SITL

Situation Unit Leader

Unit 1 – Course Introduction and Objectives

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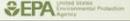
Please….

SITL

In consideration of your fellow students and the instructors, please silence all cell phones…

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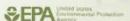
Logistics

SITL

- ▶ Student Registration Card
- ▶ Student Evaluation Form
- ▶ Facility Information
- ▶ Course Objectives / Agenda
- ▶ Student Handouts
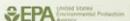
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Facility Information

SITL

- Classroom
- Restrooms
- Alarms and emergency exits
- Lunch
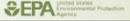
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Course Certificate

SITL

- Attendance is mandatory
- Participate in class exercises
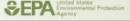
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Course Objective

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- Upon completion of this course, students will demonstrate, through exercises and a final exercise, an understanding of the duties, responsibilities, and capabilities of an effective Situation Unit Leader
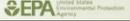
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Course Objectives (cont.)

SITL

- ▶ Identify the Situation Unit's mission and function
- ▶ Understand the management and leadership function of the Situation Unit Leader
- ▶ Define the interactions of the Situation Unit Leader with other functional positions in the Incident Management Team
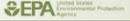
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Course Objectives (cont.)

SITL

- ▶ Describe the types of and sources of information that the Situation Unit utilizes
- ▶ List the products that the Situation Unit prepares or assists in preparing
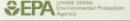
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Course Topics

SITL

- ▶ Unit 1: Course Introduction and Objectives
- ▶ Unit 2: Overview of the Situation Unit (Exercise 1)
- ▶ Unit 3: ICS – The Planning Section and the Planning Process
- ▶ Unit 4: The Incident Action Plan (IAP)
- ▶ Unit 5: Staffing and Organizing the Situation Unit (Ex. 2)
- ▶ Unit 6: Intelligence and Information Products
- ▶ Unit 7: The Situation Report (SitRep) (Ex. 3)
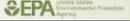
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Course Topics

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- ▶ Unit 8: Data Management 101
- ▶ Unit 9: Data Management Tools (Ex. 4)
- ▶ Unit 10: Case Study – Valley Fire
- ▶ Unit 11: Geospatial Introduction
- ▶ Unit 12: Geospatial Map Products
- ▶ Unit 13: Case Study – R7 Floods (Ex. 5)
- ▶ Unit 14: Miscellaneous SITL Topics
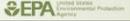
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Course Topics

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- ▶ Unit 15: Situation Unit Close-out
- ▶ Unit 16: SITL Day-in-the-Life
- ▶ Final Exercise (Group)
- ▶ Course Evaluation and Close-out

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Introductions

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- ▶ Name
- ▶ Organization
- ▶ Job Description
- ▶ IMT Experience
- ▶ IMT Position-Specific Training

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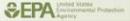
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Situation Unit Leader
Mission and Function

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Introduction to the Situation Unit

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▶ Situation Unit is Responsible For
  • Determining information needs
  • Gathering information
  • Processing information
  • Displaying information
  • Turning information into Intelligence

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Job References

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▶ U.S. EPA Incident Management Handbook

  "Responsible for collecting, processing, organizing, displaying, and disseminating all incident information." (Status and situation.) IMH, p. 9-5.

▶ Situation Unit Leader Job Aid

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Situation Unit Mission

SITL

To support the IMT planning process by:

1. Providing incident personnel with timely and accurate incident status information via accurate displays and reports.

2. Creating situation reports to send up the EPA management chain.

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Effective Plans Require Intelligence

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▶ Based on
- Quality information
- Timely information
- Constantly updated information
- Accurate and usable displays of information
- Information that has been verified and analyzed

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Functions of the Situation Unit

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▶ To perform the functions of a SITL they have to understand the situation.

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Understand the Situation

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- What has happened?
- What progress has been made?
- What are the perimeters?
- What work is ongoing currently?
- What is our endpoint?
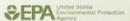
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Functions of the Situation Unit

SITL

- Collecting and organizing status information relevant to the incident
- Analyzing and evaluating incident information
- Preparing and displaying incident information
- Providing mapping services
- Submitting reports and providing documentation
- *Providing predictive services (EU)*
- *Providing risk assessments (EU)*

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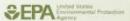
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Incident Information:

Staging Areas
Sample Locations
Containers Collected
Cu Yds. of disposed waste
Personnel On Scene
Air Monitoring Results
Shoreline Oiling
Photos
Etc

SITU Products:

- Briefing Maps
- Field Maps
- SitRep
- Progress tracking
- Incident Summary Display
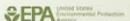
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Response Types

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- ▶ CERCLA
- ▶ OPA
- ▶ Stafford Act
- ▶ Other SITL Activities
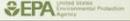
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CERCLA Responses

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- ▶ EPA can conduct fund lead removal actions
  - Responsible party is bankrupt / insolvent
  - Unable / unwilling to perform clean up
- ▶ Require potentially responsible parties to perform removal actions
- ▶ Hazardous Substances
- ▶ Cost Recovery

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CERCLA Responses

SITL
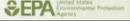
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Oil Pollution Act of 1990

SITL

- ▶ Conduct fund lead response
  - Oil Spill Liability Trust Fund
- ▶ Require responsible party to perform response action
- ▶ Cost Recovery

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OPA Responses

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17 WAYS TO CLEAN UP
THE GULF OIL SPILL

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OPA Responses

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- ▶ Cosco Busan 2007
- ▶ Gulf Oil Spill (Deepwater Horizon) 2010
- ▶ Enbridge Oil Spill (R5) 2010
- ▶ Yellowstone River (R8) 2011
- ▶ Refugio State Beach CA 2015

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Stafford Act

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▶ Disaster Declaration
- FEMA issues Mission Assignment based upon local / state request
- ESF-10 EPA Lead
- EPA Supports ESFs 3,4,5,8,11,13,15
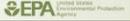
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Stafford Act

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▶ EPA Supports
- ESF#3 Public Works and Engineering
- ESF#4 Firefighting
- ESF#5 Emergency Management
- ESF#8 Public Health and Medical Services
- ESF#11 Agriculture and Natural Resources
- ESF#13 Public Safety and Security
- ESF#15 External Affairs
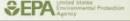
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Stafford Act Responses – Region 9

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▶ Region 9
- SoCal Wildfires 2007
- American Samoa Tsunami 2009
- TS Soudelor 2015
- CA Wildfires 2015

▶ Elsewhere
- Hurricanes (Katrina, Rita, Gustav, Sandy)
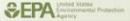
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Other Region 9 SITL "Activations"

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- Japan Earthquake and Tsunami 2011
  - Fukushima Daiichi Nuclear Incident

- SoCalGas Aliso Canyon Natural Gas Release 2015-2016
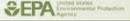
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HSPD #5

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- February 28, 2003 - the President issued HSPD-5, *Management of Domestic Incidents*
- Directs DHS to develop and administer a NIMS to provide a consistent nationwide approach for federal, State, and local governments to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents, regardless of cause, size, or complexity
- Requires DHS to develop a NRP (now NRF) that integrates the federal government domestic prevention, preparedness, response, and recovery plans into one all-discipline, all-hazards plan
- All federal agencies are required to adopt NIMS
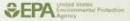
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EPA National Approach to Response (NAR)

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June 27, 2003 - the EPA Administrator introduced a new agency-wide NAR designed to bring together and ensure efficient utilization of existing emergency response assets and to ensure that roles and responsibilities at all levels in headquarters and the regions are clear.
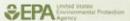
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National Incident Management System

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- March 1, 2004 – DHS issues NIMS
- Represents a core set of doctrine, concepts, principles, terminology, and organizational processes to enable effective, efficient and collaborative incident management at all levels

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National Response Framework (NRF)

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- Federal Response Plan
- National Response Plan
- Issued Dec. 04
- Notice of Change May 06
- NRF – Issued Jan. 08 – Guide to how the Nation conducts all hazards response. Built upon scalable, flexible, and adaptable coordinating structures to align key roles and responsibilities across the Nation, linking all levels of government, NGOs, and the private sector.

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EPA National Implementation

SITL

- NIMS Integration Team (NIT)
  - NIMS ICS Implementation Plan
  - IMT Guidance
  - Incident Management Handbook
  - Job Aids
  - Training/Qualification/Certification Order
  - REOC Guidance
- Response Support Corps
  - National Guidance
  - National Database

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NIMS ICS Implementation Plan

SITL

- ▶ Signed 9/7/07
- ▶ Outlines steps being taken by EPA to fully incorporate NIMS ICS into its national response procedures, plans, and policies as required by HSPD #5.
- ▶ NIMS Coordinator – Roberta Runge
- ▶ NIT – Responsible for developing EPAs ICS policy, guidance documents and training program for NIMS implementation.
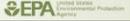
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National IMT Guidance

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- ▶ Issued as EPA Order – 11/08
- ▶ 11 KLPs, minimum of 3 deep
- ▶ Mobilize within 12 to 24 hours
- ▶ Default planned deployment – 2 weeks

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## Training, Qualification & Certification Order

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These standards are established by EPA to ensure that personnel who may be assigned positions within, or provide support to, an EPA-managed Incident Command System (ICS) structure are appropriately trained, qualified and certified to perform the duties of those positions.

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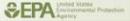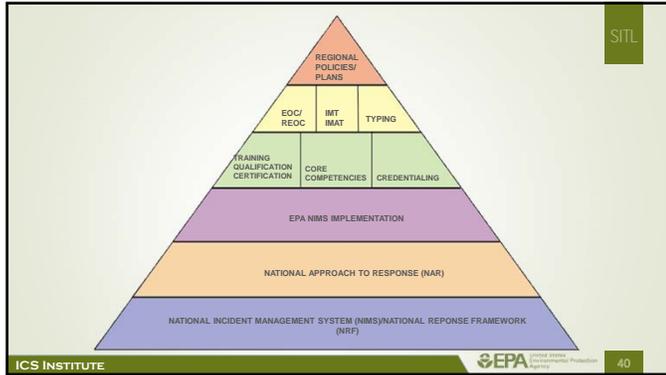
RSC National Guidance

SITL

EPA Order 8/09

This Order sets forth member responsibilities, training and exercise requirements, activation and deployment procedures, compensation information, and associated programmatic and management responsibilities for the RSC.

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Slide 43 — Position Requirements table (SITL)

Position	Core Competencies	Minimum Training	Professional Experience
Situation Unit Leader (SITL)	o Excellent organizational skills o Good written and verbal communication skills o Have the ability to distill large amounts of information into clear, concise, and understandable verbal and written presentations. o Lead assigned personnel: be able to influence, guide, and direct assigned personnel to accomplish objectives and desired outcomes in a rapidly changing, high risk environment.[1] o Communicate effectively: use suitable communication techniques to share relevant information with appropriate personnel on a timely basis to accomplish objectives in a rapidly changing, high risk environment.[1] o Assume position responsibilities: be able to successfully assume role of SITL and initiate position activities at the appropriate time including gathering & applying situational information and establishing organization structure & reporting procedures employing ICS concepts & principles.[1] o Ensure completion of assigned actions to meet identified objectives: identify, analyze, and apply relevant situational information and evaluate actions to complete assignments safely and meet identified objectives within an established timeframe.[1] o Ability to work 12-14 hour days under physical and emotional stress for sustained periods.	o ICS training through I-400 level[2] o EPA-346 (Situation Unit Leader Training) o EPA-420 (recommended) o FEMA IS-700 NIMS, an Introduction o FEMA IS-800 National Response Framework (NRF), an Introduction	o 3 years applicable professional experience o In depth understanding of basic mapping techniques (Global Positioning Systems and Geographic Information Systems)

Slide 44 — IMH

Slide 45 — Job Aid

Regional Groupings – Planning Scenarios

SITL

- ▶ Utilized DHS Scenarios
  - Hurricane – R6/7
  - RDD – R3/4/5
  - Anthrax – R3/4/5
  - Blister Agent – R1/2
  - Earthquake – R8/9/10

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Issues

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- ▶ Challenging Position
- ▶ Supporting OPS vs. "Feeding the Beast"
- ▶ Field Deployment vs. REOC
- ▶ Training vs. Maintenance

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EPA 365

SITL

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Situation Unit Leader

Exercise 1

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Break into groups

SITL

▶ Four or five groups; minimum three persons per group

▶ Discuss ER experiences

▶ Discuss why you choose to train as a Situation Unit Leader

▶ List three things you hope to learn this week

▶ Choose a spokesperson

▶ Be prepared to report out in fifteen minutes

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SITL

Situation Unit Leader

Unit 2 – Overview of the Situation Unit

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Unit Terminal Objective

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Describe the function of the Situation Unit and the roles and responsibilities of the Situation Unit Leader

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Unit Enabling Objectives

SITL

▶ Describe the main responsibilities of the Situation Unit Leader

▶ List the functions of the Situation Unit

▶ Identify members of the IMT that the Situation Unit Leader interacts with most frequently

▶ List the required reports and types of reports or plans the Situation Unit Leader may produce or assist with

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Situation Unit Leader

SITL

▶ Responsible for collection and organization of incident status and situation information

▶ Responsible for evaluation, analysis, and display of information

INCIDENT COMMANDER (IC)

PLANNING SECTION CHIEF (PSC)

SITUATION UNIT LEADER (SITL)

SITUATION UNIT STAFF

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Situation Unit Functions

SITL

▶ The Situation Unit is responsible for identifying informational needs, gathering information, and turning information into intelligence, as well as preparing and displaying incident information

▶ Other functions include…

• Providing mapping, predictive and risk assessment services

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Situation Unit Functions

SITL

▶ The Situation Unit is responsible for identifying informational needs, gathering information, and turning information into intelligence, as well as preparing and displaying incident information

▶ Other functions include…

• Submitting reports and documentation

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Situation Unit Functions

SITL

- ▶ The Situation Unit is responsible for identifying informational needs, gathering information, and turning information into intelligence, as well as preparing and displaying incident information

- ▶ Other functions include…
  - Assisting the Resources Unit with the assembly of the Incident Action Plan (IAP)

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Situation Unit Functions continued…

SITL

- ▶ To perform the functions of a Situation Unit, there must be an understanding of:
  - What has happened?
  - What progress has been made?
  - What are the perimeters?
  - What is the incident growth potential?
  - What are the threats?
  - What are the opportunities?

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Situation Unit Functions continued…

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- ▶ Required Reports
  - Incident Status Summary
    - ✓ SITREP / ICS 209
  - Weather forecast
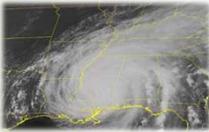
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Functions of the Sit Unit

SITL

To perform the functions of a Situation Unit Leader, we have to understand the situation!

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Responsibilities of the SITL

SITL

Stay prepared for mobilization

- ▶ Monitor threat level and events
- ▶ Stay prepared for dispatch
- ▶ Practice modeling & mapping skills
- ▶ Participate in exercises
- ▶ Keep up to date with developments
- ▶ Review after-action reports
- ▶ Start analyzing their needs and gather information   upon dispatch

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Responsibilities of the SITL

SITL

Obtain briefing from the Planning Section Chief

- ▶ Identify reporting requirements and schedules
- ▶ Discuss timelines and priorities
- ▶ Obtain copies of ICS Forms 201, 209 (or SITREP) and the IAP

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Responsibilities of the SITL continued

SITL

Organize, staff, and supervise unit

- ▶ Brief subordinate staff on current incident status
- ▶ Assign tasks
- ▶ Notify staff of timelines, priorities, and format requirements
- ▶ Monitor unit progress
- ▶ Assume responsibilities for positions that are not fully staffed within the Situation Unit
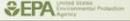
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Responsibilities of the SITL continued

SITL

Compile, analyze, and maintain incident status information

- ▶ Gather information
- ▶ Review all information for completeness, accuracy, and relevancy
- ▶ Process information into intelligence
- ▶ Ensure intelligence is up to date

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Responsibilities of the SITL continued

SITL

Prepare, post, disseminate resource & situation information

- ▶ Determine appropriate displays
- ▶ Develop additional displays as necessary
- ▶ Ensure displays are kept up to date
- ▶ Review for accuracy

Photographic services or maps that might be requested include…

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Responsibilities of the SITL *continued*

SITL

Prepare the ICS Form 209, Incident Status Summary (or SITREP)

▸ Provides incident information to internal EPA and some external (e.g.. FEMA) stakeholders

▸ Provides basic information to the Public Information Officer (PIO) for preparation of media release

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Responsibilities of the SITL *continued*

SITL

Prepare periodic predictions

▸ Analyze existing information and provide predictions of future status for use in planning

▸ Assemble information on alternative strategies

▸ Document alternatives

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Responsibilities of the SITL *continued*

SITL

Maintain ICS Form 214 - Activity Log

▸ Record details of unit activity

▸ Use as a reference for after-action reports

▸ Submit completed Activity Logs to Planning Section Chief, who will provide a copy to the Documentation Unit

▸ Hint – can use these as received from other KLPs in developing the Sitrep

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Situation Unit Interaction with IMT

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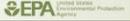
Incident Commander

SITL

- ▶ Maintain maps in Incident Commander work area
- ▶ ICS Form 209 (or SITREP) review time and signature

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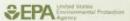
Operations Section Chief

SITL

Provide:

- ▶ Incident status
- ▶ Operational incident maps
- ▶ Projections, risks, threats & hazards
- ▶ Sensitive areas, risks & losses
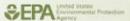
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Incident Specific viewers (response.epa.gov)
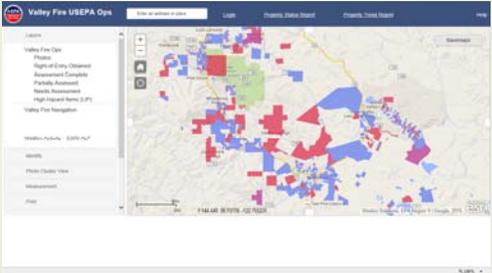
SITL

22

Air Operations Branch Director

SITL

Coordinate:

- ▶ Location air facilities for placement on IAP map
- ▶ Air hazard maps
- ▶ Flight scheduling for recon or data gathering

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Public Information Officer

SITL

- ▶ Provide intelligence and maps for press releases
- ▶ Provide SITREP (or ICS form 209)
- ▶ Clarify responsibilities for information board maintenance

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Safety Officer

SITL

- ▶ Provide information on Incident Status
- ▶ Provide updates on threats and risks
- ▶ Obtain injury info for ICS Form 209 (or SITREP)

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Ground Support Unit

SITL

- ▶ Obtain information about drop points, road capabilities, and travel routes
- ▶ Update information on Transportation Map (e.g., drop points, traffic plan)

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Facilities Unit

SITL

- ▶ Obtain information on location of incident facilities
- ▶ Assist with preparation of Facilities Map
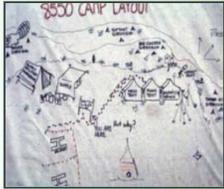
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Resources Unit

SITL

▶ Obtain resource info for ICS Form 209 (or SITREP)
▶ May assist in locating and verifying assigned resource

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Resource Advisors & Agency Representatives

SITL

▶ Obtain information
  • Sensitive resources and issues
  • Values at risk
  • Potential map sources
  • Local personnel
▶ Maintain open communic

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Cost Unit

SITL

▶ Obtain cost information for SITREP (or ICS Form 209)

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Compensation & Claims Unit

SITL

- ► Obtain and provide information on damages and losses
- ► Assist with documentation and imaging of possible claims and losses

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Environmental Unit

SITL

PLANNING SECTION

- Situation Unit
- Resource Unit
- Demobilization Unit
- Documentation Unit
- Environmental Unit

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Environmental Unit

SITL

Environmental Unit

| Modeling | Ecology & Health Effects | Analytical Team | QA Coordinator | Data Interpretation Team | Response & Cleanup Technologies |

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Environmental Unit

SITL

Facilitates interagency environmental data management, monitoring, sampling, analysis and assessment.

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Environmental Unit

SITL

▶ Responsible for
- ID and characterization of hazardous substances
- Assessment of extent of a release
- Evaluation of human and ecological risks
- Scientific support for specific response technologies
- Recommending clean-up levels

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Environmental Unit

SITL

▶ Responsible for
- Modeling and data interpretation
- Method development
- Confirmation that clean-up goals have been achieved
- Profiling of hazardous wastes for disposal purposes
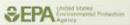
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Situation Unit and Environmental Unit

SITL

▶ Environmental data will come into Environmental Unit which will manage and interpret

▶ Situation Unit should work closely to maintain situational awareness with respect to environmental data
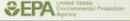
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Resource Advisors & Agency Reps

SITL

▶ Obtain information on
• Sensitive resources & issues
• Values

▶ Map sources

▶ Meet daily

▶ Keep informed

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SITL

Situation Unit Interactions Beyond the ICP

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Regional Emergency Operations Center Support

SITL

▶ The REOC can assist the IMT field component by
  • Providing information an intel to the IMT/ICP and
  • "Feeding the Beast" – responding to information requests from EPA upper management and political stakeholders

▶ May need to provide info to EPA HQ EOC also

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ESF-10 Desk at FEMA Joint Field Operations Center (JFO)

SITL

▶ SITREP
▶ Operational Metrics

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Success as a Situation Unit Leader

SITL

▶ Provide intelligence, not just history

▶ Answer the questions for customers before they ask

▶ Support operations with what they need to know

▶ You would love to receive your maps in the field

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Hit the Scene Running

SITL

- ▶ Be prepared to do it all at a dead run for the first 48 hrs.

- ▶ They expect a perfect map in minutes

- ▶ Must have "can do" attitude

- ▶ Ingenuity

- ▶ Must be able to handle stress
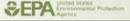
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Unit Summary

SITL

Are you now able to:

- ▶ Describe the main responsibilities of the Situation Unit Leader

- ▶ List the functions of the Situation Unit

- ▶ Identify members of the IMT that the Situation Unit Leader interacts with most frequently

- ▶ List the required reports and types of reports or plans the Situation Unit Leader may produce or assist with

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SITL

Situation Unit Leader

Unit 3 – Incident Command System and the Planning Section

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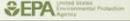
Unit Terminal Objective

SITL

Describe the organization and functions of the Planning Section
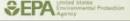
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Unit Enabling Objectives

SITL

▸ Define the purpose of the Planning Section

▸ Describe the Planning Section positions and their functions

▸ Describe the planning process and the Planning 'P'

▸ Describe the Situation Unit Leader's inputs in the planning process

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Major Incident Management Activities

SITL

1. Command
2. Operations
3. Planning
4. Logistics
5. Finance/Administration

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The ICS Organization

SITL

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INCIDENT COMMAND SYSTEM

SITL

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Incident Commander (IC)

SITL

- ▶ Responsible is the overall management of the incident.
  - Selected by qualifications and experience.
- ▶ Directly manage all aspects of a small incident.
- ▶ Assigns staff to various ICS positions for large incidents

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Deputy Incident Commander

SITL

- ▶ An IC may have one or more Deputies.
- ▶ Deputies must have the same qualifications as the person for whom they work as they must be ready to take over that position at any time.
  - Deputies may also be used at section and branch levels of the ICS organization.

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Planning Section Responsibilities

SITL

- ▶ Supports the Incident Commander
- ▶ Incident Objectives
  - How does IC know his objectives are accurate?
- ▶ Overall incident management planning and intelligence
  - What kinds of intelligence does the IC need?

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Planning Section Responsibilities (cont.)

SITL

▶ Supports Operations
- Incident Action Plan (IAP)
- Incident Projections
- Contingency Planning

▶ Supports the Incident Management Team (IMT)
- Keeps the team on schedule
  - ✓ Facilitates Planning meetings and Briefin
- Provides maps & displays for meetings
- Tracks resources

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Planning Section Responsibilities (cont.)

SITL

▶ Collects, evaluates & disseminates information on:
- Incident Status
  - ✓ SITREP / 209
- Predicted probable course of events
- Alternative strategies and control operations
- Resource status

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Planning Section

SITL

PLANNING SECTION
- Situation Unit
- Resource Unit
- Demobilization Unit
- Documentation Unit
- Environmental Unit

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ICS Planning Process
Steps include:

SITL

1. Understanding the situation
2. Establish incident objectives and strategy
3. Develop tactical direction and assignments
4. Prepare the Incident Action Plan
5. Implement the IAP
6. Evaluate the IAP

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The Planning Process

SITL

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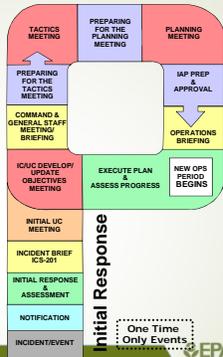
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The Planning Process

SITL

Initial Response/One time only events

1. Incident/Event occurs
2. Notifications are made/received
3. Travel to Response or Initial Response and Assessment
4. Agency Executive Briefing, Delegation (if needed)
5. Initial Incident Briefing (ICS 201)
6. Initial IC/UC Meeting
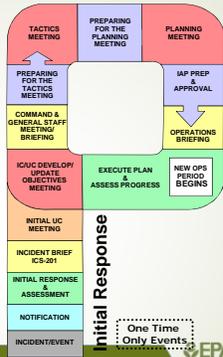
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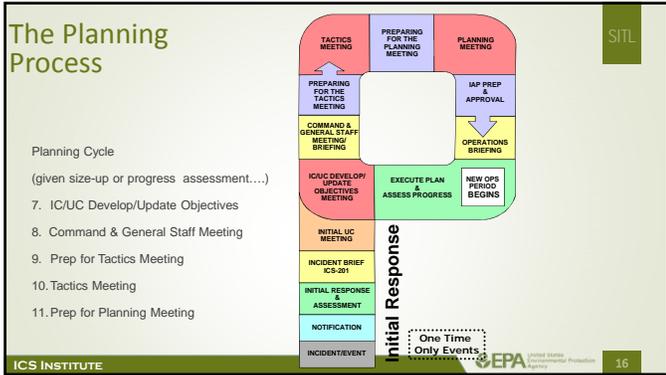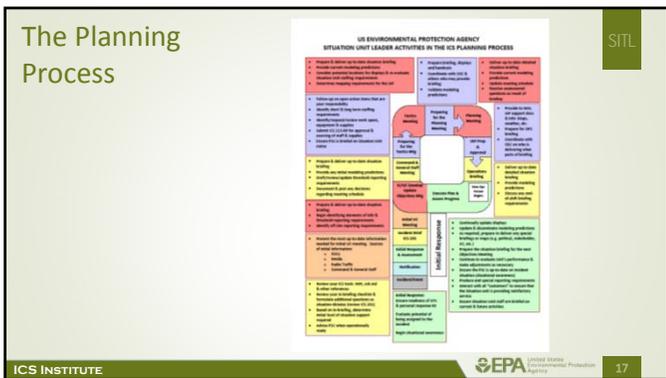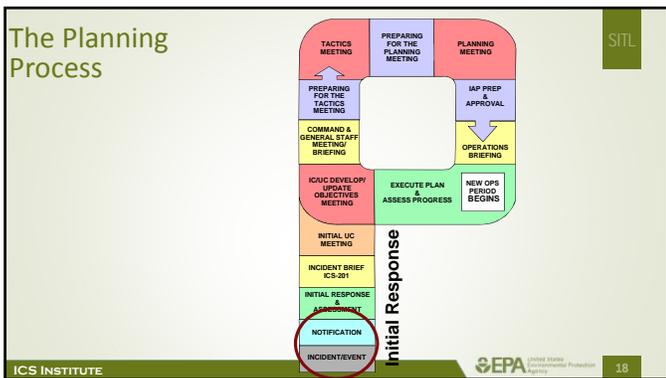
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The Planning Process

SITL

Planning Cycle

(given size-up or progress assessment….)

7. IC/UC Develop/Update Objectives

8. Command & General Staff Meeting

9. Prep for Tactics Meeting

10. Tactics Meeting

11. Prep for Planning Meeting

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The Planning Process

SITL

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The Planning Process

SITL

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Initial Response and Assessment

Ensure readiness of SITL & personal response kit

Evaluate potential of being assigned to the incident

Begin situational awareness

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Incident Brief ICS-201

- Review your ICS tools: IMH, Job Aid & other references
- Review your in-briefing checklist & formulate additional questions as situation dictates (review ICS-201)
- Based on in-briefing, determine initial level of situation support required
- Advise PSC when operationally ready

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Initial UC Meeting

Present the most up-to-date information needed for initial UC meeting. Sources of initial information:
- EOCs
- Media
- Radio Traffic
- Command & General Staff

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IC/UC Objectives Meeting

Prepare & deliver up-to-date situation briefing

Begin identifying elements of info & threshold reporting requirements

Identify off-site reporting requirements

Command & General Staff Meeting

- Prepare & deliver up-to-date situation briefing
- Provide any initial modeling predictions
- Draft/review/update threshold reporting requirements
- Document & post any decisions regarding meeting schedule

Preparing for the Tactics Meeting

- Follow-up on open action items that are your responsibility
- Identify short & long term staffing requirements
- Identify/request/review work space, equipment & supplies
- Submit ICS 213-RR for approval & sourcing of staff & supplies
- Ensure PSC is briefed on Situation Unit status

Tactics Meeting

- Prepare & deliver up-to-date situation briefing
- Provide current modeling predictions
- Consider potential locations for displays & re-evaluate Situation Unit staffing requirements
- Determine mapping requirements for the IAP

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Preparing for the Planning Meeting

- Prepare briefing, displays and handouts
- Coordinate with OSC & others who may provide briefing
- Validate modeling predictions

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The Planning Meeting

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Planning Meeting

SITL

- Deliver up-to-date detailed situation briefing
- Provide current modeling predictions
- Update meeting schedule
- Resolve unanswered questions as result of briefing

TACTICS MEETING | PREPARING FOR THE PLANNING MEETING | PLANNING MEETING

PREPARING FOR THE TACTICS MEETING | IAP PREP & APPROVAL

COMMAND & GENERAL STAFF MEETING/ BRIEFING | OPERATIONS BRIEFING

IC/UC DEVELOP/ UPDATE OBJECTIVES MEETING | EXECUTE PLAN & ASSESS PROGRESS | NEW OPS PERIOD BEGINS

INITIAL UC MEETING

INCIDENT BRIEF ICS-201

INITIAL RESPONSE & ASSESSMENT

NOTIFICATION

INCIDENT/EVENT

Initial Response

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Planning Meeting Displays

SITL

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Planning Meeting Maps & Displays

SITL

- ► Incident Briefing Map
  - • Mapping may be on:
    - ✓ Topo maps
    - ✓ Planimetric maps
    - ✓ Nautical Charts
    - ✓ Blueprints

- ► Sit Unit **must** produce a plot of the incident perimeter, operational boundaries & facilities.

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Planning Meeting Maps & Displays

SITL

▶ Maps & displays often speed and / or improve comprehension of intelligence reports.
- Incident progression & damage
- Plume models
- Evacuation
- Weather
- Imaging

▶ Some of these may be developed by the Environmental Unit

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Planning Meeting Requirements

SITL

▶ Reports
- Incident activity, location & progression
- Spot weather (Wx) forecast
- Incident projection & risks
- Threats to the environment & endangered species
- Losses
- Potential drop points, helispots, staging areas, shelters, mobile lab locations, decon

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Planning Meeting Checklist

SITL

No.	ACTIVITY	Primary Responsibility
1	STATE INCIDENT OBJECTIVES - POLICY ISSUES	INCIDENT COMMANDER
2	GIVE SITUATION & RESOURCE BRIEFING	PLANNING SECT. CHIEF
3	STATE PRIMARY & ALTERNATE. STRATEGIES	OPS SECTION CHIEF
4	DESIGNATE BRANCH, DIVISION, GROUP BOUNDARIES & FUNCTIONS AS APPROPRIATE	OPS SECTION CHIEF
5	DESCRIBE TACTICAL OPERATIONS & TACTICS	OPS & PLANS SECTION CHIEFS
6	MAKE TACTICAL RESOURCE ASSIGNMENTS	OPS, PLANNING, & LOG. SECTION CHIEFS
7	FACILITIES AND REPORTING LOCATIONS	LOGISTICS SECT. CHIEF
8	RESOURCES, SUPPORT, AND OVERHEAD	PLANS & LOGISTICS SECTIONS CHIEFS
9	SUPPORT PLANS - COM, MED., TRAFFIC	PLANS SECT CHIEF / IC
10	FINALIZE, APPROVE & IMPLEMENT THE PLAN	IC AND GEN. STAFF

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Planning Meeting Requirements

SITL

- ▶ Reports (verbal)
  - Incident status
  - Weather forecast
  - Incident Projection & Risks
  - Threats to human health, the environment & Endangered Species
  - Information on resource status

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IAP Preparation and Approval

SITL

- Provide to RESL IAP support docs & info: Maps, weather, etc.
- Prepare for OPS briefing
- Coordinate with OSC on who is delivering what parts of briefing

TACTICS MEETING

PREPARING FOR THE PLANNING MEETING

PLANNING MEETING

PREPARING FOR THE TACTICS MEETING

IAP PREP & APPROVAL

COMMAND & GENERAL STAFF MEETING/ BRIEFING

OPERATIONS BRIEFING

IC/UC DEVELOP/ UPDATE OBJECTIVES MEETING

EXECUTE PLAN & ASSESS PROGRESS

NEW OPS PERIOD BEGINS

INITIAL UC MEETING

INCIDENT BRIEF ICS-201

INITIAL RESPONSE & ASSESSMENT

NOTIFICATION

INCIDENT/EVENT

Initial Response

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Incident Action Plan

SITL

Action Plan inputs are based on the tactical plan determined at the planning meeting.

Coordinate with Plans Chief and Operation Section Chief at planning meeting.

Not all Situation Unit products go into the IAP
- Incident Action Plan contains information required for shift resources to accomplish their assignment.

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Operations Briefing

SITL

One Time Only Events

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Daily Operations Briefing

SITL

- Deliver up-to-date detailed situation briefing
- Provide modeling predictions
- Discuss any end-of-shift briefing requirements

TACTICS MEETING | PREPARING FOR THE PLANNING MEETING | PLANNING MEETING

PREPARING FOR THE TACTICS MEETING | IAP PREP & APPROVAL

COMMAND & GENERAL STAFF MEETING/ BRIEFING | OPERATIONS BRIEFING

IC/UC DEVELOP/ UPDATE OBJECTIVES MEETING | EXECUTE PLAN & ASSESS PROGRESS | NEW OPS PERIOD BEGINS

INITIAL UC MEETING

INCIDENT BRIEF ICS-201

INITIAL RESPONSE & ASSESSMENT

NOTIFICATION

INCIDENT/EVENT

Initial Response

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Operations Briefing Agenda

SITL

► Intro/Ground Rules/Time Frame/Ops Period/207s	PSC
► Current Situation Update	OPS
► Incident Objectives	IC/PSC
► Weather Forecast	SITL
► Ops Assignments (204)	OPS
► Safety Briefing	SO
► Communication Plan Info	LSC

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Operations Briefing Agenda Con't

SITL

► Logistical Concerns	LSC
► Financial Concerns	FSC
► Information Plan & Updates	PIO
► Cooperating Agencies	LNO
► Next Ops Briefing @ _____	PSC
► Next Planning Meeting @ _____	PSC
► Closing Comments	IC

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Situation Unit Leader & the Ops Briefing

SITL

► Briefing Map

► Incident status update

► Shift weather briefing

► Shift projection briefing

EPA Overflight Grids (Helicopter)

Grid Search Statistics

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Operations Briefing Map

SITL

► Map for shift change briefing

► Often a large not-to-scale sketch

► Visibility most important

► Shows talking points

► This map must be on time, can always make a sketch map

► Large incidents may require multi-tile GIS map

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Execute Plan & Assess Progress

- Continually update displays
- Update & disseminate modeling predictions
- As required, prepare to deliver any special briefings or maps (e.g. political, stakeholder, JIC, etc.)
- Prepare the situation briefing for the next Objectives Meeting
- Continue to evaluate Unit's performance & make adjustments as necessary
- Ensure the PSC is up-to-date on incident situation (situational awareness)
- Produce and special reporting requirements
- Interact with all "customers" to ensure that the Situation unit is providing satisfactory service
- Ensure Situation Unit staff are briefed on current & future activities

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Unit Summary

Are you now able to:

▶ Define the purpose of the Planning Section

▶ Describe the Planning Section positions and their functions

▶ Describe the planning process and the Planning 'P'

▶ Describe the Situation Unit Leader's inputs in the planning process

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SITL

Situation Unit Leader

Unit 4 – The Incident Action Plan

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Unit Terminal Objective

SITL

Describe the Situation Unit Leader's role in development of an Incident Action Plan

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Unit Enabling Objectives

SITL

▶ List the 5 elements of a written IAP
▶ Review the SITL role in IAP preparation

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The Planning Process
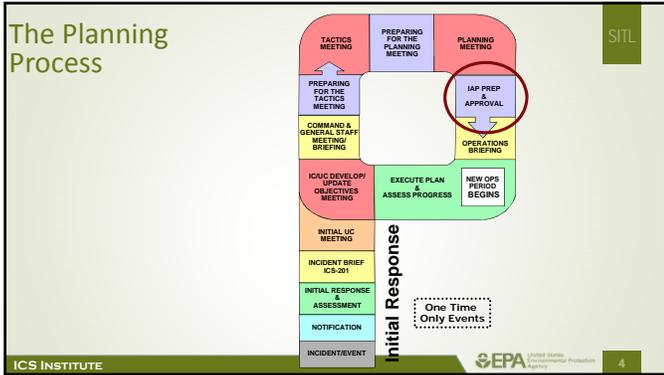
Major Elements In A Written Action Plan

▶ Objectives

▶ Organization

▶ Assignments

▶ Support plans

▶ Any other relevant info

Situation Unit Leader & the Incident Action Plan

▶ Situation Unit Leader Incident Action Plan inputs are based on Tactical Plan determined at the planning meeting

▶ Coordinate with Plans Chief and Operations Section Chief at Planning Meeting

▶ Not all Situation Unit products go into the Incident Action Plan

• Incident Action Plan contains information required for shift resources to accomplish their assignment

---

Incident Action Plan Maps

SITL

- ▶ Required IAP maps
  - 8½ x 11 or 11 x 17 Tactical Map
  - Traffic Plan
  - Facilities
- ▶ Optional Maps
  - Contingency
  - Forecast
  - Sampling / monitoring
  - Tidal / Current Charts
  - Other

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Incident Action Plan Reports

SITL

- ▶ Weather forecast (required)

- ▶ Projection forecast

- ▶ Plume models

- ▶ Other

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SITL

Provide Example IAPs

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Incident Action Plans

SITL

Given the Katrina IAP, qualitatively compare with Kalamazoo River IAP

- What was the same?
- What was different?
- Any differences that might change the way you have to do your job as SITL?

Choose a different spokesperson / be prepared to report in 10 min.
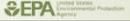
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Unit Summary

SITL

Are you now able to:

▶ List the 5 elements of a written IAP

▶ Review the SITL role in IAP preparation

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Situation Unit Leader

Unit 5 – Staffing the Situation Unit

SITL

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Unit Terminal Objective

SITL

Explain how to effectively establish and manage the Situation Unit

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Objectives

SITL

- ▶ List items to include in the Situation Unit Leader's kit
- ▶ Describe the considerations for staffing and organizing the Unit.
- ▶ Identify positions the Situation Unit Leader can utilize to produce incident intelligence and displays
- ▶ Describe methods for organizing the Unit for efficient management
- ▶ List criteria for assigning work and setting timeframes, schedules, and priorities
- ▶ Discuss considerations affecting personnel welfare and safety

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Stay Prepared

SITL

- ▶ Monitor threat level and events
- ▶ Monitor developing incidents
- ▶ Practice modeling and mapping skills
- ▶ Encourage and participate in exercises
- ▶ Conduct in-house ICS review and training
- ▶ Keep up to date with developments
- ▶ Review After-Action Reports
- ▶ Review Response Plan

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Stay Prepared

SITL

- ▶ Monitor threat level and events
- ▶ Monitor developing incidents
- ▶ Practice modeling and mapping skills
- ▶ Encourage and participate in exercises
- ▶ Conduct in-house ICS review and training
- ▶ Keep up to date with developments
- ▶ Review After-Action Reports
- ▶ Review Response Plan

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SITL

Initial Mobilization
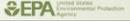
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Fundamental Question -

SITL

What is assigned location?

- ▶ Incident Command Post
- ▶ Regional EOC
- ▶ Other
  - FEMA Joint Field Office (JFO)

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Gather Information

SITL

At time of dispatch, begin to gather information from:

- ▶ Emergency Operations Center (EOC)
- ▶ Media
- ▶ Local contacts
- ▶ Home region of incident

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Arrival

SITL

- ▶ Check-in
- ▶ Meet with Planning Section Chief
- ▶ Survey current situation status
- ▶ Survey anticipated intelligence and display needs

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Situation Unit Leader Kit

SITL

Pens & pencils ✓ Wet erase pens ✓ Permanent markers ✓ Felt-tip markers	Scissors and X-acto knife
Glue & tape	Laptop computer
Straight edge	Portable printer
Laminate	Digital camera
Dot grids	GPS
White-out	Weather kit
Templates	Prefab legends
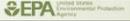
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Materials to Obtain Upon Arrival

SITL

Maps of the incident ✓ Topographic ✓ Planimetric	Laminate
Easel pad paper	Phone/Data Line
Work space	Copy machine
Display devices	
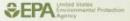
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Initial Planning Section Chief Briefing

SITL

- ▶ Incident size and scope
- ▶ Assigned resources
- ▶ Incident potential
- ▶ Logistical considerations
- ▶ Timelines and priorities
- ▶ Staffing of Situation Unit
- ▶ Incident facilities
- ▶ Expectations
- ▶ Obtain copies of ICS Form 201s, IAPs, and ICS Form 209s/SITREPS
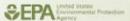
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SITL

Unit Setup

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SITL

Unit Setup

A large, open room or large tent is best

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SITL

Unit Setup continued...

Trailers are narrow, but may be sufficient for small incidents

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Situation Setup
SITL

- 8' x 8' mapping table with storage shelf allows for four simultaneous projects
- Plywood map wall in rear with envelope files
- Tables along side wall for office and computer space

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Situation Setup continued...
SITL

- Supplies and map tubes along opposite side wall
- Table in front for map handouts, debriefing area, and to deflect casual access
- Dry erase / easel pad
- Phone line and Internet connection

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GIS Setup
SITL

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Briefing Stage

SITL

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Unit Staffing

SITL

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Staffing Considerations

SITL

- Workload
- Ordering lag/travel time
- Staffing hours
- Size and complexity
- IMT needs and products
- Public impact
- Imaging needs
- Projection needs – Technical Specialists?
- Threats/risks
- Available on-scene personnel

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Keep Assets Within Span of Control Guidelines

SITL

▶ Span of control guidelines
- Number of persons supervised
  - ▶ Range of 3 – 7 recommended
- Number of GIS operations
  - ▶ Range of 1 - 2 recommended

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Sample Organization Chart #1

SITL

- Team SITL
  - SITL Night Shift / Trainee
    - FOBs
    - DPRO
    - Technical Specialists Projections (Environmental)
    - IMET
    - IRIN and Photography
    - GISS

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Sample Organization Chart #2

SITL
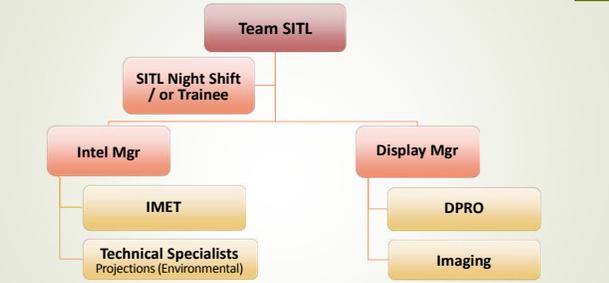
- Team SITL
  - SITL Night Shift / or Trainee
    - Intel Mgr
      - IMET
      - Technical Specialists Projections (Environmental)
    - Display Mgr
      - DPRO
      - Imaging

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Sample Organization Chart #3

SITL

```
                    Team SITL
                        |
              SITL Night Shift
                / Trainee
                        |
    ┌───────────┬───────────┬───────────┬───────────┐
  FOBs Mgr   Display Mgr   Technical    IMET     Imaging Mgr
                          Specialists
                           Manager
                          (Projections)
                  GIS                  RAWS Tech    IR and
                                                  Photography
                  DPRO
```

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Ordering Process

SITL

- ▶ Request resources on ICS Form 213RR
- ▶ Planning Section Chief approval
- ▶ Submit to Ordering Manager (ORDM)
- ▶ FOLLOW UP

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ICS Form 213RR

SITL

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Situation Unit Personnel

SITL

- ▶ Assistant SITL
  - • Divide duties, e.g. assign SITREP prep
- ▶ Field Observers (FOBS)
- ▶ Display Processors (DPRO)
- ▶ Technical Specialists (Tech Specs)
- ▶ GIS Team
  - • Manager
  - • Staff (GISS)
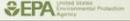
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GIS Support

SITL
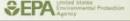
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GIS Support

SITL

- ▶ Historically at large incidents EPA GIS support has been significant with reliance upon paper products
- ▶ Presently less the case with advent & use of internet mapping capabilities
  - • Google Earth
  - • Geoviewers / Flexviewers

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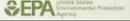
GIS in the ICS

Example Organizational Structure from the Region 6 hurricane response of 2005

Unified Command Organizational Chart

Figure 3: GIS Unit Position within New Orleans Unified Command Organizational Structure

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The GIS Team – Goals of the GIS Team

▶ The Primary goal of GIS team is to meet all the demands for work products in a cost and time efficient manner
  • Production priorities are negotiated for the entire incident
  • Accurate estimates are provided for product completion
  • Resources are in place to perform assigned responsibilities

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The GIS Team Responsibilities

▶ Coordinate with personnel in the Situation Unit and Environmental Unit (EU)
  • Implement map request and tracking process/system
  • Compile and prioritize requests
  • Provide status reports to appropriate requesters

▶ Complete requests - ensure accurate and rapid dissemination of maps for various components of the incident

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The GIS Team Responsibilities

SITL

▶ Manage maps and data
  - Catalog maps and data
  - Archive maps and data
  - Publish maps and data to various websites and FTP sites
  - Manage shared drives and hard drive organization

▶ Maintain individual logs and shift notes as required
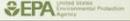
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The GIS Team – Potential Members

SITL

▶ GIS Manager/Coordinator

▶ GIS Specialists

▶ Image Interpreters

▶ Video Processors

▶ Database Administrators

▶ Data Quality Assurance / Quality Control Personnel

▶ Documentation (Metadata) Personnel

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Field Observers

SITL
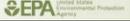
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FOBS

SITL

▶ Field Observers

The Field Observer (FOBS), a member of the Situation Unit, is responsible for collecting situation information from personal observations at the incident and providing this information to the Situation Unit Leader (SITL) by an established procedure..
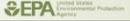
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FOBS

SITL

▶ The FOBS report to the SITL
  • All FOB field activities must be coordinated with the Operations Section Chief or field supervisors.
  • Situation Unit Leader can deploy them when and where intel is needed in a timely manner.
  • Human Intel
  • Verification
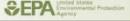
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Field Observers

SITL

▶ How many do we need?
▶ Do we need them day and night?
▶ Do they need to be certified for self-contained breathing apparatus (SCBA)?
▶ Will they need monitoring equipment?
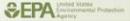
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FOBS

SITL

► Key responsibilities of the FOBS:
  • Verify response asset locations, road conditions, and access routes
  • Report information to the SITL by established procedure
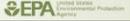
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FOBS

SITL

► Key responsibilities of the FOBS (cont.):
  • Take photos, ground truth maps, and coordinate positions. Observations include, but are not limited to:
    ✓ Perimeters of the incident
    ✓ Locations of operations/trouble spots
    ✓ Rates of spread
    ✓ Weather conditions
    ✓ Hazards
    ✓ Progress of operation resources
    ✓ Facility locations (e.g., staging areas)
    ✓ Division/Group boundaries
    ✓ Photo documentation (Identify and date ALL photos)
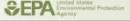
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FOBS

SITL

► How many?
  • FOB= 1 per DIV/GRP
► Ordering
► Assignments (match to FOBS)
► Briefings
  • Information needed
  • Time frames
  • Communication
  • Transportation
  • Interface with Operation
► Safety
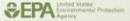
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FOBS

SITL

▶ **FOBs Daily Duties**

- Immediately report any condition observed that may cause danger and a safety hazard to personnel.

- Communicate OFTEN with SITL. Get current information to the Situation Unit as frequently as necessary and at the end of each shift. Set up a call-in schedule with SITL.
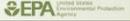
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FOBS

SITL

▶ **FOBs Daily Duties (cont.)**

✓ Over flights. Prior to an over flight operation, receive an aircraft safety briefing from the proper person in the Air Support Branch in the Operations Section. Be sure to have a good base map, clip board, and writing instruments for in-flight documentation.

✓ Maintain Individual Log and provide to SITL and Documentation Unit at the end of each operational period

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FOBS

SITL

▶ **FOBs Daily Duties (cont.)**

- The FOBS may be asked to attend the Operations Briefing and assist with discussions and presentations as appropriate
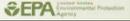
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FOBS Products

SITL

- *Individual Log* – Summarize daily activities. Report observations fully and make any additional attachments for more complex reports. Provide to the SITL and Documentation Unit at the end of the operational period.

- *Base Maps* – While on an over flight or field survey, hand-draw observations on a blank base map. Submit to GIS Specialist for the creation of an electronic map. Provide input and make clarifications to GIS Specialist as they produce the electronic map.

- *Photos* – Document observations with photos. Identify and date all photos.
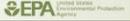
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FOBS Materials

SITL

- Log book
- Digital camera or video camera
- Basic PPE level D or upgraded PPE as required by the Health and Safety Plan
- Radio
- Cell phone
- Sat Phone

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Display Processor

SITL
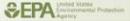
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DPRO

SITL

▶ The Display Processor (DPRO), a member of the Situation Unit and is responsible for the display of incident status information, including the creation, maintenance, and update of the Incident Situation Display.

▶ The DPRO reports to the Situation Unit Leader
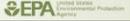
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DPRO

SITL

▶ The DPRO ICS training up to the 200 level and experience with software such as:
  • Presentation (PowerPoint)
  • Photo editing
  • Spreadsheets (Excel)
  • Graphics software
  • Web Publishing and editing

▶ The DPRO may be asked to attend the Operations Briefing and assist with discussions and presentations as appropriate.

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DPRO

SITL

▶ Primary Responsibilities
  • Create, maintain, and update the Incident Situation Display (e.g., electronic and wall displays)
  • Obtain and display incident status information from:
    ✓ Field Observers (FOBS)
    ✓ Personnel in the Situation, Resources, and Environmental Units
    ✓ Personnel from other sections
    ✓ Resource status reports, forms, and maps
    ✓ Aerial and ortho photographs, as well as infrared data
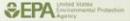
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DPRO

SITL

▶ Primary Responsibilities (cont.)
- Work with other units in the Incident Management Team (IMT) to ensure they have up-to-date information, maps, and displays (especially safety, information officer, liaison, and operations)
- Provide appropriate information and required maps for the Incident Action Plan (IAP)
- Assist the SITL in analyzing and evaluating field reports

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DPRO Processing

SITL

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SITL

Technical Specialists

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What Intel Will We Need?

SITL

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Common Uses of Technical Specialists

SITL

- ▸ Performing identification and hazard assessment
- ▸ Performing analysis of risk and threats
- ▸ Performing modeling and projections
- ▸ Performing analysis of mitigation and decontamination techniques
- ▸ Operating specialized equipment
- ▸ Interpreting outputs

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Technical Specialists

SITL

How do you handle all risks?

- ▸ Technical or scientific experts
- ▸ Local experts
- ▸ Computer modeling programs

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Technical Specialist Considerations

SITL

- ► Begin identifying needs and sources early
- ► Think outside of the box regarding where to obtain a Technical Specialist
- ► Technical Specialists may not be accustomed to emergency operations and pressures
- ► Provide a thorough briefing to explain position   and limitations
- ► Check in regularly to provide support
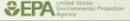
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Technical Specialists

SITL

- ► When do you order them?
  - • Incident requires a specialized skill or knowledge you do not have
    - ✓ To analyze or display intelligence, and the skill is not a standard Field Observers or Display & Report Processor skill
  - • You do not have time to perform the specialized task
- ► Tech/Specs may be used in any unit where specialized skills or knowledge are required
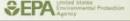
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Technical Specialists

SITL

- ► Tech / Specs can be obtained from a wide variety of sources
- ► Start considering needs and sources early Think outside the box!
- ► Care & feeding of Tech / Specs
  - • May not be accustomed to emergency ops & pressures
  - • Inquire about needed support and explain limitations
  - • Good briefing required!
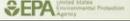
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Technical Specialists
SITL

Who are they and
where do they come from?
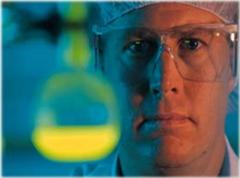
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Hazmat
SITL

- Local Government
  - Hazmat Techs
  - Environmental Health
  - Emergency Services
  - Planning/Building Dept.
  - Public Works
- State Agencies
  - EPA/Dept. of Ecology etc.
  - Health/Water
  - State Fire Marshal
  - OES
  - Transportation

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Hazmat
SITL

- USEPA
  - Local offices
  - Regional Offices
  - HQ
  - Special Teams
  - Contractors
- Other Feds
  - USCG
  - DOD
  - DOE
  - CDC
  - USGS

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Hazmat

SITL

- ▸ Company or Product Rep
  - • Company Response Team
- ▸ Product Organizations
  - • CHEMTREC®
  - • CHLOREP
- ▸ Environmental / Emergency Contractors

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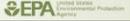
64

CBRN / WMD

SITL

- ▸ Hazmat resources and possibly:
  - • FBI
  - • DOD
  - • US Military
  - • CDC

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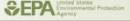
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Floods

SITL

- ▸ Flood Control District
- ▸ Levee District
- ▸ Public Works
- ▸ Department of Water Resources
- ▸ Hydrologists
- ▸ Local Planning Dept.
- ▸ Hazmat Tech / Specs

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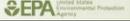
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Earthquake
SITL

- ▶ Geologist
- ▶ Structural Engineer
- ▶ Building Dept.
- ▶ Public Works
- ▶ Fire Protection Engineer
- ▶ Hazmat Tech / Specs
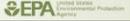
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Technical Specialist Precautions
SITL

- ▶ Health & Safety
- ▶ Coordination with
  - • Operations
  - • Logistics
- ▶ PPE
- ▶ Specialized Training and experience
- ▶ Communications

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Technical Specialist Support
SITL

- ▶ DPRO
  - • Displays
  - • Data Management
  - • Reports
- ▶ GIST
  - • Digital mapping
  - • Large format printing
- ▶ FOBS
  - • Field information

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Organization of Technical Specialists

SITL

- ▶ Organize around Situation Unit Leader mission to provide IMT with accurate incident status, intelligence reports, and displays that are needed for the IMT to meet incident objectives
- ▶ Consider using a Technical Specialist Manager to reduce span of control and organize Technical Specialists around function
- ▶ Do not duplicate other functions
- ▶ Keep unit as small as possible
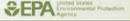
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Technical Specialists Units

SITL

- ▶ If the workload in a Technical Specialists team becomes too large or complicated for the Situation Unit Leader to manage, the Planning Section Chief may create a Technical Specialists Unit for the purpose of supporting the planning process
- ▶ Examples:
  - Contingency Planning
  - Rehabilitation
  - Water Resources
  - Environmental
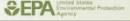
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Coordination with Technical Specialist Unit

SITL

- ▶ Technical Specialist Units should not duplicate positions and efforts of other units
- ▶ The Planning Section Chief, Situation Unit Leaders, and the Planning Technical Specialist Units must develop clear goals and objectives together
- ▶ The Planning Section Chief and Unit Leaders must develop clear divisions of labor

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Unit Management

SITL

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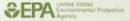
Management of the Situation Unit

SITL

▶ Assign work
▶ Set timeframes
▶ Schedule personnel
▶ Prioritize work

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Criteria for Successful Management

SITL

▶ Define goals and objectives to personnel
  • Get input
  • Post
▶ Assign personnel based on qualifications, skills, and aptitude
  • Interview before assigning
▶ Schedule staff around workload
  • Post schedule
  • Get input from personnel

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Criteria for Successful Management
continued…

SITL

- ▶ Practice active listening
  - Pay attention to what is said and not said
- ▶ Be as flexible as you can
  - This is an emergency, but don't add to it
- ▶ Evaluate work and provide prompt feedback
  - Do not let problems fester

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Resolve Conflict

SITL

- ▶ Resolve Conflicts
  - Watch out! Conflict can cripple a unit
  - Act early
  - Negotiation, separation, or demobilization

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Personnel Welfare and Safety

SITL

- ▶ Assign personnel to jobs for which they are qualified
- ▶ Consider physical requirements
- ▶ Recognize hazards
- ▶ Brief on hazards and hazard mitigation
  - Special precautions for extraordinary hazards
- ▶ Ensure personnel have PPE
- ▶ Monitor fatigue
  - Common cause of driving accidents

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Organizing / Scheduling

SITL

- Manage span of control
- Develop timetables
- Organize around function
  - Intelligence
  - Display
- Situation Unit personnel should overlap to maintain coverage

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Situation Unit Briefings

SITL

- What
- How
- Who
- When
- Contacts
- Communications

- Reporting
- Quality standard
- Work locations
- Facilities
- Transportation
- Safety

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Improving Unit Management

SITL

If the Unit is not functioning efficiently, consider:

- Re-evaluating unit goals and objectives   in consultation with Planning Section Chief
- Tightening procedures for requesting   Unit products with IMT
- Ensuring staff are organized in support of unit goals and objectives

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Demobilization

SITL

- ▸ Continually evaluate staffing levels
- ▸ Consider demobilization of nonessential personnel
- ▸ Determine who should go first
  - • Record their last day off
  - • Who wants to go home?
  - • Who needs to go home?
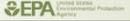
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Unit Review

SITL

1. What items need to be included in the Situation Unit Leader's kit?
2. What needs to be considered when staffing and organizing the Situation Unit?
3. What ICS positions can the Situation Unit Leader utilize to produce incident intelligence and displays?
4. What are the methods for organizing the Unit for efficient management?
5. What is the criteria for assigning work, setting timeframes and priorities?
6. What considerations need to be made for personnel welfare and safety?

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Situation Unit Leader

SITL

Exercise 2

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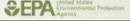
Instructions: For each scenario, review the limited information given and determine how you would staff a situation unit to respond to the scenario.

SITL

► Massive explosion and oil spill in the ocean. Widespread land and animal contamination. 4 states affected. Multiple month clean-up effort. Very political. Massive sampling effort. Extensive GIS support required.

► Pipeline breach on frozen land. Contained to moderate area. 1 state affected. Difficult relationship w/ responsible party. Short-term response. Some GIS support required.

► Dirty bomb detonation in urban area. Widespread radiation contamination. 2 states affected. Extensive GIS support required. DOE has the lead.

► Large VOC release. Widespread monitoring required. 2 states affected. Extensive GIS required.

► Large political convention. Extensive monitoring. Moderate GIS support. Extensive coordination w/ multiple agencies required.

► Hurricane. Two states affected. Widespread destruction. Massive orphan drum and removal effort. Massive debris and white-goods disposal required.

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SITL

Situation Unit Leader

Unit 6 – Intelligence and Information Products

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Unit Terminal Objective

SITL

Identify how to obtain, analyze, and disseminate necessary incident intelligence

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Unit Enabling Objectives

SITL

- ▶ Describe the difference between information and intelligence
- ▶ Identify information the Situation Unit Leader may be responsible for obtaining
- ▶ Identify sources of information
- ▶ Identify the ICS positions that provide information and intelligence to the Situation Unit

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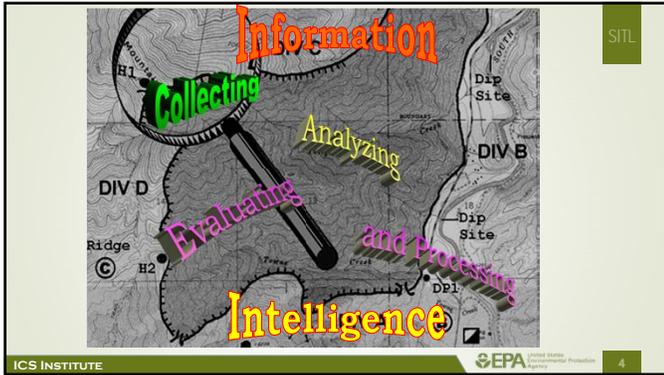
The Situation Unit's Role re: Information / Intelligence

- Collect
- Analyze
- Evaluate
- Process
- Disseminate

Intelligence vs. Information

Intelligence is information that has been evaluated, analyzed and processed into a useable format for the Incident Management Team.

Intelligence vs. Information

SITL

- ▶ We must plan how and what information will be needed

- ▶ Information from all sources relative to the incident must be gathered

- ▶ We must consider the past, present and future of the incident

- ▶ Information can be flawed
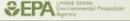
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What type of information might each customer request? Why?

SITL

- ▶ IC
- ▶ OPS
- ▶ PIO
- ▶ SO
- ▶ Air Operations Branch
- ▶ GSUL (ground support unit leader)
- ▶ RESL
- ▶ COST
- ▶ COMP
- ▶ EOC
- ▶ Resources Advisor and Agency Representatives
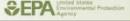
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Types of Information

SITL

- ▶ Incident status
- ▶ Operational progress
- ▶ Information relevant to others
- ▶ Threats / Risks
- ▶ Hazards
- ▶ Transportation
- ▶ Rehab / Decon / Disposal
- ▶ Communication
- ▶ High tech
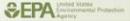
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Sources of Information

SITL

- ▶ Any completed ICS 201, 214, SITREP/209, and Incident Action Plan
  - Incident history can give an insight into the future
  - Incident progression mapping
  - Past documents / records
- ▶ Personnel on scene
  - Try to ID first responders
- ▶ Responsible Party
  - Product info
  - Facility info
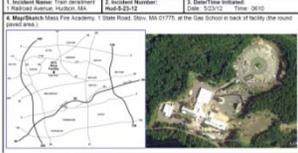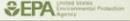
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Sources of Information

SITL

- ▶ Local jurisdiction
  - Maps, blueprints, charts
  - Preplans, permits, inspections, maps
  - "Right to know" docs
  - Databases
  - Past incidents
  - Resources
- ▶ Local EPA and State offices
  - Past incidents
  - Tech/Specs
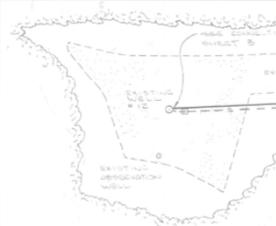
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Sources of Information

SITL

What information might each person be able to provide?

- ▶ PSC
- ▶ IC
- ▶ OPS
- ▶ PIO
- ▶ Air Operations
- ▶ SO
- ▶ RESL
- ▶ GSUL
- ▶ FACL
- ▶ Personnel On Scene
- ▶ Responsible Party

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Sources of Information

SITL

- Planning Section Chief
- Incident Commander
  - Objectives
  - Contacts
  - Concerns
- Operations personnel
  - Situation Status
  - Progress
  - Risks / Threats
  - Needs
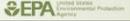
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Sources of Information

SITL

- Environmental Unit Leader
  - Scientific evaluation
  - Projection models
  - Monitoring and sampling logs
  - Data interpretation
  - QA/QC of data
  - Risk assessments

Resources Unit Leader
  - Resources on incident (209)
  - Available resources for Situation Unit Leader
  - Incident Action Plan

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Sources of Information

SITL

- Monitoring and sampling
  - Operations
  - ASPECT
  - Mobile laboratories
  - Automated data collection systems
    - ✓ VIPER
    - ✓ TAGA
  - Scribe
  - Evaluation by EU

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Sources of Information

SITL

▶ Ground Support Unit Leader
  • Transportation

▶ Facilities Unit Leader
  • Facility locations / availability
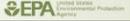
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Sources of Information

SITL

▶ Information Officer
  • Public, media and political concerns

▶ Air Operations
  • Aerial observations
  • Air facilities & hazards

▶ Safety Officer
  • Hazards & injuries
  • Observations

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Sources of Information

SITL

Field Observers are used by the Situation Leader to obtain information for the Situation Leader that can not be obtained satisfactorily from other sources.

  • Situation Leader can deploy them when and where intel is needed in a timely manner.

  • Human Intel

  • Verification
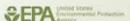
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Human Intelligence

SITL

▶ Pluses

- Versatile, real time communication
- Can make immediate interpretation
- Can make immediate adjustments
- Perceptive / sensory
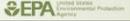
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Human Intelligence

SITL

▶ Minuses

- Safety
- Perceptive, prejudices, feelings, and emotions
- Variable skill level
- Attitudes
- Sensory capabilities
- Communication abilities vary
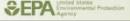
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Encourage Debriefing

SITL

▶ Remind personnel of need to debrief at Tactical Briefing & Planning Meeting

▶ Place Display Processor at convenient location

▶ Ensure availability of personnel at Unit

▶ Let Situation Unit know debriefing priority

▶ Remind Incident Management Team at Meeting

▶ Tactfully question
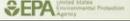
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Debriefing

SITL

▶ Debriefing of incident personnel is EXTREMELY important.

- Can be the best source of accurate and timely input
- Information for maps and displays
- Feedback on quality of products
- Heads-up on product needs
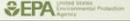
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Debriefing

SITL

▶ Debriefing methods

- Have an obvious debriefing station with maps and displays
- Contact field personnel
- Seek out personnel at base

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Sources of Information

SITL

▶ News media
- Video
- Aircraft

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Region 1 Common Operating Picture – ER Web Mapping

SITL
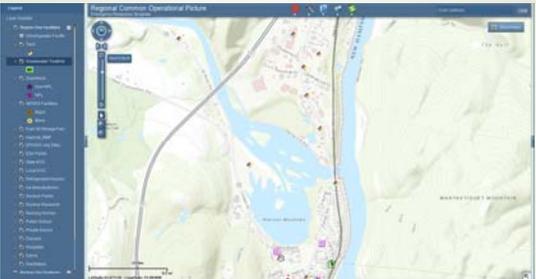
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Evaluation of Information

SITL

- ▶ Cross Reference

- ▶ Cross Examine (tactfully)
  - • Look for decisive descriptions and drawings

- ▶ Go out and look at it
  - • Personally observe

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Evaluation of Information

SITL

- ▶ Understand the limitations of models and forecasts

- ▶ Second Opinions are not just for Doctors

- ▶ You are Responsible!

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Remote
Automated
Weather
Station

SITL

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Weather

SITL

▶ All incidents require weather forecast for safe operations and accurate projections!

▶ Always include a weather forecast in all planning meetings, briefings and Incident Action Plans

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Obtaining Weather Forecast

SITL

▶ On-Scene Incident Forecast - BEST!

• EPA resources

• NWS offices have personnel and equipment for on-scene assignment

• Specific Incident forecasts.

• IMET can order and set up on-site RAWS which can be accessed by radio or internet

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Obtaining Weather Forecast — SITL

- Spot Forecast - 2nd best
  - NWS forecasters provide site-specific incident forecast from local NWS office.
  - Must provide forecaster with observations
    - ✓ wind
    - ✓ temperature
    - ✓ relative humidity
    - ✓ cloud cover
    - ✓ sheltering

Obtaining Weather Forecast — SITL

- General Weather
  - Internet
    - ✓ NWS
    - ✓ DTRA-MDS
  - NWS 24hr radio
    - ✓ 162.550 / 162.40 / 162.45
  - TV
  - AM/FM radio

SLOSH: Sea, Lake, & Overland Surges from Hurricanes

SITL

- ▶ Model used to estimate storm surge heights and winds
- ▶ Best for defining the potential maximum storm surge at a specific location along the shoreline
- ▶ Estimated storm surge heights have an accuracy of +/- 20%
- ▶ SLOSH display program allows for the extraction of the output grid into a GIS shapefile
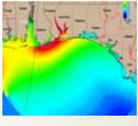
www.nhc.noaa.gov/surge/slosh.php

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Stand-alone Software

SITL

- ▶ HURREVAC Storm Tracking and Analysis Software by Sea Island Software
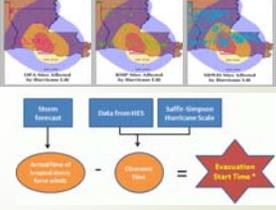
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Aerial Mapping

SITL

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Aerial Mapping

SITL

Pro's
- *Fast*
- Good visibility
- Good communication with troops
- GPS from helicopters
- Often only way to view incident as a whole
- Stand-off monitoring
- Imaging platform

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Aerial Mapping

SITL

Con's
- Aircraft may not be able to fly exact perimeter
- Weather
- Hazmat plume avoidance
- Mechanical issues
- Pilot and aircraft flight time
- Aircraft availability / Ops priority
- Difficult - Few skilled mappers
- ***Airsickness***

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Digital Information

SITL

- ▶ Shape (GIS) files at local jurisdiction
  - Facility
  - Roads
  - Sewer and drainage
- ▶ "Right to know"
- ▶ Maps
- ▶ Aerial photos / satellite images
- ▶ Modeling
- ▶ Scribe

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Other Resources

SITL

- CAMEO program
  - ALOHA used for airborne plume modeling
  - Chemical database, Reactivity worksheet
- WISER
  - Web- and app- based versions
- HPAC
  - Defense Threat Reduction Agency's Hazard Prediction and Assessment Capability
  - WMD impacts modeling
- CALPUFF
  - Long range atmospheric modeling
  - Considers more variables (such as topography)
- CATS
  - Disaster modeling program

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Computer Assisted Management of Emergency Management Operations (CAMEO)

SITL

Suite of 4 programs:

- CAMEO*fm*
- CAMEO Chemicals
- MARPLOT
- ALOHA

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Wireless Information System for Emergency Responders (WISER)

SITL

ICS INSTITUTE https://wiser.nlm.nih.gov/ &EPA United States Environmental Protection Agency 48

Consequences Assessment Toolset (CATS)

SITL

CATS for Emergency Response

Consequence Assessment Toolset (CATS) is a PC-based system that works with ArcGIS for Desktop.

CATS provides a comprehensive package of hazard prediction models, casualty and damage assessment tools, and population and infrastructure data. CATS tools focus on chemical, biological, radiological, nuclear disaster analysis and supports a wide range of response applications and access to remote databases for custom analysis.

Developed by the Defense Threat Reduction Agency (DTRA), CATS is available free of charge to U. S. federal, state, and local government emergency response organizations.

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Sharing Information Products

SITL

▶ https://response.epa.gov/
  • Must have log-in
  • Sit-reps, maps, photos, documents
  • Varying levels of access
  • 12/28/16 memo from OLEM, OEI and OPA on epaosc.org governance
  • Work with IC, PAD and PSC on determining access to documents

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SITL

Questions?

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Unit Summary

SITL

Are you now able to:

▶ Describe the difference between information and intelligence

▶ Identify information the Situation Unit Leader may be responsible for obtaining

▶ Identify sources of information

▶ Identify the ICS positions that provide information and intelligence to the Situation Unit
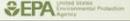
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SITL

Situation Unit Leader

Unit 7 – Situation Report

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Unit Terminal Objective
SITL

Demonstrate the ability to select and prepare an Incident Status Summary that is appropriate to support the incident

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Unit Enabling Objectives
SITL

▶ List at least 4 ICS positions the Situation Unit Leader should consult with to preparing the 209 / SITREP

▶ List at least 4 persons / organizations who should receive the approved ICS 209/ SITREP

▶ Compare the SITREP to a ICS 209 and POLREP

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SITREP / ICS 209 Form

SITL

- Purpose of 209 / SITREP is to convey incident status and projection information to agency administrators.

- It is used by agency administrators to plan for future impacts and to allocate resources.

- The 209 / SITREP is also used by the Incident Management Team and involved personnel as an incident briefing.

- Used by PIO as guide for information releases.

- Prepared at conclusion of each Operational Period
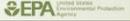
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ICS 209 Form – Not Used by EPA

SITL
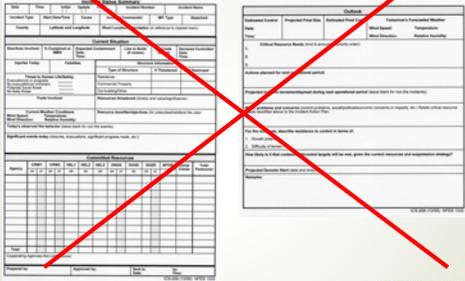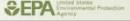
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SITREP / POLREP

SITL

- EPA required document reporting incident status

- Confer with Planning Section Chief and Incident Commander on timeline and distribution

- May not be required daily – *but will be at end of operational period*.

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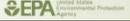
OSWER Dir.9360.3-03 December 2007

https://response.epa.gov/_help/PolrepSitrepGuidance.pdf

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Specific Guidance for POLREPs & SITREPs

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POLREPs

The POLREP is a report required by statute, that is filed by the OSC when working under CERCLA or OPA authorities.

Filed by the OSC

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POLREPs address:

> The source and circumstances of the release

> The identity of potentially responsible parties (PRPs)

> The removal activities performed

> The costs incurred for the removal activities

> The impact and potential impact of the release on public health and welfare, and on the environment

SITL

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POLREP Outline / Model Example

SITL

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POLREP Example

SITL

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POLREP Example (continued)

SITL

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POLREP Example (continued)

SITL

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POLREP Example (continued)

SITL

Site Description
On July 9, 2009 at 0315, the "New Dawn" barge operated by Tidewater Barge Lines (TBL or RP) ran aground on a reportedly uncharted sand bar near the mouth of the Hood River on the Columbia River, near river mile 169.

The "New Dawn" was being pushed up-river to Pasco, Washington by the river tug "The Chief" while carrying a cargo of 25,000 barrels (bbls; 1,050,000 gallons) of gasoline. The "New Dawn" is a double hull design, and neither hull has been reported breached. No release has occurred, and USCG and other marine chemist inspections of barge (New Dawn) found no leaks or vapor problems.

River mile 169 is between Bonneville Dam and The Dalles Dam projects operated by the U.S. Army Corps of Engineers. The intervening segment of the Columbia River is also known as Lake Bonneville or Bonneville Pool.

EPA has entered into unified command (UC) with Oregon Department of Environmental Quality (ODEQ), Washington Department of Ecology (WADoE), Tidewater Barge Lines, and other state, federal, and local agencies. The UC developed and Incident Action Plan (IAP) for implementation during July 10, 2009.

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POLREP Example (continued)

POLREP Example (continued)

POLREP Example (continued)

SITREP Outline / Model Example

SITL

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SITREPs

SITL

- Used for Incidents of National Significance under the NRF and for other Stafford Act FEMA-funded actions.
- Field report which is prepared every operational period by the SITL for the purposes of incident status, status of operations and operational planning.
- Also very valuable information resource to EPA Regional and Headquarters management. The Sitrep is a primary source of information for management briefings, public information and other external information demands.
- Filed by PSC

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SITREP Example

SITL

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SITREP Example (continued) — SITL

SITREP Example (continued) — SITL

SITREP Example (continued) — SITL

SITREP Example (continued)

SITL

2.3 Logistics Section

- Not activated to field; utilize REOC Reach-Back.

2.4 Finance Section

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SITREP Example (continued)

SITL

2.5 Safety Officer

- EPA, LDEQ and START Health and Safety Officers are conducting audits of field activities in support of Gustav / Ike Recovery.
- Defensive driving. Keep your distance, follow the laws, and drive safely.
- Material Handling. Debris piles are dry and can be potential fire hazards.
- Fatigue. Know your limitations. Watch your buddy.
- Debris Hazards. Use a tool first when disturbing debris or overturning containers, and never use your hands.
- PPE. PPE is the first line of defense against injury or potential exposures.
- Mosquitoes. Wear Insect Repellant.

2.6 Liaison Officer

FEMA Liaison

No new updates.

JFO

- The JFO in Baton Rouge, LA has disbanded. All activities have been transitioned to the Katrina Transitional Recovery office (TRO). The FEMA Liaison Officer will assist with coordination activities.

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SITREP Example (continued)

SITL

PERSONNEL TRACKING SHEET SITREP 21 NOVEMBER 08

PERSONNEL	IMT	Southeast Division	Acadiana Division	Southwest Division	TOTAL
EPA-OSC	0	2	1	2	5
EPA-OTHER	0	0	0	0	0
OTHER-FEDS	0	1	0	3	4
START	2	10	5	5	22
ERRS	0	21	10	13	44
OTHER-CONTRACTOR	0	7	0	11	18
TOTALS	2	41	16	34	93

6.2 Reporting Schedule

Day	Report	Reporting Time
Sunday	Daily Bullets	1700 hours
Wednesday	Daily Bullets	1400 hours
Friday	Daily Bullets	1400 hours
Friday	Sitflep for Operational Period	1800 hours

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SITREP/POLREP Preparation

SITL

Incident Commander

► Guidelines

► Timeline

► Distribution
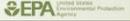
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SITREP/POLREP Preparation (cont.)

SITL

Planning Section Chief

► Guidelines

► Future plans

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SITREP/POLREP Preparation (cont.)

SITL

Operations Section Chief

- Status
- Progress
- Accomplishments
- Problems
- Priority resources
- Evacuations
- Losses
- Future plans
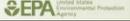
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SITREP/POLREP Preparation (cont.)

SITL

Resources Unit Leader

▶ Resources on scene

▶ Priority resource needs

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SITREP/POLREP Preparation (cont.)

SITL

▶ Cost Unit Leader

• Total and projected costs

▶ Safety, Claims, Medical Unit

• Injuries

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SITREP/POLREP Preparation (cont.)

SITL

Field Observer
• Status
• Progress
• Accomplishments
• Problems
• Losses
• Current weather
  forecast

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SITREP/POLREP Preparation (cont.)

SITL

- IMET
  - Predicted weather forecast

- Tech / specs
  - Projected incident behavior

- Liaison
  - Assisting organizations

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Common Operating Picture – EPA Geoviewers
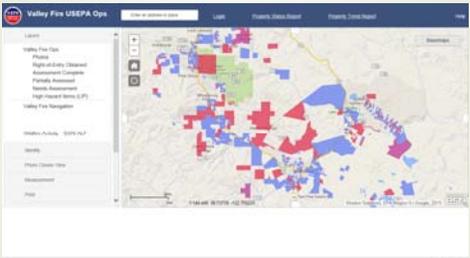
SITL

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Incident Specific Flexviewers (response.epa.gov)

SITL

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Incident Specific Flexviewers (response.epa.gov)

SITL

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SITREP/POLREP Distribution – by PSC per IMH

SITL

- ▶ Incident Commander(s)
- ▶ IMT KLPs
- ▶ REOC
- ▶ HQ EOC
- ▶ Other EPA management
- ▶ FEMA RRCC / JFO
- ▶ Documentation - Original signed copy

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Other "SITREP" Examples

SITL

Combined Valley and Butte Fires Sitrep, prepared at JFO by ESF-10 desk

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Other "SITREP" Examples

SITL

Oroville Dam CA – HQ EOC Spot Report

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Other "SITREP" Examples

SITL

Oroville Dam CA – HQ EOC Spot Report (cont.)

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Unit Summary

SITL

Are you now able to:

▶ List at least 4 ICS positions the Situation Unit Leader should consult with to preparing the 209 / SITREP

▶ List at least 4 persons / organizations who should receive the approved ICS 209/ SITREP

▶ Compare the SITREP to a ICS 209 and POLREP

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Questions?

Situation Unit Leader

Exercise 3 – Compare and Contrast Sit Reps

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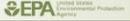
Situation Unit Leader & the Incident Action Plan

- ► As a team review the assigned report(s)
- ► Given the response type and authority, was correct type of report (Polrep / Sitrep) used?
- ► Compare the reports with each other
  - • What is similar?
  - • What is different?
  - • How well do the SITREPs fulfill their intended purpose?
- ► Report out with your observations

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Region 9 START Case Study: Valley Fire Response

Jeremy Johnstone
Federal On-Scene Coordinator
March 22, 2017

Incident Description

- The Valley Fire started at 13:24 on September 12, 2015, and primarily impacted the communities of **Middletown**, **Hidden Valley Lake**, and **Cobb** in Lake County, California. In addition, portions of northern Napa and eastern Sonoma Counties were impacted by the fire.
- The fire affected a total of *76,067 acres*, destroying *1,958 structures* including:
  - 1,280 residences
  - 27 multi-family structures
  - 66 commercial structures
  - 585 minor structures (e.g., out buildings or sheds)

Affected Communities

- **Middletown** (*148 square miles*)
  - Includes Middletown, Anderson Springs, Harbin Springs, Guenoc Valley, and Coyote Valley
  - Residential, Commercial, and Agricultural Land Use
- **Hidden Valley Lake** (*10 square miles*)
  - Residential Land Use
- **Cobb** (*73.5 square miles*)
  - Includes Cobb, Loch Lomond and Whispering Pines
  - Residential, Commercial, and Agricultural Land Use

Structural and Property Damage

Site-Specific Data Management Plan

Household Hazardous Waste

Hazardous?
- Flammable / Combustible
- Explosive / Reactive
- Corrosive
- Toxic

Typically..
- Propane Cylinders
- Automotive Products
- Home Improvement Products
- Pesticides / Herbicides
- Cleaning Products
- Paint-Related Materials

7

High-Hazard Items

High-Hazard?
- Require experienced, trained personnel for identification and handling
- Require specialized equipment for removal and transport

Typically..
- Fuel-Containing ASTs
- Intact Thick-Walled Cylinders
- Bulging Drums
- Ammunition
- Dangerous Trees

8

Data Management Workflow

Equipment

Field Collection Device (FCD – iPad)

Wireless Hotspot

GPS Device (Bluetooth-enabled)

Data Collection

Photos
Field Form
Online Viewer

QC Process

Field Team

FileMaker
SCRIBE — PhotosInfoPro

Data Export — Response Manager — Data Import / Repository — Response Manager
EPAOSC
Scribe.NET — Data Processing

Data Team

Email Deliverable — Online Viewer / Reporting

Data Sharing / Distribution

Management Team

9

Data Collection

Household Hazardous Waste (HHW) Assessment Form

- **Custom FileMaker Application**
  - APN-based (unique)
  - Structural Damage Status
  - HHW Items
  - High-Hazard (HH) Items
    - Dangerous Trees
    - Fuel Tanks
    - Compressed Gas Cylinders
    - Ammunition
  - Access Information

Data Collection

Online Viewer

- **Field Navigation**
  - Rights-of-Entry (ROEs)
  - APN and Street Names
  - Satellite Imagery
- **Field Data Capture**
  - Real-time HHW Assessment Status
    - Complete
    - Partial
    - Incomplete
  - Geotagged Photos

Online Viewer
(*screenshot*)

Online Viewer - Overview

Field Edits
- Login / Credentials

Geospatial Layers
- Fire Boundary
- Assessment Status
- Rights-of-Entry (ROEs)
- Structural Damage Assessment (Cal Fire)
- Parcels (w/ APNs)
- Map Atlas Index
- Damage Inspection Zones (Cal Fire)
- Roads (labeled)
- City / County Boundary
- Communities
- Creeks / Lakes
- Public Parks
- Schools (w/ 100-ft buffer)
- Critical Facilities

Online Viewer
(*screenshot*)

Online Viewer - Photos

Field Photos Collection
- Captured with Field Collection Devices (iPad)
- Processed using **PhotosInfoPro** App
- Managed via *EPAOSC.org*

Field Photos Display
- Pop-up Window
  - Date Captured
  - Description (APN)
  - Latitude / Longitude

Data Reporting
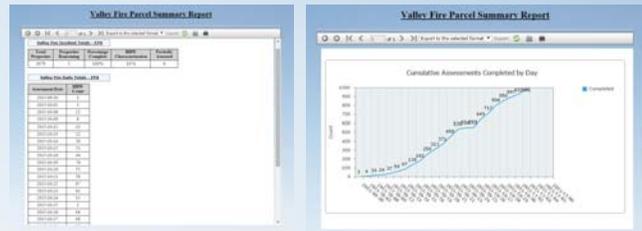
Challenges

There were *four primary challenges* encountered..

- Navigation
- Coordination
- Systems
- Efficiency

Navigational Challenges

- **Identifying Property Addresses**
  - High-intensity, fast-moving fire destroyed road signs, landmarks, mailboxes, curb markings, and structures themselves
- **Cellular Coverage**
  - Cellular coverage and internet access deteriorated in remote areas
  - Online Viewer relied upon stable internet connectivity
- **Rights-of-Entry (ROE)**
  - ROE forms grant access to properties
  - Transcription, transposition, and duplication errors
  - No data validation or input masks were imposed
  - Property owners rescinded ROEs

Where are we?

Approach to Navigational Challenges

- **iPad / Viewer with GPS and Wireless Hotspot**
  - Indicator revealed position / location
  - Base layers with labeled parcels and street names
  - Colored assessment status designations for targeted properties
- **Map Atlas**
  - Navigation backup
- **Field Markings (Spray Paint)**
  - Navigation guidance
  - Designate properties as surveyed
  - Identify hazardous items
- **Mobile Phone**

Coordination Challenges

- **Deployment Areas**
  - Initial deployment based upon density of incomplete targeted parcels
  - Deployment became dependent upon the progress of other agencies
- **Assessment Procedures (Scenarios)**
  - Criteria for determination of HHW and HH items was frequently revised
- **Overlapping Efforts**
  - Multiple field teams and agencies deployed to different communities
  - Encountered properties that had already been remediated
- **Revisiting Properties**
  - Survey and Assessment Teams worked in parallel, though independently
  - Property categorized as *Partial* until both had been completed
- **Agencies / Remediation Activities**
  - Completion of work frequently relied on the activities of another contractor / agency

What are we doing?

Approach to Coordination Challenges

- **Neighborhood Grouping**
  - Deployment based upon neighborhoods / communities
- **Morning / Evening Field Meetings**
- **Daily Meeting (between other ICPs)**
- **Viewer Tracking**
  - Online Viewer allowed Incident personnel to share their progress internally and externally with other agencies
  - Credentials were provided to field and data management personnel, limiting the ability to edit underlying spatial data to those with appropriate authorization
- **Email Communications**
  - Steady information flow was established among Incident personnel, REOC and stakeholders.
    - Email summarizing HHW survey and assessment progress (tabular format)
    - Email with information about HH items and HH trees (tabular format)

Systems Challenges

- **Property Tracking Method**
  - Used *multiple*, coordinated systems
    - Response Manager
    - Online Viewer
    - Map Atlas
    - Logbooks / Tabular Formats

  What are we using?

- **Custom FileMaker Application**
  - Multiple revisions in response to evolving Data Quality Objectives (DQOs)
  - Each revision required quality control, testing, and re-installation on each FCD
- **Photos**
  - Quantity of photographs exceeded the EPAOSC capacity
  - FileMaker was revised to incorporate photo capture creating confusion

Approach to Systems Challenges

- **Refine Procedure with Experienced Personnel**
  - The command and general staff took an active role in the early data management and development stages of the Valley Fire Response
- **Finalizing DQOs**
  - DQOs changed considerably during the project life cycle
  - Once these DQOs were clearly outlined and documented, software and database development stabilized
- **Protocol Finalized / Field Meetings**
  - Protocols for field operations were finalized and transmitted to field teams during the operations briefing
  - Criteria for decision making were clearly defined for different scenarios encountered by field personnel

Efficiency Challenges

- **Data Processing**
  - Multi-step process requiring equipment and software expertise
  - Credentials and training required
  - Occurred daily *following* field activities
- **Database Queries**
  - Established database queries required updating and revision (DQOs)
  - Query Tool within Response Manager software required working knowledge of SQL queries
- **Reporting Deliverable**
  - Manual process delivered via Email
  - Required final QC
  - Required formatting

What's taking so long?

Approach to Efficiency Challenges

- **Data Manager Gatekeeper**
  - DMU governed the flow of data from field to management personnel
  - Primary contact for all inquiries about data collection and processing
- **Assigned QC and Reporting Role**
- **Coordination with Developers**
  - Brief daily conference calls were conducted to communicate progress and to notify developers of existing bugs and changing requirements

SITL

Situation Unit Leader
Unit 10 – Geospatial Introduction and the Common Operating Picture

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Unit Objectives

SITL

▸ Understand the challenges and benefits of using GIS during an Emergency Response

▸ Recognize the importance of spatial precision and the hardware/software

▸ Understanding the Common Operating Picture (COP)

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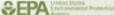
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Geographic Information System (GIS)

SITL

GIS is a technological field that incorporates geographical features with tabular data in order to map, analyze, and assess real-world problems. The key word to this technology is Geography – this means that some portion of the data is spatial.

CUSTOMERS
STREETS
PARCELS
ELEVATION
LAND USAGE
REAL WORLD
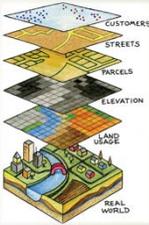
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GIS Visualized

SITL

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Objectives for GIS in Emergency Response

SITL

▶ Provide mapping, database, reporting, and geospatial analysis capabilities

▶ Provide map output in a variety of formats

▶ Generate spatial data layers from numerous data feeds

▶ Make geospatial data available across the entire operating environment

▶ Provide documented products and data suitable for archiving

▶ Quickly mobilize to become operational in a wide range of scenarios

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Challenges for GIS in Emergency Response

SITL

▶ Accessing large datasets

▶ Providing data access and exchange capabilities in the field

▶ Providing enough processing and disk space in the field to support GIS

▶ Assembling monitoring information databases quickly

▶ Providing field data collection hardware for growing ER

▶ Providing large-format paper output to field operations

▶ Staffing a GIS unit for immediate to long-term deployment

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SITL

Software and Techy Stuff

The tools used to create and deploy GIS

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GIS Software Suite

SITL

- **ArcGIS Desktop** is the GIS software predominately used by EPA
  - Primary components:
    - ✓ ArcCatalog
    - ✓ ArcMap
    - ✓ ArcToolbox
    - ✓ ArcGIS Server
- Microsoft SQL Server
- Hosting environment (where applicable)
  - ER Cloud
    - ✓ Virtualized environment with multiple servers configured to work together

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Spatial Metadata

SITL

- ▶ Descriptive information about data
  - Who, what, why, when, where, and how of the data
  - Must conform to federal guidelines (e.g. FGDC compliant)
- ▶ Important for cataloging and documenting the data
  - Needed to search for, and determine use of data
  - Can be used to fulfill documentation requirements
- ▶ All data layers should have accompanying metadata
- ▶ EPA Metadata Editor (EME) – primary tool for creating EPA collected and managed data

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Projections and Coordinate Systems

SITL

▶ A **projection** is a method by which the curved surface of the earth is portrayed on a flat surface. This generally requires a systematic mathematical transformation of the earth's graticule of lines of longitude and latitude onto a plane. *ESRI - http://support.esri.com/en/knowledgebase/GISDictionary/term/projection*

- Conic - Alber's Equal Area
- Cylindrical – Mercator
- Planar - Lambert

Conical Projection Surface

Planar Projection Surface

Cylindrical Projection Surface
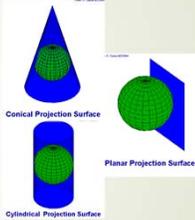
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Precision

SITL

▶ Lat / Long coordinates are the preferred method of recording location information

▶ Latitude and longitude coordinates can be displayed in many different formats, the most common are
- Decimal Degrees
  ✓ example: 33.975361, -98.064712
- Degrees Minutes Seconds
  ✓ example: 33° 58' 03" N, 98° 03' 52" W
- Decimal Minutes
  ✓ example: 33° 58.05' N, 98° 03.87' W

▶ Decimal degrees is the preferred format
- Recordings should be made to at least 4 (preferably 5) decimal places

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Lat / Long Quiz

SITL

Quiz:
Q1: Where in the U.S. is this sample located?
Q2: How are the coordinates being displayed?
Q3: Do they need to record that many digits for their coordinates?
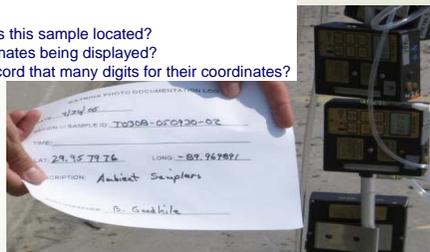
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SITL

Common Operating Picture
Developing and maintaining the COP in Emergency Response

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The Common Operational Picture
SITL

▶ **CENTRALIZES** all the **COMPLEXITY** of an Emergency Response

▶ Allows for a **SIMPLE IMPLEMENTATION** process

▶ Agency wide **STANDARDIZATION**

▶ **SCALEABLE**

▶ **A CONSISTENT POWERFULL** tool to be put in the hands of our responders across regions and HQ for increased **SIUTATIONAL AWARENESS**

▶ A **CONSISTENT COMMUNICATION** information tool for all levels of involved agencies – from field data users to Regional users to HQ Decision Makers

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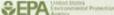
Common Operating Picture
SITL

▶ Information flow is too dynamic to only rely on printed maps

▶ Need an interactive map that is capable of incorporating multiple data streams with live updates

▶ Needs to be hosted somewhere were all response partners can view the information

▶ Process needs to exist to rapidly develop and deploy COPs for incidents

▶ Each Region is provided hosting space on Amazon as part of the ER Cloud to support their COPs

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Role of the COP

SITL

- ▶ Provide clear and concise response intelligence
- ▶ Mash up various data types into a common platform
- ▶ Provide real / near-time situational awareness
- ▶ Provide both a geospatial and tabular view of ER information
- ▶ Provide interaction with data (including viewing, editing, reporting, etc.)

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Audience

SITL

- ▶ Operations

- ▶ Incident Management Team (IMT)

- ▶ EPA Senior Management

- ▶ State and local responding parties

- ▶ Public

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Components

SITL

1. Platform

3. Base Layers

4. Reference Layers

6. Analysis and Reporting Tools/Widgets

2. Security/Access

5. Operational Data

COMMON OPERATIONAL PICTURE

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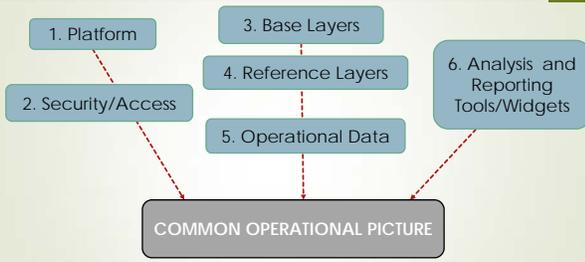
Data Components – Base Layers

SITL

▶ **Data Files**
- Imagery, Topo Maps, CAD Drawings

▶ **The Internet of things – Base Layer Web Services**
- Imagery, TOPO, Streets, Grey Maps
- Desktop, Web Viewers, Mobile Apps
- Cached and Readily Available
- Download for Tiled disconnected use

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Data Components – Reference Data

SITL

◆ HSIP Data Layers

◆ Regional Reference Layers

◆ EPA Grid

◆ EPA Facilities

◆ Census Data

◆ Shared Services from Other Agencies

 ◆ NOAA, FEMA, USGS, States, Counties

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SITL

| Incident Notification WebEOC | Site Information EPAOSC.ORG | Sampling & Analytical Scribe | Sensor Data VIPER |

oData Web Service | oData Web Service | Scribe.NET | oData Web Service

**Common Operating Picture
ESRT GIS Viewer**

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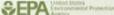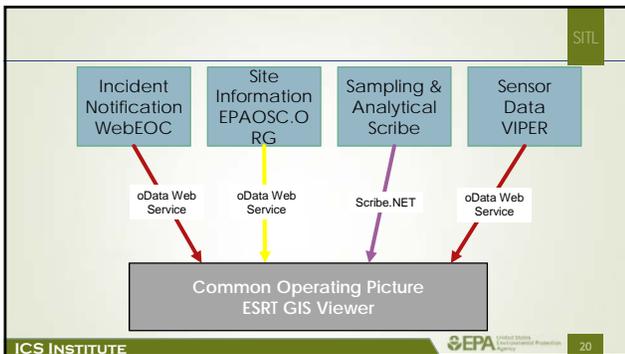
Data Components – Operational Data

SITL

- ▸ **Static and Dynamic Data**
- ▸ **Assessment Data and Reports**
- ▸ **Air Monitoring Data and Reports**
- ▸ **Sample Data and Reports**
- ▸ **Post Incident Imagery**
- ▸ **Media**
  - • Photos
  - • Videos

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Data Components – Sharing Data

SITL

- ▸ **Sharing these with other Agencies**
  - • …in a RESTful Way
    - ✓ ArcGIS Services
  - • Web Reporting Services
    - ✓ SQL and Telerick Reporting
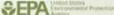
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GIS Data Collection

SITL

- ▸ Local GIS data management
- ▸ Mobile apps such as..
  - • Collector for ArcGIS
  - • Survey123 for ArcGIS
  - • Workforce for ArcGIS
  - • iFormBuilder
  - • Filemaker
- ▸ Old fashioned pen and paper

Options always changing, focus on the process not the tool

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Interactive GIS Products

SITL

- ▶ Tailor how you are delivering the spatial data to the way your audience needs to consume it
  - • Web-based mapping apps
    - ✓ Interactive maps with loads of functionality
    - ✓ Dashboards with heavy reporting components
    - ✓ Story Maps with narrative
  - • Mobile GIS
- ▶ Understand and make known the expectations of your mapping products
  - • Content and frequency of updates
  - • Type of data and distribution limitations (e.g. security or accessibility)

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SITL

Situation Unit Leader
Geospatial Products and Resource Management

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Unit Objectives

SITL

▶ Discuss the various geospatial products that support an ER

▶ Understand the geospatial technologies used by the IMT

▶ Understand the management of GIS resources

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SITL

Geospatial Products
Mapping products that support the COP / IMT

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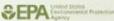
Types of Mapping Products

SITL

- Standard hardcopy maps
  - Tried and True method that will never go away (but we can hope...)
  - Requested and used by anyone involved in the response
- Mobile mapping products
  - Map products used by field personnel on mobile devices (e.g. iOS and Android devices)
- Web-based mapping products
  - Dynamic map product conveying a large amount of information
  - Can be used by anyone involved in the response (Operations, Planning, Logistics, etc.)

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Physical Maps & Map Books

SITL

- Rare bird, soon to be extinct
- Situations may arise when you need to produce them
- Ensure you have the resources (plotters, paper, etc.)

STATIC!!!

"Good grief! Aren't you extinct yet?"

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Maps – What to Look For

SITL

- Does it meet map standards set for the ER?
- Is it easily understandable?
- Does it meet the intended purpose (will the requestor be able to use it)?
- Is it needed?
- Can it be used without additional information?
- Is the information contained within current?

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Example Map

SITL

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Mobile Mapping / Data Collection

SITL

- ► Mobile mapping products
  - Collector for ArcGIS
  - Survey123 for ArcGIS
  - Workforce for ArcGIS
- ► Versatile and functional
  - Delivers real-time situational awareness to and from the field
  - Provides data collection capability
- ► Web maps viewed on an mobile device

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Collector for ArcGIS

SITL

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Survey123 for ArcGIS

Web-Based / GIS Viewers

- ▶ EPA GIS community has an approach for how data should be made available and consumed using current technologies
- ▶ Don't spend your resources trail blazing, spend it optimizing and enhancing
  - Staff GIS section/unit with knowledgeable GIS'ers
  - Understand response needs and apply the appropriate tools

GIS Web Viewers

Usability Tools and Widgets

SITL

- ▸ Print
- ▸ Location Search
- ▸ Save/Share Current Map
- ▸ Sensitive Species Search
- ▸ Layer Swipe
- ▸ Trace Downstream
- ▸ Heat Map
- ▸ Weather
- ▸ Add Layer

- ▸ Identify
- ▸ Measurement
- ▸ Google Street View
- ▸ Go to Coordinate
- ▸ Bookmark
- ▸ Data Queries Search
- ▸ So Many more.....

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Reporting / Analysis Tools and Widgets

SITL

- ▸ **SCRIBE Reporting Tools**
  - • Web Reports
    - ✓ Pop-Up - Hyperlinks
  - • Widgets
    - SCRIBE Analytical Tool and SADIE
- ▸ **Viper Reporting Tools**
  - • Web Reports
    - ✓ Pop-Up Hyperlinks

- ▸ **Operational Data Reporting Tools**
  - • Widgets
  - • Web Reports
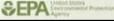
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Security & Hosting

SITL

- ▸ GeoPlatform
  - • EPA Network login
  - • Public Viewers

- ▸ ER Cloud
  - • Response.EPA.GOV embedding

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Architecture to Support the COP

SITL

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Architecture to Support the COP

SITL

ER Cloud Architecture

ArcGIS Online (EPA Geoplatform)

STOP

◆ What are the differences

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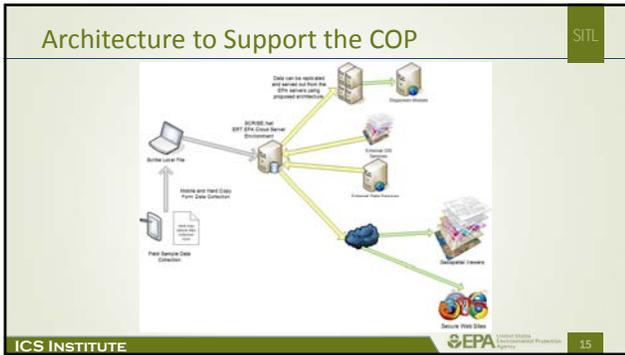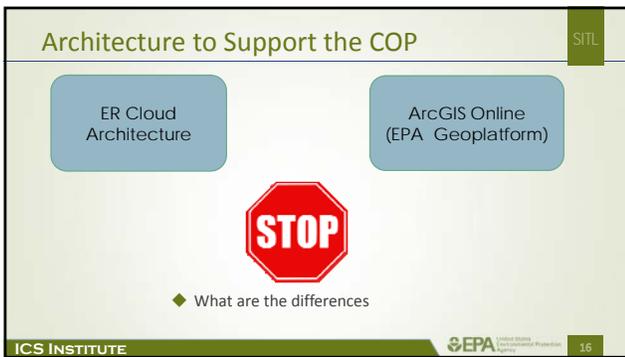
ER Cloud

SITL

- ▶ Regional resource currently funded by OEM
- ▶ Regional IT Forum rep is best initial point of contact
- ▶ Cloud server space – currently Amazon
  - GIS server
  - Database server
  - Operational data goes here!!

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GeoPlatform
SITL

- EPA tools for making and sharing maps
- epa.maps.arcgis.com
- Requires account login – EPA LAN accounts used
- Need to request access for non-EPA users
- Security plan does not currently cover non-public (operational) data
- Can still use tools for operational viewers, just need to store data in ER cloud

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Resource Required
SITL

- **Architecture**
  - Data Flow Process
  - Required Databases
    - ✓ SQL and Spatially Enabled Tables
    - ✓ GIS Feature Databases/Shapefiles
- **Personnel**
- **AGOL Account/Approvals**
 - Credits
- **Technical Exports**
- **Maintenance Plans**

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Resources to Support the COP
SITL

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Documentation...part of the DMP

SITL

- ▶ **Architecture**
  - Where does each piece live
  - Data Flow Process
  - Software/Hardware
    - ✓ Versions required
- ▶ **Data**
  - Sources
  - Warehouses
  - Update Processes
- ▶ **Access**
  - Security/ Who has Access

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Decisions, Decisions, Decisions....

SITL

- ▶ **Purpose**
- ▶ **Audience**
  - Operations
  - REOC
  - HQ
  - Public
- ▶ **Security**
  - Public vs Shared
  - User group Management

- ▶ **Operational Requirements**
  - DQO Data Requirements
- ▶ **Reporting Requirements**
  - Operational Periods
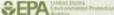
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Management of GIS Resources

SITL

- ▶ Map Request 213 Form

  - Still available!

  - Can still be useful with a GIS viewer – use to track modification, bookmark requests, etc.

  - Useful to prioritize requests

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Management of GIS Resources

SITL

▶ People

- Staffing can be on-site, off-site, combination

- Optimize on-site to support operations, shift other functions off-site if needed

- Where are GIS resources on the org chart?

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Management of GIS Resources

SITL

▶ Coordination needs to happen early and often

▶ Requirements from IC, OPS, EU on displaying data to support the site

▶ Discussions with Public Affairs – can you support their tasks effectively?
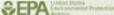
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Management of GIS Resources

SITL

▶ Data Management Plans
  - Regional and Site Specific

  - Don't forget documentation – incorporate into your required resources

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Story Map

SITL

- GIS Viewer as the backbone
- Functionality to enable a curated navigation of that data
- Enhanced ability to add context, narrative
- Controlled view of what layers, extent are visible at any given point
- Allow for automation of content updates
- Clear delineations of who is responsible for which sections of content
- Really, really, good looking presentation

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SITL

Situation Unit Leader

Unit 15 - Final Exercise

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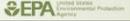
Situation Unit Leader

SITL

▶ Oh, by the way….

▶ Course Materials are available for viewing/downloading at
https://www.epaosc.org/site/site_profile.aspx?site_id=11486

▶ Security level is "private". You must register and be logged in.

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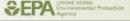
Exercise Objectives

SITL

▶ Practical Exercise

• Participants should apply knowledge gained during training to perform SITL-related tasks.
  ✓ Work with various ICS positions (played by instructors)
  ✓ Field and prioritize various requests

• Report out – provide feedback on your Situation Unit Leader experiences
  ✓ What went well?
  ✓ What challenges did you encounter?
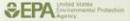
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The Disaster

SITL

▶ On September 12, 2015 a fire broke out in Cobb, CA, ultimately burning over 76,000 acres in Lake County. 4 lives were lost and 1,958 structures were destroyed.

VALLEY FIRE

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Exercise Scenario

SITL

EPA has been asked by the State of CA (and tasked by FEMA) to assist by collecting and disposing of HHW.

An ICP and HHW staging area have been established and collection operations have recently commenced.

EPA has also deployed staff to the FEMA JFO to coordinate ESF #10 activities.
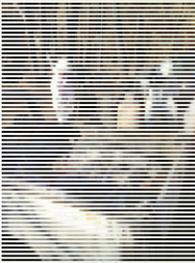
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Exercise Scenario (cont.)

SITL

▶ Date: 10/14/15

▶ Reporting Period: 10/13-14/15

▶ Next Report Due: 10/14/15

▶ On-site situational reporting has been managed by USCG Pacific Strike Team member

▶ Due to a sudden illness, you, an EPA SITL have been deployed to take over this function

▶ Anticipated length of response: 2 – 3 months

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Task 1 – Develop Staffing Plan

SITL

- The Sit Unit currently consists of one SITL and one START, with reachback GIS support from the REOC.
- Public concern about odors and particulate have caused the IC to task OPS to provide mobile and fixed real time VOC and particulate monitoring by 10/15.
- The PSC wants you to develop a staffing plan to support increased mapping demand from the ICP. Notify him when you're ready

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Task 2 – Web Mapping App

SITL

- OPS wants you to help conduct a briefing, by operating the incident's web-based mapping application as he narrates.
- http://r9.ercloud.org/ValleyFire/

- OPS will provide you with his script. The data is already mapped. Be prepared to demonstrate ability to show correct layers in requested order. Notify him when you're ready

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Task 3 –Respond to Info Requests

SITL

- During this exercise, the IC and OPS will be asking questions or making data requests.
- Utilize resources to provide answers and solutions
  - POLREP#1
  - The web-based mapping application
  - Coordinate with players (IC, OPS, PSC or the Sit Unit START)
  - For all other contacts or info, ask "SIMCELL"
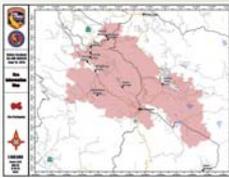
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Task 4 – POLREP Improvements

SITL

- ▸ Critically evaluate POLREP #1
  www.epaosc.org/2016_SITL_Final_Exercise
- ▸ Identify at least three things you would do to improve the website as a one-stop shop for operational situational information
- ▸ Identify at least three things to improve the POLREP
- ▸ Write your comments on flip chart paper
- ▸ When ready, brief PSC
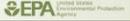
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Things to Remember

SITL

- ▸ No fault exercise
- ▸ Low stress – enjoy and ask a lot of questions
- ▸ Refer to your presentations and IMH for guidance
- ▸ This is an exercise, there are artificialities and assumptions built in (roll with it)
- ▸ We will play for about 2 hours (or less), followed by a short debrief/hot wash.

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Begin Exercise

SITL

Before

and

After

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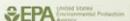
SITL

Situation Unit Leader

Unit 16 – Closing Out the Situation Unit

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Objectives

SITL

▶ List at least 3 reasons a planned close-out of the Situation Unit is needed.

▶ List at least 3 major requirements in closing out the Situation Unit.

▶ Describe the advantages of a planned close-out.

▶ Describe the risks of unplanned close-out.

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Elements of Closing Out the Situation Unit

SITL

▶ Cost documentation and settlement.

▶ Matching staffing to the support needed. Scaling down staffing and support as you get toward the end of the response.

▶ Unit/Project Documentation to archive is required.

▶ Migrating data and applications to archive or elsewhere for continued use.

▶ Disposition of hardware and software acquired specifically for the response.

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When Do You Start Planning Close-out?

SITL

- As soon as is possible. Ideally you are evaluating staffing needs continuously throughout the incident, close-out is just the last phase of matching staffing to workload. As the response winds down, fewer staff providing support in the Situation Unit will be needed.
- Developing a Concept of Operations (ConOps) document for the Unit may be helpful.
- Communication with Ops, Planning and Incident Command is required to understand incident time-lines and support needs at all times.
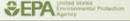
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Each Incident is Different…

SITL

- Regional and smaller responses are typically easier to close down. They tend to have a shorter time frame, fewer staff within an IMT, fewer agencies involved in Unified Command. They frequently don't have the same funding accountability issues as large responses.
- Staging events (national events like the Superbowl, DNC or RNC) have a set schedule, the workload is highest before the event, and staffing/workload are more predictable. Close out should be planned from the beginning.
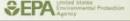
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Each Incident is Different…

SITL

- Very large national responses such as Katrina or Deepwater Horizon are the most difficult to plan an orderly close out. They tend to be much longer in duration, large in geographic scope, have multiple agencies and jurisdictions involved, and have many rotations of personnel in all IMT/staff positions. They rarely have a response timeline established until months into the response, and mission assignments can be added or changed.
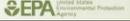
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Reasons for Planning Close-out

SITL

- Financial – In larger responses FEMA or another agency/entity is paying for the response. Every large response will be audited. A constant part of your job is wise expenditure of funds.
- Documentation Requirement - To ensure all unit/event documentation (email, map products, procurements, contracting) are submitted to designated archive.
- Determine equipment/software disposition acquired for the response.
- To communicate intent and timeline to everyone in the IMT and all others affected.
- Failing to plan will ensure your deployment workload follows you back to your day job…
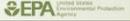
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Close Out Requirements

SITL

- Ensure all Unit documentation is provide to designated archive. This is required for every event. Host region or HQ will determine archive procedure.
- Ensure all data and applications are migrated to appropriate archive and to the host region or other agencies who may have a need for ongoing use.
- Ensure the disposition of hardware and software acquired during the response.
- Ensure right-sized staffing through-out the response as it winds down.
- Ensure hand-off of response support to host region or locals.

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Advantages of Planning Close Out

SITL

- Orderly transition and scaling down of staff/resources to match IMT/response needs.
- Orderly hand off to host region or other agency for ongoing work.
- Ensuring documentation requirements and equipment disposition determinations are met.
- Minimizing the amount of event workload that follows you back to your day job.

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Risks of Not Planning for Close Out

SITL

- ▶ Frantic scramble at the end of a response and beyond to finalize close out.
- ▶ Poor or no useful hand off of data, tools, information and intelligence to host region, state or local government.
- ▶ Actual loss of data or documentation.
- ▶ Creates the possibility of increased expenditures at the end of the event exactly when the funding tightens up.
- ▶ Bringing event workload home after your deployment!

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QUESTIONS?

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