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## Unit 6: Monitoring the Hurricane

*Time: 115 minutes*

### INTRODUCTION

For effective tropical cyclone/hurricane action planning and preparedness, local leaders/supervisors must have current and accurate information regarding the weather and meteorological aspects of the tropical cyclone or hurricane. The Tropical Prediction Center/National Hurricane Center (TPC/NHC) and the local Weather Forecast Office (WFO) are the primary hurricane forecasting organizations on which emergency management personnel rely for this information. The forecasting process has contributed to a significant reduction in the number of deaths attributed to tropical cyclones and their related hazards.

This unit identifies the roles of the TPC/NHC and the WFO in local tropical cyclone and hurricane preparation, describes the advisory products used in monitoring tropical cyclones and hurricanes, discusses the probability and margin of error associated with forecasting, and explains how HURREVAC can aid in decision-making.

This unit also gives participants an opportunity to continue to review and interpret advisory releases and hurricane forecast data to determine the level of threat to the community and the appropriate tasks in relation to the threat.

### OBJECTIVES

At the conclusion of this unit, participants should be able to:

1. Explain the acronyms, terms, and definitions relevant to this unit;
2. Explain the roles of the Tropical Prediction Center/National Hurricane Center and the Weather Forecast Office;
3. Interpret advisory products to determine actions based on the level of threat to the community; and
4. Discuss the margin of error and probabilities associated with forecasting and what they mean to decision-makers.

**Unit 6: Objectives**

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- ◆ Interpret advisory products to determine actions based on the level of threat to the community; and
- ◆ Discuss the margin of error and probabilities associated with forecasting and what they mean to decision-makers.

FEMA Hurricane Readiness - Coastal Communities 6-1

**Visual 6-1**

**Notes:**

**Unit 6: Monitoring the Hurricane**

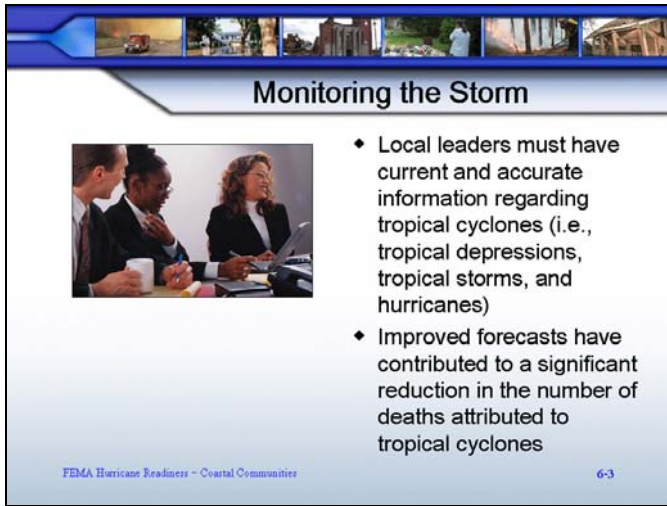
**Unit 6: Monitoring the Hurricane**

- ◆ Roles of Hurricane Forecasting Organizations
- ◆ Advisory Products for Monitoring Hurricanes
- ◆ Hurricane Forecasting
- ◆ Activity 6:1—Preparedness and Evacuation Planning
- ◆ Lessons Learned

FEMA Hurricane Readiness - Coastal Communities 6-2

**Visual 6-2**

### Monitoring the Storm



The slide features a header with a blue arrow graphic and a row of small images showing various coastal scenes. Below the header is the title "Monitoring the Storm" in a blue box. To the left is a photograph of three people in business attire meeting around a table. To the right is a bulleted list of two points. At the bottom left is the text "FEMA Hurricane Readiness - Coastal Communities" and at the bottom right is the number "6-3".

**Monitoring the Storm**

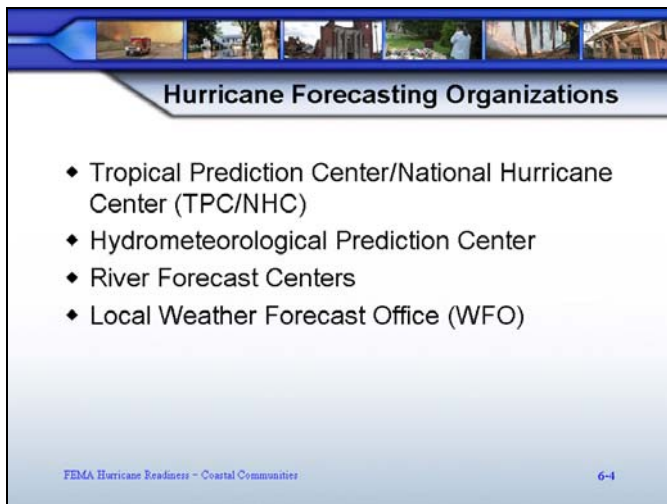
- ◆ Local leaders must have current and accurate information regarding tropical cyclones (i.e., tropical depressions, tropical storms, and hurricanes)
- ◆ Improved forecasts have contributed to a significant reduction in the number of deaths attributed to tropical cyclones

FEMA Hurricane Readiness - Coastal Communities 6-3

**Visual 6-3**

Notes:

### Hurricane Forecasting Organizations



The slide features a header with a blue arrow graphic and a row of small images showing various coastal scenes. Below the header is the title "Hurricane Forecasting Organizations" in a blue box. To the left is a bulleted list of four organizations. At the bottom left is the text "FEMA Hurricane Readiness - Coastal Communities" and at the bottom right is the number "6-4".

**Hurricane Forecasting Organizations**

- ◆ Tropical Prediction Center/National Hurricane Center (TPC/NHC)
- ◆ Hydrometeorological Prediction Center
- ◆ River Forecast Centers
- ◆ Local Weather Forecast Office (WFO)

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**Visual 6-4**

Notes:

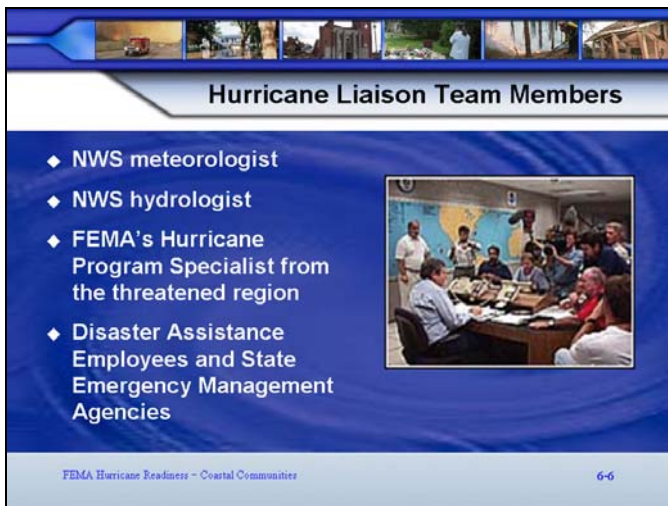
### Hurricane Liaison Team



Visual 6-5

Notes:

### Hurricane Liaison Team Members



Visual 6-6

Notes:

### NHC Advisory Products

**Advisory Products for Monitoring Hurricanes**

TPC/NHC produces four types of advisory products:

1. Tropical cyclone public advisory
2. Tropical cyclone forecasts/advisory
3. Tropical cyclone discussion
4. Tropical cyclone wind speed probabilities

➡ All four advisory products are issued every 6 hours for all tropical cyclones.

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*Visual 6-7*

Notes:

### 1. Tropical Cyclone Public Advisory—General Public

**Tropical Cyclone Public Advisory Format**

Primarily intended for the **general public**, this advisory follows a standard format to provide the following information :

- ◆ Lead statement that highlights significant aspects of the storm
- ◆ Watches and Warnings issued
- ◆ Center location and motion forecast
- ◆ Wind speed and intensity
- ◆ Expected storm surge
- ◆ Actions to be taken
- ◆ Associated meteorological events

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*Visual 6-8*

Notes:

### Special Public Advisory

**Public Advisory**

A **Special Advisory** is issued when:

- ◆ Storm conditions require issuance between regularly scheduled public advisories
- ◆ A significant change has occurred, requiring the issuance of a revised forecast package
- ◆ Conditions require change or cancellation of an existing warning
- ◆ A tornado threat develops, or the hurricane forecaster believes other significant changes have occurred

Content is similar to that of a scheduled advisory, but its format may be less formal and less complete.

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*Visual 6-9*

Notes:

### Intermediate Public Advisory

**Intermediate Public Advisory**

An **Intermediate Public Advisory** is issued when:

- ◆ There are tropical cyclone watches or warnings in effect
- ◆ Coastal watches or warnings can be discontinued; however, they can NOT be issued in this product.

Content is similar to that of the regularly scheduled public advisory.

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*Visual 6-10*

Notes:



## 2. Tropical Storm Forecast/Advisory

**Tropical Storm Forecast/Advisory**

- ◆ Formerly called *marine advisory*, it is important to the marine community and to emergency managers because it contains wind field information
- ◆ Data from this advisory is used to create HURREVAC graphics
- ◆ Follows a standard format to provide 12-, 24-, 36-, 48-, 72-, 96-, and 120-hour forecast positions
- ◆ Where appropriate, the tropical storm forecast/advisory will also include information, such as:
  - Watches/warnings
  - Present location, accuracy, and movement
  - Other

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**Visual 6-11**

Notes:

## 3. Tropical Storm Discussions

**Tropical Storm Discussions**

Intended for other forecasters, these discussions explain the rationale for the current forecast level of confidence. They generally include:

- ◆ Prognostic reasoning
- ◆ The objective techniques employed
- ◆ NOAA NWS model guidance used
- ◆ Coordinated 12-, 24-, 36-, 48-, 72-, 96-, and 120-hour tropical cyclone forecast points
- ◆ Maximum wind speed forecasts for each forecast point
- ◆ Other meteorological decisions
- ◆ Plans for watches and/or warnings

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**Visual 6-12**

Notes: