6 Data Collection and Analysis

Unit Objectives

Damage assessment activities drive the rest of the response and recovery actions. It is critical to collect accurate and thorough information and to maintain the appropriate documentation.

This unit describes methods for documentation and record-keeping as a part of your damage assessment program in addition to how that data can be used after the event.

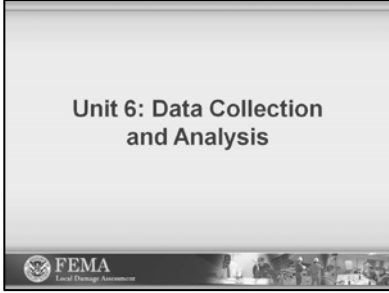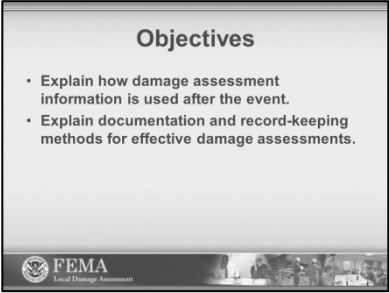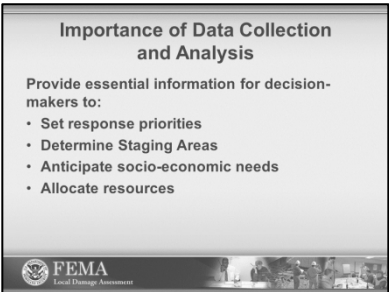By the end of this unit, participants will be able to:

- Explain how damage assessment information is used after the event.
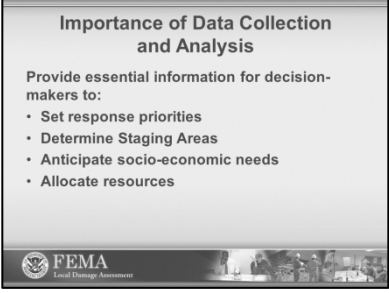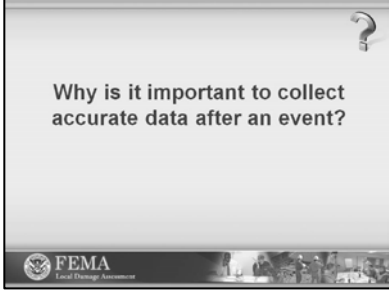- Explain documentation and record-keeping methods for effective damage assessments.

Content Outline
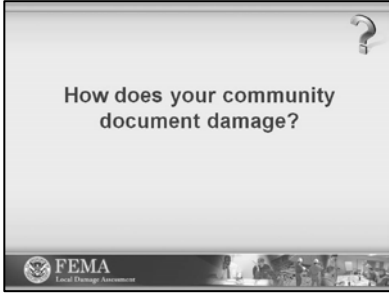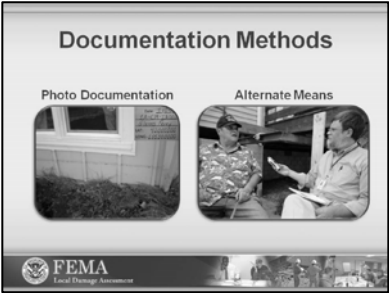
Unit Topics	Estimated Time
Unit Overview	5 Minutes
Importance of Data Collection and Analysis*	30 Minutes
Activity: Case Study in Documentation, Part One	20 Minutes
Activity: Case Study in Documentation, Part Two	20 Minutes
Unit Summary*	5 Minutes
Activity: Damage Assessment Lessons Learned	30 Minutes
Course Summary	10 Minutes
TOTAL	2 Hours
OPTIONAL EXAM	30 Minutes

The time estimate for this topic does not include the activity, which is listed separately.

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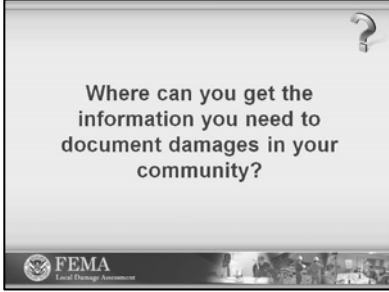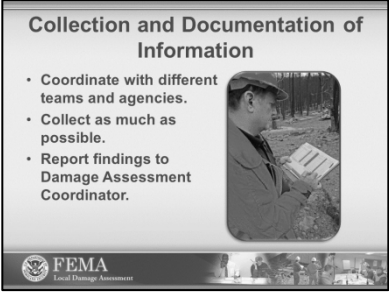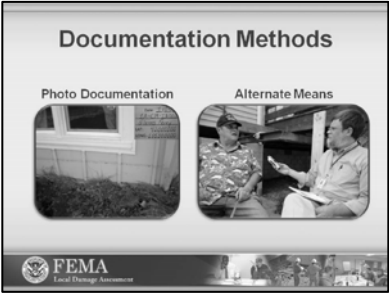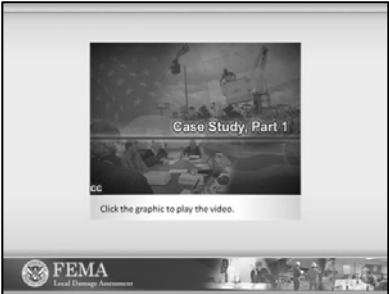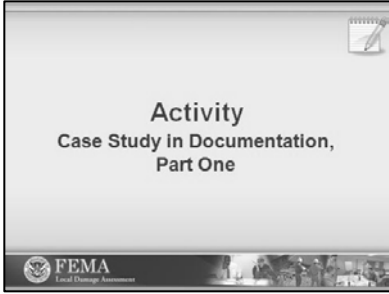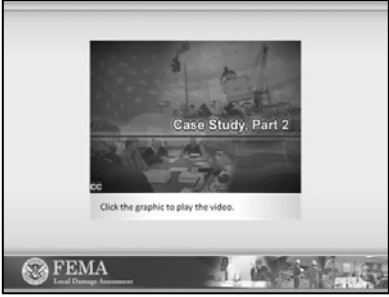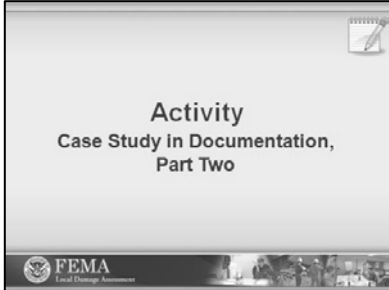| NOTES	CONTENT
Visual 6-1 Unit 6: Data Collection and Analysis FEMA	**Unit Overview** As you have learned, damage assessment activities drive the rest of the response and recovery actions. It is critical to collect accurate and thorough information and to maintain the appropriate documentation. In this lesson, you will learn about methods for documentation and record-keeping as a part of your damage assessment program. You will also learn how that data can be used after the event.
Visual 6-2 Objectives • Explain how damage assessment information is used after the event. • Explain documentation and record-keeping methods for effective damage assessments. FEMA	**Unit Objectives** This unit will enable you to: ● Explain how damage assessment information is used after the event. ● Explain documentation and record-keeping methods for effective damage assessments.
Visual 6-3 Importance of Data Collection and Analysis Provide essential information for decision-makers to: • Set response priorities • Determine Staging Areas • Anticipate socio-economic needs • Allocate resources FEMA	**Importance of Data Collection and Analysis** The information collected by Damage Assessment Response Teams is used for many purposes. Immediately following an event, data provides essential information for decision-makers, which is used for setting response priorities and determining the need for Staging Areas (e.g., close to the damaged areas), and making other key decisions. Damage assessment informs decision-makers about repair and restoration needs for critical infrastructure and key resources, as well as impacts to response capabilities. This early information also provides information about the socio-economic needs of the community as far as housing, social services, and the like. Information about collection/disposal needs and debris estimates helps allocate resources and helps determine other planning priorities such as landfill life and debris disposal options.

NOTES	CONTENT
Visual 6-3 (Continued) **Importance of Data Collection and Analysis** Provide essential information for decision-makers to: • Set response priorities • Determine Staging Areas • Anticipate socio-economic needs • Allocate resources FEMA Local Damage Assessment	All of this information feeds into the Preliminary Damage Assessment (PDA) and is ultimately required as a part of the Presidential Disaster Declaration process. It helps determine if the community has surpassed damage thresholds; is overwhelmed, and in need of additional resources; and the level of aid that may be needed – whether state, Federal, or mutual aid, or contract resources. From a more long-term perspective, the data can be used to determine areas of the damage assessment program that may be in need of improvement. In addition, the information can be used to help identify mitigation planning opportunities in your community, and it feeds into the Post-Disaster Redevelopment Plan.
Visual 6-4 Why is it important to collect accurate data after an event? FEMA Local Damage Assessment	**Why is it important to collect accurate data after an event?**
Visual 6-5 Where can you get the information you need to document damages in your community? FEMA Local Damage Assessment	**Where can you get the information you need to document damages in your community?**

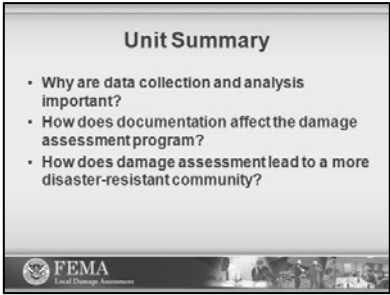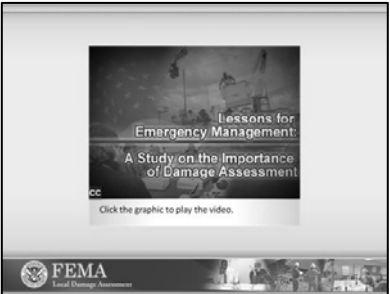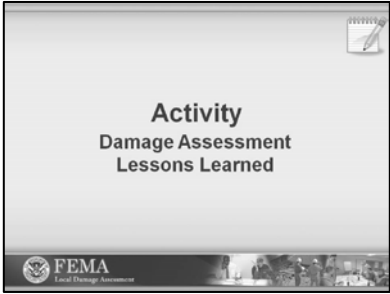| NOTES	CONTENT
Visual 6-6 **Collection and Documentation of Information** • Coordinate with different teams and agencies. • Collect as much as possible. • Report findings to Damage Assessment Coordinator. FEMA *Local Damage Assessment*	**Data Collection Procedures** Collect as much information as possible to document the damage. All of this information can be reported to the Damage Assessment Coordinator through the reporting system established by your plan, such as radio communication, collection of forms, and/or in-person debriefs.
Visual 6-7 How does your community document damage? FEMA *Local Damage Assessment*	**How does your community document damage?**
Visual 6-8 **Documentation Methods** Photo Documentation Alternate Means FEMA *Local Damage Assessment*	**Documentation Methods** As we discussed, the documentation of damage can be recorded on electronic or paper forms. The collection of information should also include photographs and video whenever possible. ***Photo Documentation*** When photos are taken of damage in the community, it is important to keep accurate records of where the photos were taken. One way to do this is to complete a location form and include it in the photo. Another way is by using a digital camera with built-in GPS that can stamp each photo with the date, time, and precise location where it was taken.

NOTES	CONTENT
Visual 6-8 (Continued) **Documentation Methods** Photo Documentation Alternate Means FEMA Local Damage Assessment	***Alternate Means of Data Collection*** Although the community's first-in teams (if used) and the local Damage Assessment Response Teams should be relied upon as the primary resources for gathering damage assessment information, do not overlook the wealth of information that can be provided by local residents. Invite residents to submit damage photos to an e-mail account or post them to your emergency management agency's social media sites. Better yet, provide an electronic form that can be submitted online to provide the degree of detail you need, with contact information so your agency can follow up for more information. Verification of information is crucial. If you use this method, be sure to explain the intended use of the information and make it clear that completing the form does not constitute an application for assistance.
VISUAL 6-9 Case Study, Part 1 Click the graphic to play the video. FEMA Local Damage Assessment	**Video: Case Study in Documentation, Part One** This video presents a real-life example of the importance of documentation.
Visual 6-10 **Activity** Case Study in Documentation, Part One FEMA Local Damage Assessment	**Individual Activity: Case Study in Documentation, Part One**

Case Study in Documentation, Part One

Instructions

Consider the documentation of each of the hazard events that impacted the City of Calais (as discussed in the video), and answer the questions that follow.

1. What are some specific ways for a local Damage Assessment Response Team to ensure that state and Federal officials are able to see and understand the full impact of disaster damages in a situation like the storms experienced by Washington County, Maine?

2. How can you plan for challenges that a Damage Assessment Response Team will face in a situation like this, in which multiple storms occur back-to-back?

NOTES	CONTENT
Visual 6-11 	**Video: Case Study in Documentation, Part Two** This video continues with the real-life example of the importance of documentation.
Visual 6-12 	**Individual Activity: Case Study in Documentation, Part Two**

Case Study in Documentation, Part Two

Instructions

Consider the impact of each of the hazard events that impacted the City of Calais (as discussed in the video) and the information learned in this course, and answer the questions that follow.

1. What mitigation measures could you propose to prevent or lessen flood-related damages to roads and bridges in your community?

2. Considering all that you've learned in this course, what are some recommendations you could make to improve the damage assessment program for your community or public works agency?

NOTES	CONTENT
Visual 6-13 	**Unit Summary** In this unit, you learned that damage assessment documentation and record-keeping are critically important for identifying needs, setting priorities, and allocating resources. In addition, accurate documentation is required as part of the Presidential Disaster Declaration process. Damage assessment information is also used to improve the damage assessment program, identify mitigation opportunities, and drive recovery efforts – all of which contribute to a more disaster-resistant community.
Visual 6-14 	**Video: Lessons for Emergency Management, A Study on the Importance of Damage Assessment** This video presents lessons learned by a research team who studied the damage assessment activities following the Paso Robles earthquake in 2003. As you watch, think about how the lessons learned in Paso Robles could apply to your community.
Visual 6-15 	**Individual Activity: Damage Assessment Lessons Learned**

Damage Assessment Lessons Learned

Instructions

Consider each of the lessons learned documented in the report, *Damage Assessment After the Paso Robles (San Simeon, California) Earthquake: Lessons for Emergency Management* (as discussed in the video), and answer the questions that follow.

Lesson One: Damage assessment plays a vital role during the initial minutes and hours of disaster response operations.

1. How can you identify where to pre-position teams (when warning time is available) or where to dispatch teams immediately after a disaster or other emergency? Where can you get this information?

Lesson Two: Damage assessment is crucial to the recovery phase of emergency management and is required before resources can be acquired and utilized for disaster assistance and rebuilding.

2. How does damage assessment information help with identifying resources that are needed?

Lesson Three: Although damage assessment is a dangerous activity, it does promote a safer environment for the public and those involved with repairs, demolition, and reconstruction.

3. How can damage assessment help keep people safe during and after a disaster and prevent cascading emergencies?

Lesson Four: There is an incredible convergence of personnel at the scene of a disaster for the purpose of evaluating the disaster's impacts.

4. What agencies, organizations, and individuals could you expect to be involved in damage assessment in your community?

Lesson Five: There are different types of damage assessments and diverse methods to conduct them.

5. What types of damage assessment do you know of?

Lesson Six: Damage assessment is not a one-time occurrence, but a repetitive process.

    6. How can you plan for effective coordination among all those involved with damage assessment?

Lesson Seven: Accuracy of initial and even later damage assessments may be questionable.

    7. What factors may affect the accuracy of damage assessment information?

Lesson Eight: Damage assessment is a politically salient activity after a disaster occurs.

    8. How can you involve political appointees and other key stakeholders in the damage assessment process?

Lesson Nine: There are several challenges confronting damage assessment personnel.

    9. List some of the challenges facing damage assessment personnel in your community.

Lesson Ten: Many steps can be taken before and after a disaster to ensure an efficient and effective assessment of damages.

    10. How can you overcome the challenges you listed above to ensure more efficient and effective damage assessment?

NOTES	CONTENT
Visual 6-16 Course Summary • How is damage assessment critical for emergency management? • How does it affect the response and recovery processes? • How does data collection affect resources? • How does documentation affect the Presidential Disaster Declaration process? FEMA Local Damage Assessment	**Course Summary** Throughout this course, you have learned how damage assessment is a critical part of emergency management. It sets the tone for the entire response and recovery periods. The quick and accurate gathering of damage assessment information helps guide people and resources to areas of greatest need. It also helps determine whether additional resources will be needed and is a necessary component of the Presidential Disaster Declaration process. By using the information in this course and the resources provided in the Toolkit, you should now be equipped to develop or refine your community's damage assessment programs.

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