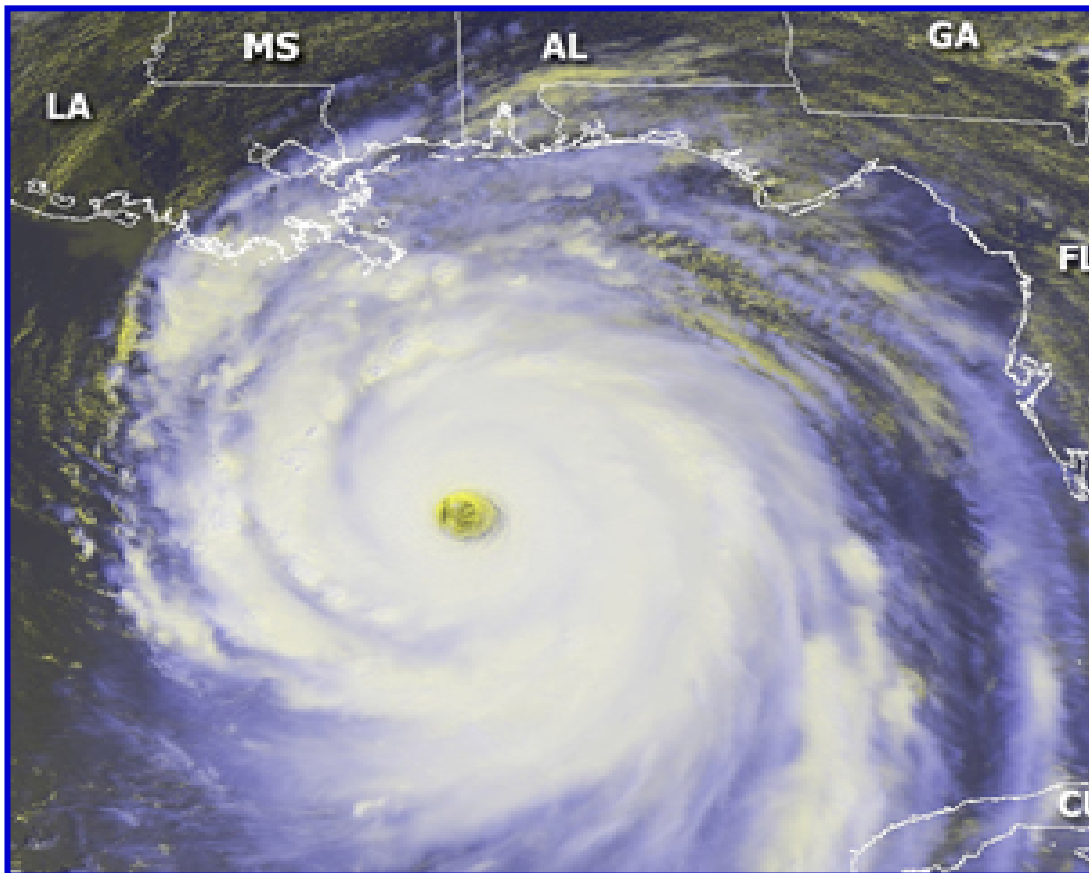


INTERAGENCY STRATEGIC RESEARCH PLAN FOR TROPICAL CYCLONES

THE WAY AHEAD

FCM-P36-2007



February 2007

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Hurricane Katrina, August 28, 2005: As of 1800 UTC, located 180 mi SSE of the mouth of the Mississippi River and moving NW at 13 MPH. Maximum sustained winds were 175 MPH, making Katrina a category 5 storm on the Saffir-Simpson scale. (Courtesy of NOAA, <http://www.osei.noaa.gov>)

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and Supporting Research (ICMSSR)

Committee for Cooperative Research (CCR)

Joint Action Group for Tropical Cyclone Research (JAG/TCR)

INTERAGENCY STRATEGIC RESEARCH PLAN FOR TROPICAL CYCLONES

THE WAY AHEAD

Office of the Federal Coordinator for
Meteorological Services and Supporting Research

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FOREWORD

The 2004 and 2005 Atlantic hurricane seasons demonstrated the vulnerability of the U.S. mainland to landfalling tropical cyclones. Given the continued economic development and population growth along the Atlantic and Gulf coasts, we know that the relatively benign 2006 season was a welcome respite but not an enduring end to the danger these storms present to persons, property, and coastal ecosystems. Economic losses to landfalling hurricanes on the U.S. mainland have roughly doubled each decade from 1900 to 2005. If a reminder were needed, there were dangerous typhoons in the western Pacific and tropical cyclones in the Indian Ocean—the same kind of meteorological event as Atlantic hurricanes, merely blowing under a different local name—to show that the tropical cyclone threat to populations and the environment, economic well-being, military operations, and U.S. interests abroad is still with us and global in extent.

In the spring of 2004, the 58th Interdepartmental Hurricane Conference recommended that a comprehensive strategy be developed to guide interagency tropical cyclone research and development (R&D) over the next decade. That recommendation was subsequently supported by both of my key coordinating committees: the Interdepartmental Committee for Meteorological Services and Supporting Research and the Federal Committee for Meteorological Services and Supporting Research (FCMSSR). This R&D plan presents a comprehensive strategy, developed over the past two years by members of my staff and the Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM)-sponsored interagency Joint Action Group for Tropical Cyclone Research (JAG/TCR).

Highly accurate meteorological forecasts that can be used to ensure that credible hurricane warnings are issued in a timely manner are an essential factor in avoiding injury or loss of life and reducing property loss and economic disruption. The strategy presented here focuses on R&D and the transition of research to operations to meet the current and future operational needs of the forecast and warning centers. Equally important, all civilian and military operations in harm's way must have confidence in these forecasts and warnings; they must understand them and take appropriate actions to protect people and property and, when necessary, evacuate to safer locations. We need to continue and expand efforts to ensure that timely information from our operational centers reaches decisionmakers and that they are prepared to act on that information. For this reason, this plan emphasizes research in the social sciences, aimed at improving the efficacy of the education and dissemination factors in the end-to-end system by which the ultimate users of forecasts and warnings, those in the path of a dangerous storm, can be better prepared to respond.

Another vital element in this plan is its recognition of the diverse community already deeply involved in tropical cyclone operations and R&D. Working partnerships already exist among the operational forecast and warning centers, the operational modeling centers that support them, a number of R&D-oriented Federal entities, the academic community, and an increasing number of partners in the private sector. Capitalizing on these partnerships, the plan has taken a grass-roots approach, working from the operational priorities and current programs and plans of the FCMSSR partner agencies. It highlights future capabilities and research priorities that are required to meet the operational needs of the Nation's tropical cyclone forecast and warning

centers. The plan also incorporates the strengths of existing partnerships and presents cogent recommendations for expanding and enhancing them, to achieve the effective transition of successful research results into operations.

This plan is complemented by and consistent in many aspects with two other concurrent reports—the National Science Board’s Task Force on Hurricane Science and Engineering (HSE) report entitled, *Hurricane Warning: The Critical Need for a National Hurricane Research Initiative*, and a report issued by the National Oceanic and Atmospheric Administration’s Science Advisory Board (SAB) Hurricane Intensity Research Working Group (HIRWG).

I want to express my deepest gratitude for the hard work and long hours expended by my staff and the members of the JAG/TCR. As shown in the membership list on pages v–vii, you can see that the plan before you is a product of collaboration extending across multiple agencies. It provides a strategy for ensuring that collaboration and coordination remain the watchword for the next decade of work in confronting the extreme threats posed by tropical cyclones.

/S/

Samuel P. Williamson
Federal Coordinator for Meteorological Services
and Supporting Research

MEMORANDUM FOR: Mr. Samuel P. Williamson
Federal Coordinator for Meteorology

FROM: Cochairpersons, Joint Action Group for Tropical Cyclone Research
(JAG/TCR)

SUBJECT: Plan on Interagency Strategic Research Plan for Tropical Cyclones

The JAG/TCR has completed its assigned task to develop a comprehensive strategy for tropical cyclone research and development to guide interagency efforts over the next decade. We are pleased to provide the subject plan, titled: *Interagency Strategic Research Plan for Tropical Cyclones: The Way Ahead*.

/S/

Dr. Frank Marks, Cochairperson
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/S/

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CONCURRENCES:

The undersigned concur that the plan, *Interagency Strategic Research Plan for Tropical Cyclones: The Way Ahead*, meets the tasks assigned to the JAG/TCR.

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Senior Staff Meteorologist, OFCM
Executive Secretary, JAG/TCR

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