to trust the information enough for them to act on it.

Information delivery

Information, such as lifesaving severe weather warnings, must be received by users in ways they expect, using technology with which they are familiar. NOAA has partnered with the Federal Emergency Management Agency (FEMA) and private cellular companies to deliver mobile device alerts broadcast by cellular towers within

risk areas. These alerts direct users to seek additional information and safe shelter. Information delivered on mobile phones contribute to a multi-source delivery system, building on more traditional sources such as television broadcasts, the Internet and NOAA Weather Radios.

Innovative partnerships: A fifth component

There is a fifth component to building a Weather-Ready Nation, one that is essential to strengthening resilience from the national level down to the community level – innovative partnerships. NOAA recognizes that it is essential to work collaboratively with external stakeholders across all levels of government, industry, non-profit organizations and academia. Thus, NOAA launched the Weather-Ready Nation Ambassador initiative earlier this year to reach out to organizations committed to working with NOAA and to contribute to a Weather-Ready Nation.

In the seven months since launching the initiative, NOAA has recognized more than 700 organizations across all levels. Federal government departments are WRN Ambassadors alongside local fire and police departments. Transnational companies are WRN Ambassadors alongside small local businesses. Weather data providers are WRN Ambassadors alongside weather data users. WRN Ambassadors are helping NOAA move the bar higher, whether by using NOAA data to generate and deliver valuable lifesaving information or by taking a leadership role within their respective communities and applying NOAA information in their decision-making. Learn more about the WRN Ambassador initiative at www.nws.noaa.gov/com/weatherreadynation/ambassadors.html.

All these organizations (see a full list at www.nws.noaa.gov/com/weatherreadynation/current%20ambassadors.html) share the same commitment to working with NOAA to make communities across the country ready, responsive and resilient to extreme events. Their contributions are as diverse as the organizations themselves and, when combined, can affect societal change such that future high impact weather events do not have to result in human disasters. By contributing to a larger more unified effort, WRN Ambassadors ensure consistency in messaging, are able to highlight their successes while working directly with NOAA on innovative collaborative opportunities, and can connect with other WRN Ambassadors.

NOAA's Weather-Ready Nation strategic priority does not stop at US borders. The same challenges exist in other countries across the globe, including increasing vulnerability, quantifying societal relevance and communicating the science. Countries can learn from one another through open dialog and sharing best practices.