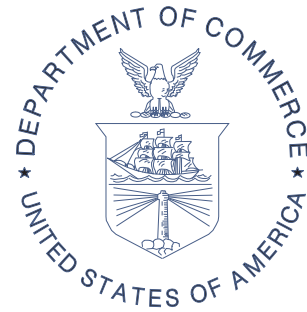


U.S. DEPARTMENT OF COMMERCE/ National Oceanic and Atmospheric Administration

OFCM



OFFICE OF THE FEDERAL COORDINATOR FOR  
METEOROLOGICAL SERVICES AND SUPPORTING RESEARCH

# National Hurricane Operations Plan

FCM-P12-2012 **Incorporates Change 1, 24 August 2012**



Washington, DC  
May 2012

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**Cover Image**

Hurricane Irene, 27 August 2011. Credit: NOAA.

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**NATIONAL HURRICANE OPERATIONS PLAN**  
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## CHANGE AND REVIEW LOG

Use this page to record changes and notices of reviews.

| Change Number | Page Numbers | Date Posted (mm/dd/yyyy) | Initials   |
|---------------|--------------|--------------------------|------------|
| 1.            | <b>G-14</b>  | <b>08/24/2012</b>        | <b>SJT</b> |
| 2.            |              |                          |            |
| 3.            |              |                          |            |
| 4.            |              |                          |            |
| 5.            |              |                          |            |

Changes are indicated by a vertical line in the margin next to the change or by shading and strikeouts.

| No. | Review Date (mm/dd/yyyy) | Comments   | Initials   |
|-----|--------------------------|--|------------|
| 1.  | <b>08/24/2012</b>        | <b>Corrected Appendix G, Nationally Developed Codes: 62626</b> | <b>GBK</b> |
| 2.  |                          |  |            |
| 3.  |                          |  |            |
| 4.  |                          |  |            |
| 5.  |                          |  |            |

## FOREWORD

The Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM) annually hosts the Interdepartmental Hurricane Conference (IHC) to provide a forum for the responsible Federal agencies, together with the user communities, such as emergency management, to review and improve the Nation's hurricane forecast and warning program.

During the IHC, the OFCM-sponsored Working Group for Hurricane and Winter Storms Operations and Research (WG/HWSOR) submitted and reviewed action items related to the hurricane program, to include recommended changes to this plan, the *National Hurricane Operations Plan* (NHOP). The 66<sup>th</sup> IHC was held in Charleston, South Carolina, March 5 - 8, 2012. New procedures and agreements reached at the conference were incorporated into this publication, the 50<sup>th</sup> edition of the NHOP. This plan is published annually prior to the hurricane season and documents the interdepartmental effort to provide the United States and designated international recipients with forecasts, warnings, and assessments, concerning tropical and subtropical weather systems.

At the 66<sup>th</sup> IHC, the WG/HWSOR addressed 20 action items. Of those, seven were closed through incorporating changes into this edition of the NHOP, and three items were for information only. The remaining 10 items will be worked through follow-on actions by the group. Detailed descriptions of the action items are available on the OFCM's web site at <http://www.ofcm.noaa.gov/ihc12/action-items.pdf>.

This edition of the NHOP includes a number of revisions and changes to include the continuation of last year's effort to update *Chapter 5, Aircraft Reconnaissance*. Other noteworthy changes include:

- Revised tropical cyclone names and pronunciations (Tables 3-1 and 3-2).
- Updated the definition of a subtropical cyclone (Appendix N).
- Added the term, *spiral band*, for radar coding on the Vortex Data Message (Table 5-2, Item L).
- Changed the eastern boundary of the 53rd Weather Reconnaissance Squadron's support in the Atlantic Ocean from 55°W to up to 52.5°W, resources permitting (paragraph 5.5.1.3.1).
- Removed paragraphs 5.5.4 – 5.5.5.3.4 from *Chapter 5, Aircraft Reconnaissance*, and used them to create a new chapter, *Chapter 6, Airspace Operations*. As a result, the contents of chapters 6-10 were moved to chapters 7-11, respectively.

The following summarizes the 2011 tropical cyclone season:

- For the Atlantic hurricane season, there were 19 named tropical storms, of which 7 became hurricanes and 4 major hurricanes.<sup>1</sup> This year's totals were above the long-term

<sup>1</sup> Extracted from <http://www.ofcm.noaa.gov/ihc12/66IHC-Linking-File.htm>, presentations given at the 66<sup>th</sup> IHC by representatives of the National Hurricane Center, Central Pacific Hurricane Center, and the Joint Typhoon Weather Center.

<sup>2</sup> Extracted from [http://www.noaanews.noaa.gov/stories2011/20111128\\_endofhurricanesseason\\_2011.html](http://www.noaanews.noaa.gov/stories2011/20111128_endofhurricanesseason_2011.html), "Active 2011 hurricane season breaks 'Hurricane Amnesia,' Irene the first hurricane to hit U.S. in three years; Northeast reminded it's also vulnerable, November 28, 2011 (Updated Jan. 26, 2012)."

<sup>3</sup> Extracted from <http://www.noaa.gov/extreme2011/irene.html>, "NOAA Extreme Weather 2011, "Hurricane Irene – August 20-20, 2011."

<sup>4</sup> Extracted from <http://www.noaa.gov/extreme2011/lee.html>, NOAA Extreme Weather 2011, "Tropical Storm Lee - Early September 2011."

averages of 11, 6, and 2 respectively.<sup>1</sup> The 19 tropical storms represent the third-highest total (tied with 1887, 1995, and 2010) since records began in 1851.<sup>2</sup>

- Hurricane Irene, whose name was retired from the Atlantic Basin tropical storm names list by the World Meteorological Organization, was the lone hurricane to hit the United States in 2011, and the first since Hurricane Ike struck southeast Texas in 2008.<sup>2</sup> It was also the most significant tropical cyclone to strike the Northeast since Hurricane Bob in 1991.<sup>2</sup> At least 45 deaths and \$7.3 billion in damages were attributed to Hurricane Irene, and more than 7 million homes and businesses lost power during the storm.<sup>3</sup> The National Oceanic & Atmospheric Administration's (NOAA) National Hurricane Center (NHC) predicted a North Carolina landfall and a northward path more than four days in advance. Additional losses were mitigated by giving emergency officials and the public this valuable time to plan evacuations and take safety precautions.<sup>3</sup>
- Tropical Storm (TS) Lee shortly followed Hurricane Irene in early September 2011. TS Lee produced record flooding across the northeast U.S. with the states of Pennsylvania and New York being the most affected.<sup>4</sup> Total losses exceeded \$1.0 billion and 21 deaths.<sup>4</sup>
- For the Eastern North Pacific, there were 11 named storms (below annual average).<sup>1</sup> Of these, 10 became hurricanes (above average), including 6 major hurricanes (above average), resulting in the greatest number of hurricanes since 1998.<sup>1</sup>
- The other tropical cyclone basins had the following tropical cyclone activity in 2011 (25-year averages are noted in parenthesis): Central Pacific - 0 (2); Northwest Pacific - 27(31); South Pacific and Eastern Australian Region - 9 (10); Arabian Sea and Bay of Bengal - 6 (5); and South Indian Ocean and Western Australian Region - 12 (18).<sup>1</sup>

Both civilian and military organizations comprise the multi-agency national tropical cyclone forecasting and warning system. As we strive to be a "Weather-Ready Nation," the efforts of these organizations, along with the reconnaissance aircrews, emergency managers, agency leaders, and others help to prevent injuries and the loss of life, reduce vulnerability, and further improve weather services to the citizens of this Nation.

**//SIGNED//**

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

<sup>1</sup> Extracted from <http://www.ofcm.noaa.gov/ihc12/66IHC-Linking-File.htm>, presentations given at the 66<sup>th</sup> IHC by representatives of the National Hurricane Center, Central Pacific Hurricane Center, and the Joint Typhoon Weather Center.

<sup>2</sup> Extracted from [http://www.noaa.gov/stories/2011/20111128\\_endofhurricanesseason\\_2011.html](http://www.noaa.gov/stories/2011/20111128_endofhurricanesseason_2011.html), "Active 2011 hurricane season breaks 'Hurricane Amnesia,' Irene the first hurricane to hit U.S. in three years; Northeast reminded it's also vulnerable, November 28, 2011 (Updated Jan. 26, 2012)."

<sup>3</sup> Extracted from <http://www.noaa.gov/extreme2011/irene.html>, "NOAA Extreme Weather 2011, "Hurricane Irene – August 20-20, 2011."

<sup>4</sup> Extracted from <http://www.noaa.gov/extreme2011/lee.html>, NOAA Extreme Weather 2011, "Tropical Storm Lee - Early September 2011."

NATIONAL HURRICANE OPERATIONS PLAN

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