



The Basics of Disaster Response

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What We Will Discuss

1. Background on the Federal response
2. The basics of disaster management
3. The differences between local and external response
4. Details about the Incident Command System (ICS)

A satellite image of Earth showing a large, dark, swirling storm system (likely a hurricane or typhoon) over the Atlantic Ocean. The storm is centered in the middle of the frame, with a distinct eye. The surrounding ocean is a deep blue, and the landmasses of North and South America are visible in shades of green and brown. The text is overlaid on the image in a bold, yellow, serif font.

**A Little Background:
United States Disaster
Preparedness and Response**

Federal Disaster Response

- Congressional Act of 1803 (Portsmouth fire)
- Public Law 81-875, 1950
- EMS Act, 1975
- Stafford Act, 1979
 - Established federal disaster response
 - Federal Response Plan
- FEMA elevated to cabinet level, 1996

Federal Disaster Response

- Department of Homeland Security (DHS), 2002
- National Response Plan, 2005
 - Multi-agency cooperation
 - Presidential declarations
 - 15 Emergency Support Functions (ESF)
- National Response Framework, 2008

Disaster Response

Major reorganization after 9/11:

- The National Strategy for Homeland Security;
- Homeland Security Act of 2002
- Homeland Security Presidential Directive-5 (HSPD-5), Management of Domestic Incidents
- All these lead to the creation of the Department of Homeland Security and the new NRP

Disaster Response

National Response Plan (NRP)

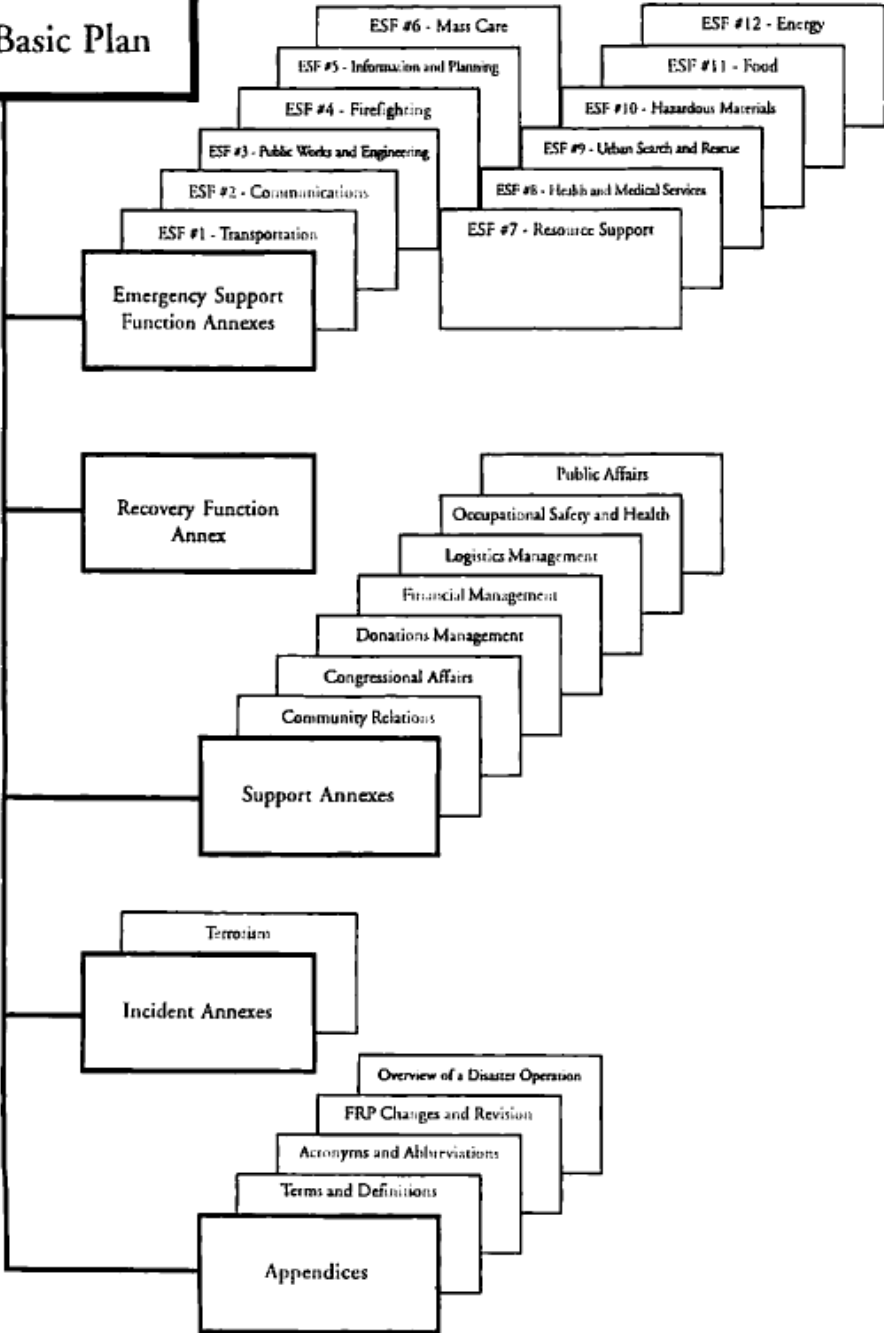
- A concerted national effort to prevent terrorist attacks within the United States; reduce America's vulnerability to terrorism, major disasters, and other emergencies; and minimize the damage and recover from attacks, major disasters, and other emergencies that occur.

Disaster Response

National Response Framework (NRF)

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Basic Plan



NRP

Disaster Response- ESF

Emergency Support Functions (ESF)

- 1. *Transportation*
- 2. *Communications*
- 3. *Public Works and Engineering*
- 4. *Firefighting*
- 5. *Emergency Management*
- 6. *Mass care, Housing and Human Services*
- 7. *Resource Support*
- 8. *Public Health and Medical Services*
- 9. *Urban Search and Rescue*
- 10. *Hazardous Materials*
- 11. *Agriculture and Natural Resources*
- 12. *Energy*
- 13. *Public Safety and Security*
- 14. *Long-Term Recovery*
- 15. *Public Affairs*

Roles of federal agencies

#	1	2	3	4	5	6	7	8	9	10	11	12
ESF / Agency	Transportation	Communications	Public Works and Engineering	Firefighting	Information and Planning	Mass Care	Resource Support	Health and Medical Services	Urban Search and Rescue	Hazardous Materials	Food	Energy
USDA	S	S	S	P	S	S	S	S	S	S	P	S
DOC		S	S	S	S		S			S		
DOD	S	S	P	S	S	S	S	S	S	S	S	S
DOEd					S							
DOE					S		S	S		S		P
HHS			S		S	S		P	S	S	S	
HUD						S						
DOI		S	S	S	S					S		S
DOJ					S			S	S	S		
DOL			S				S		S	S		
DOS	S									S		S
DOT	P				S		S	S		S		S
TREAS	S				S		S					
VA			S			S	S	S				
AID								S	S			
ARC					S	P		S			S	
EPA			S	S	S			S		P	S	
FCC		S										
FEMA	S	S		S	P	S	S	S	P		S	
GSA	S	S			S	S	P	S			S	
NASA					S		S		S			
NCS		P			S		S	S				S
NRC					S					S		S
OPM							S					
SBA					S							
TVA	S		S									S
USPS	S					S		S				

Disaster Response

FEMA- Federal Emergency Management Agency

- Assistance
 - individual
 - business
 - public
- Local capacity building
- Urban SAR

Disaster Response- NIMS

National Incident Management System (NIMS)

- Provides a nationwide template enabling Federal, State, local, and tribal governments and private sector and nongovernmental organizations to work together effectively and efficiently to prevent, prepare for, respond to, and recover from domestic incidents regardless of cause, size, or complexity.

An aerial photograph of a tropical cyclone, showing a dark, dense eye surrounded by a thick, swirling ring of white and grey clouds. The surrounding ocean is a deep blue, with some lighter blue areas indicating shallow reefs or sandbars. The overall scene is dramatic and powerful, capturing the scale and intensity of the storm.

The Basics of Disaster Response

Disaster Management



Disaster Management



“The range of activities designed to **maintain control** over disaster and emergency situations and to provide a framework for helping at risk persons **avoid or recover** from the impact of a disaster”
(Cuny)



The Disaster Cycle

Phases of a Disaster



Components of Disaster Management

- Hazard Analysis
- Vulnerability Analysis
- Prevention and mitigation
- Preparedness
- Prediction and warning
- Response
- Recovery

Components of Disaster Management

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Concepts in Evaluating Disasters

- **Phenomenon:** Disaster type and intensity
- **Vulnerability:** Predisposition and capacity of local response
- **Impact:** Effect on population

Phenomenon

X

Vulnerability

=

Impact



Hazard Analysis

- Disaster history
- Disaster analysis
 - environmental
 - epidemiological
 - meteorologic
 - agricultural
 - political

Hazard Analysis



Earthquakes (Intensity V and above) in the United States through 1970.

Vulnerability Analysis

- Historical experience
- Community experience
- Technical evaluation
- Land use
- Building standards
- Disaster specific vulnerabilities

Vulnerability vs. Manageability

- **Vulnerability: Factors that increase risk**
 - Number of people exposed by the hazard
 - Area covered by the hazard
 - Dose or intensity of power of the hazard
 - Time duration
 - Frequency
- **Manageability: Factors that reduce risk**
 - Affluence of population, coping mechanisms
 - Knowledge and practices of population
 - Technology available to the population

Factors Contributing to Disaster Impact and Severity

- **Human vulnerability**
- **Phenomenon (hazard) characteristics**
- **Impact (sudden vs gradual)**
- **Manageability**
- **Risk**

Components of Disaster Management

- Hazard Analysis
- Vulnerability Analysis
- Prevention and mitigation
- Preparedness
- Prediction and warning
- Response
- Recovery

Prevention and Preparedness

- Organizational response planning
- Government structure and disaster legislation
- Planning mechanisms
 - stockpiling
 - awareness
 - resources
 - communications
 - education

Prevention and preparedness

- Prevention-elimination of hazards (ie: flood control)
- Mitigation-minimize destruction and disruption
- Reduction of vulnerability is really development:
 - development of diversified economies
 - diversified agriculture
 - identification of vulnerable locations/populations
 - development of a vulnerability reduction strategy
 - strengthen coping mechanisms (crops etc)
 - develop local links to NGOs
 - reduction in dependence

Phases of a Disaster



Components of Disaster Management

- Hazard Analysis
- Vulnerability Analysis
- Prevention and mitigation
- Preparedness
- **Prediction and warning**
- Response
- Recovery

Prediction and warning

- Tracking
- Warning mechanisms
- Organizational response
- Public education
- Communication
- Evacuation planning

Phases of a Disaster



Disaster Response Phases

Four Major Phases (many sub-categories)

- Activation
- Implementation
- Mitigation
- Recovery

Response

- Notification
- Evacuation/extrication
- Search and rescue
- Coordination
- Immediate needs assessment
- Shelter/protection
- Implementing existing disaster plans

Emergency Response Phase

- Search and rescue
- Emergency medical services
- Immediate health service mobilization
- Preliminary needs assessment
- OFDA category: Phase I

Phases of a Disaster



Disaster Medical Response

Phases

- Notification (recognition)
- Search and rescue
- Triage
- Medical care of disaster victims
- Disaster communications
- Record keeping
- Transportation and evacuation
- Debriefing/CISD
- Recovery

Heat Death Toll Rises to 436 in Chicago

By DON TERRY

CHICAGO, July 19 — Like the grisly toll from some distant war, the number of dead from last week's murderous heat wave here climbed to 436 today, and the medical examiner is not finished counting.

But while the weather has cooled, the debate about why so many died has inflamed this city's combustible politics, with Mayor Richard M. Daley and other officials trading sharp accusations over who is to blame for not doing enough to save the poor, infirm and aged from the consequences of Chicago's most crippling

siege of summer heat in memory.

Weather and politics are frequent partners in this city. In 1979, Michael Bilandic, a veteran Chicago pol, was turned out by voters who were convinced that he had not done enough to dig the city out of a snowstorm, an act of God to which Chicagoans are more accustomed. Now, critics like John Steele, an alderman from Chicago's South Side, where many of the heat victims perished, are arguing that the Daley administration mishandled the heat wave by not putting the city's "skimpy" heat emergency plan into action fast enough.

"Over all, the city administration

senior citizens.

"We moved swiftly when we realized how serious the problem was," he said. "But no one could have predicted we would see this tragic death toll."

The administration has come under fire for the size of its heat emergency plan, 1½ pages. Today, city department heads were meeting to devise a new plan that the Mayor is expected to announce Thursday, one week after the dying began.

"When you have a situation that is unprecedented," Mr. Williams said, "you sometimes learn some very painful lessons."

WEEKLY WORLD

NEWS

August 15, 1995

99¢/51¢ CANADA 70p U.S.

**Amazing photo sent
to FBI in Washington!**

SATAN'S FACE IN U.S. HEAT WAVE!

**EVIL IMAGE APPEARS OVER CHICAGO
AS TEMPERATURES HIT 120 DEGREES!**



Phases of a Disaster



Components of Disaster Management

- Hazard Analysis
- Vulnerability Analysis
- Prevention and mitigation
- Preparedness
- Prediction and warning
- Response
- **Recovery**

Recovery

- Logistics
 - Distribution of resources
 - Warehousing
 - Tracking
- Rehabilitation and Reconstruction
 - Housing
 - Water/sanitation
 - Infrastructure

Recovery

- Material cleanup
- Environmental and structural safety measures (temporary)
- Recovery of belongings
- OFDA category: Phase II



Phases of a Disaster



Rehabilitation and Reconstruction

- Health service assessment and reconstruction
- Structural reconstruction
- Resume development efforts
- Transition from relief to **development**
- OFDA category: Phase III

Phases of a Disaster



An aerial photograph of a tropical storm or hurricane over the ocean. The storm's eye is visible in the center, surrounded by a dense, swirling cloud structure. The surrounding ocean is a deep blue, and the sky is a lighter blue with some white clouds. The text is overlaid on the center of the image.

**Some Details about
Disaster Response
Management**

Disaster Response

The benefits and drawbacks of:

- Internal (Local) Response
- External (National or International)
Response

Disaster Response

- Local response
 - most effective first 24 hour
 - EMS driven
- External response
 - ultimate responsibility
 - may designate lead agency
 - *health, foreign affairs, public works, agriculture, education*

Internal Response Management

Strengths

- Rapid response
- Socially and culturally appropriate
- Family and community support
- Assists in immediate recovery
- Reduces dependency
- Builds upon local response mechanisms
- Develops internal capacity

Internal Response Management

Limitations

- **Limited capacity**
- Limited experience and planning
- Lack of large scale sectoral ability
- Lack of coordination on large scale
- Lack of large scale funding
- Lack of monitoring
- Limited ability to address prevention and preparedness

External Response Management

Strengths

- Large scale assistance
- Expertise in disaster response
- Dedicated disaster funding
- Sector specific support
- On site organization and coordination

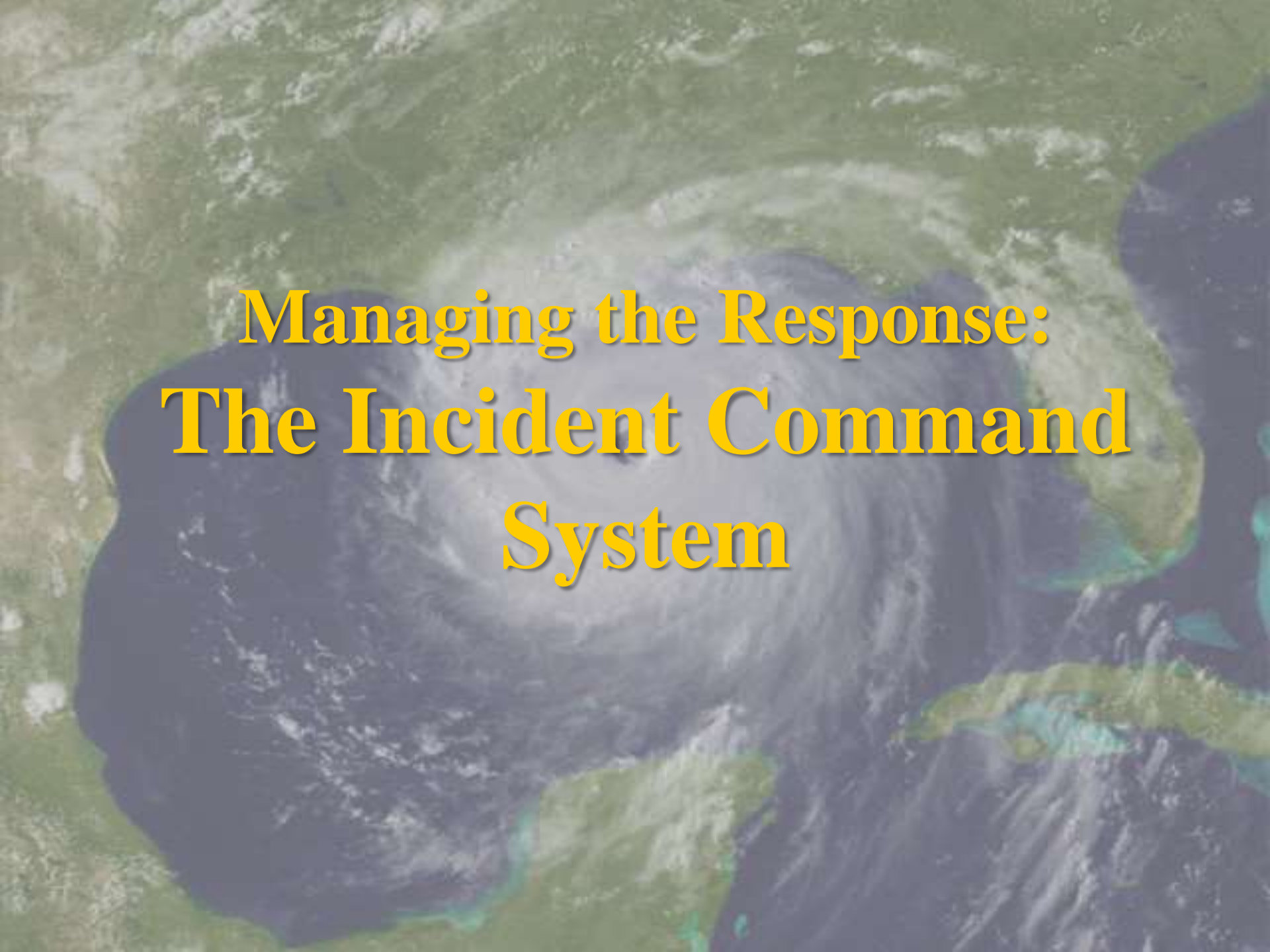
External Response Management

Limitations

- Duplication of services
- Draws from local capacity building
- Non-sustained funding and dependency
- Culturally and socially problematic
- Lack of standardization of NGO response
- Difficult to coordinate and monitor
- Unrealistic expectations of donor assistance
- Local partners overloaded
- Program is poorly conceptualized

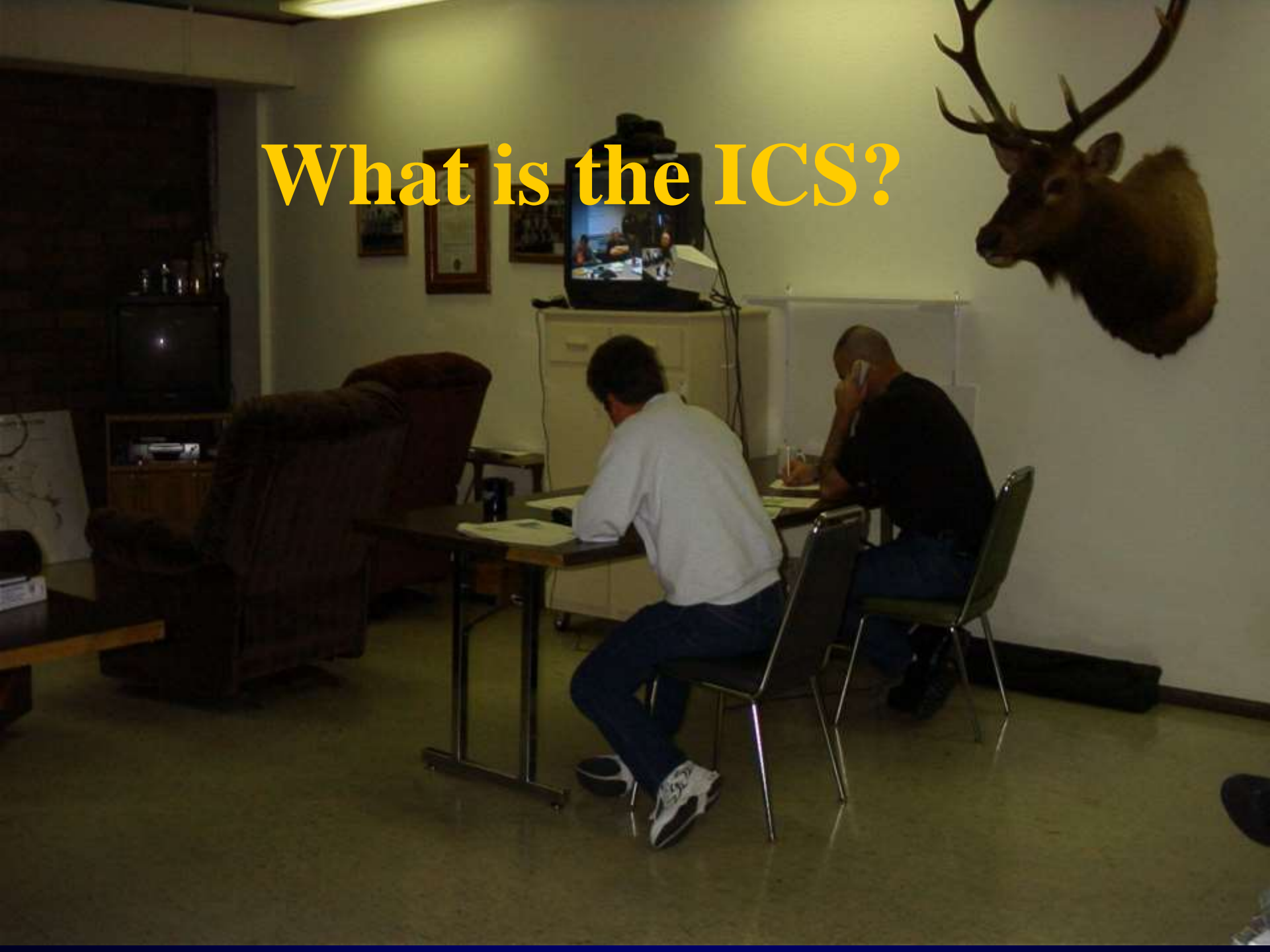
Priority Public Health Interventions

- Water and sanitation
- Surveillance and Health Information Systems
- Nutrition
- Communicable disease control
- Immunization

An aerial photograph of a tropical cyclone, showing a well-defined eye and spiral rainbands over a dark blue ocean. The surrounding landmasses are visible in shades of green and brown. The text is overlaid on the center of the image.

**Managing the Response:
The Incident Command
System**

What is the ICS?





Incident Command System

- A management structure for command, control and coordination in chaotic events
- Needed when incidents require a coordinated effort to ensure an effective response and for the efficient, safe use of resources



Introduction

- ICS uses principles that have proven efficiency and effectiveness in a business setting and applies principles to emergency and disaster response
- ICS structure is the standard for emergency and disaster response

Effective Incident Management

- Forms organizational core of a crisis management system
- Key management principles are applied in a standardized way

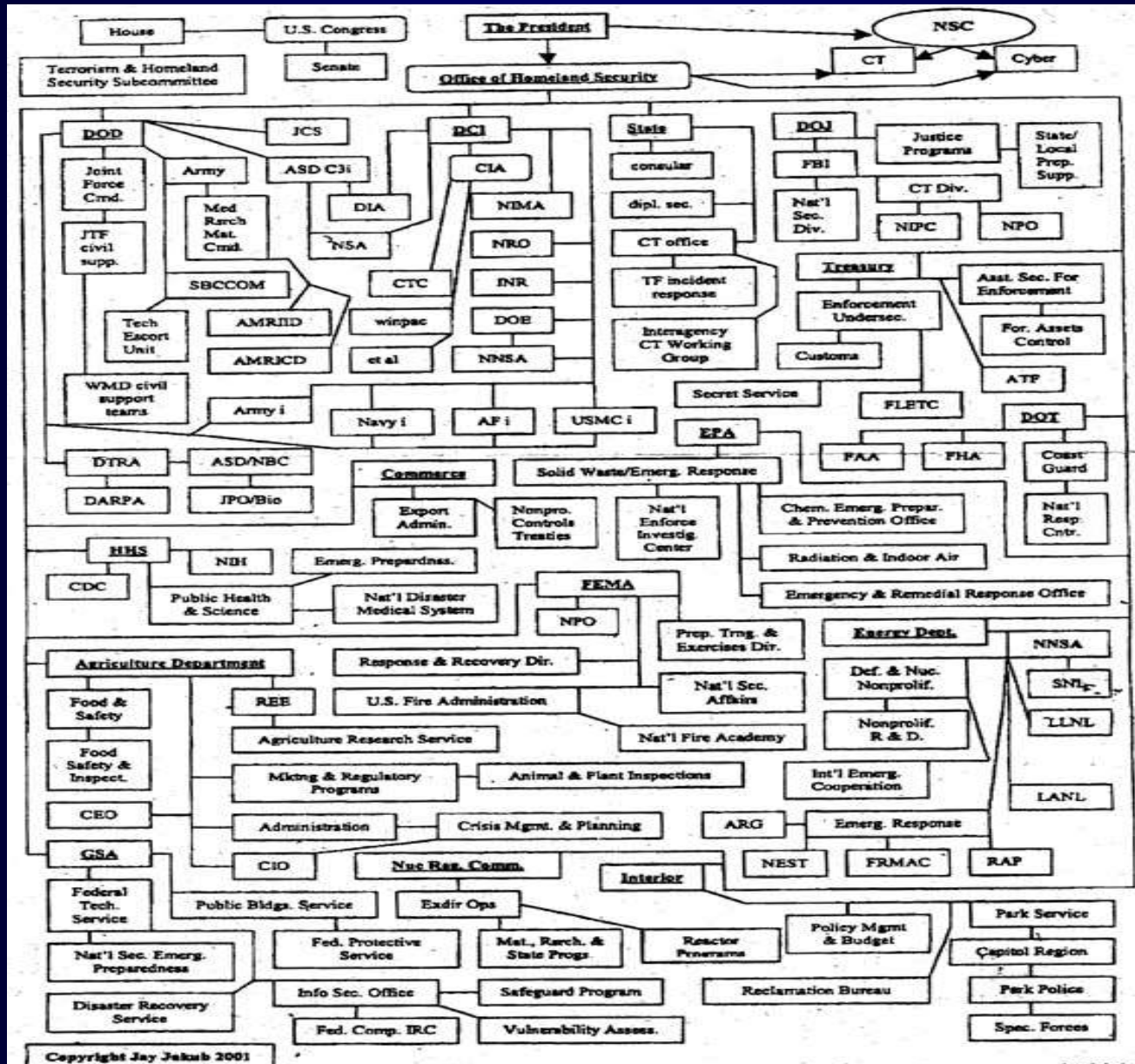
Effective Incident Management

- Establishing command
- Ensuring responder safety
- Assessing incident priorities
- Determining operational objectives
- Developing an organizational structure
- Maintaining a manageable span of control

Effective Incident Management

- Coordinating overall emergency activities
- Coordinating the activities of outside agencies
- Implementing the Incident Action Plan
- Authorizing release of information to the media
- Keeping track of costs
- Managing incident resources

Federal Government ICS



ICS Organization

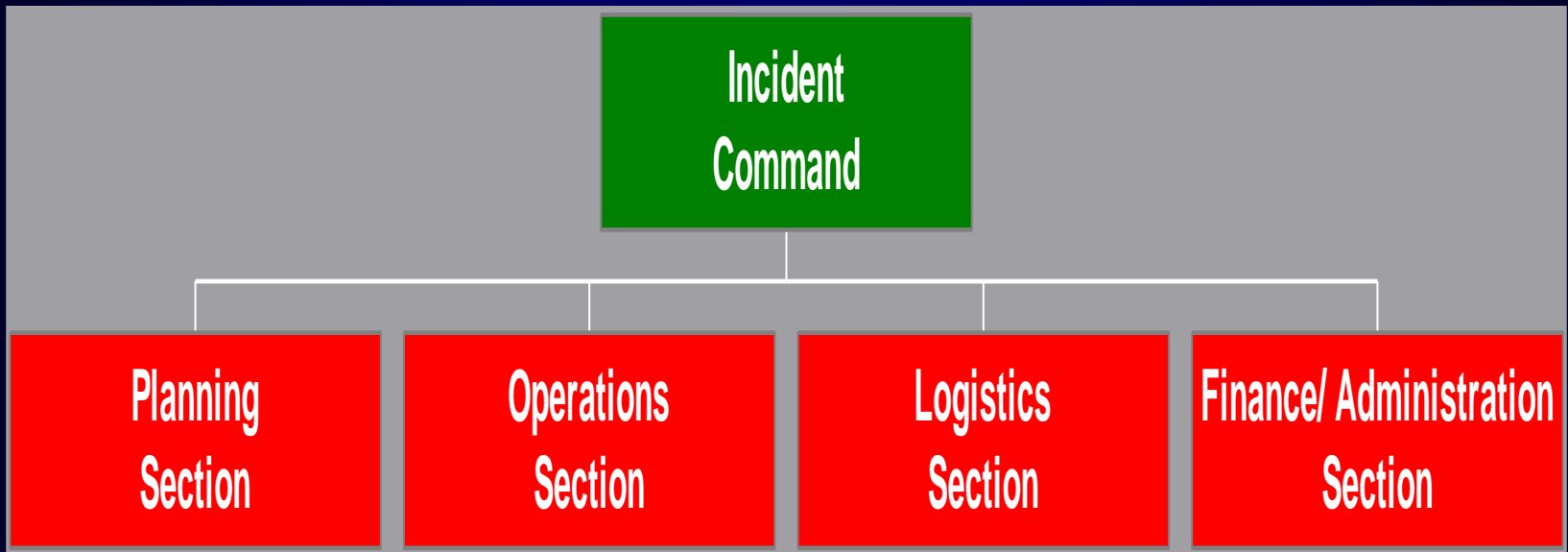
- Capability to expand or contract to meet the needs of the incident
- All incidents regardless of the size or complexity will have an Incident Commander
- Initially, Incident Commander will be the senior first-responder to arrive at the scene

ICS Organization

The major management roles are always filled, no matter how small the incident. They are:

- Command
- Operations
- Planning
- Logistics
- Finance/Administration

ICS Organization



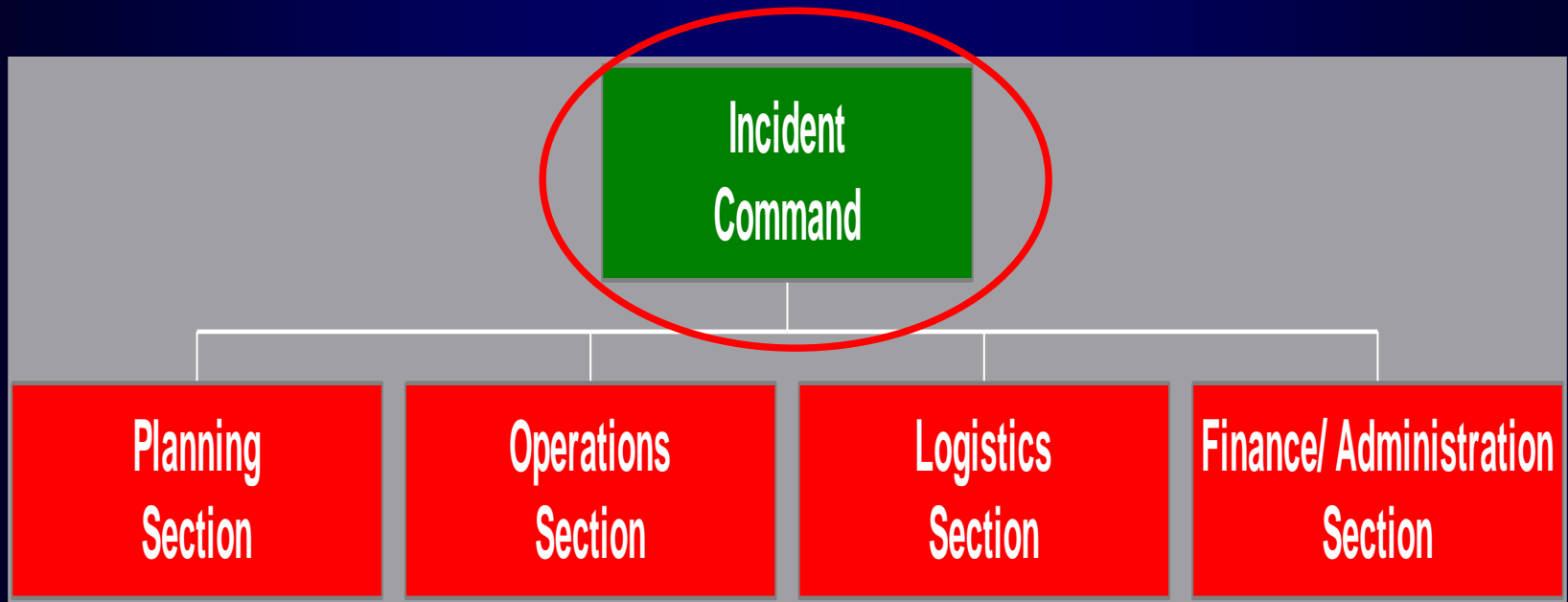
Organizational Chart

- Positions found on the organizational chart
- Each has a prioritized Job Action Sheet written to describe the important duties of each particular role

Job Action Sheet

- One JAS for each position
- Focused objective
- Concise mission statement
- Prioritized activities
- Intended to be customized (except for title and mission)

Command



The Command Function

- Perform command activities
- Protecting life and property
- Controlling personnel and equipment resources
- Maintaining accountability for safety and task accomplishment
- Establishing and maintaining an effective liaison with outside agencies including the EOC

Command

- The Incident Commander (IC) is the **single** person in charge.
- May initially fill all 5 command positions.
 - These tasks are delegated with larger incidents.
- With large, multi-jurisdictional disasters a 'Unified Command' structure is used where multiple agencies share command.

**Incident
Command**

```
graph TD; IC[Incident Command] --- PS[Planning Section]; IC --- OS[Operations Section]; IC --- LS[Logistics Section]; IC --- FAS[Finance/ Administration Section];
```

**Planning
Section**

**Operations
Section**

**Logistics
Section**

**Finance/
Administration
Section**

The Operations Section

- Direct and coordinate all operations
- Assist the IC in developing response goals and objectives for the incident
- Implement the IAP
- Request resources through the IC
- Keep the IC informed of the situation and resource status within operations

**Incident
Command**

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**Planning
Section**

**Operations
Section**

**Logistics
Section**

**Finance/ Administration
Section**

The Planning Section

- Collection, evaluation, dissemination and use of information about the development of the incident and status of resources
- Incident Action Plan- defines response activities and resource utilization for a specified time period

The Planning Section

Sub-Units

- Resources unit
- Situation unit
- Document unit
- Demobilization unit

**Incident
Command**

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**Planning
Section**

**Operations
Section**

**Logistics
Section**

**Finance/ Administration
Section**

The Logistics Section

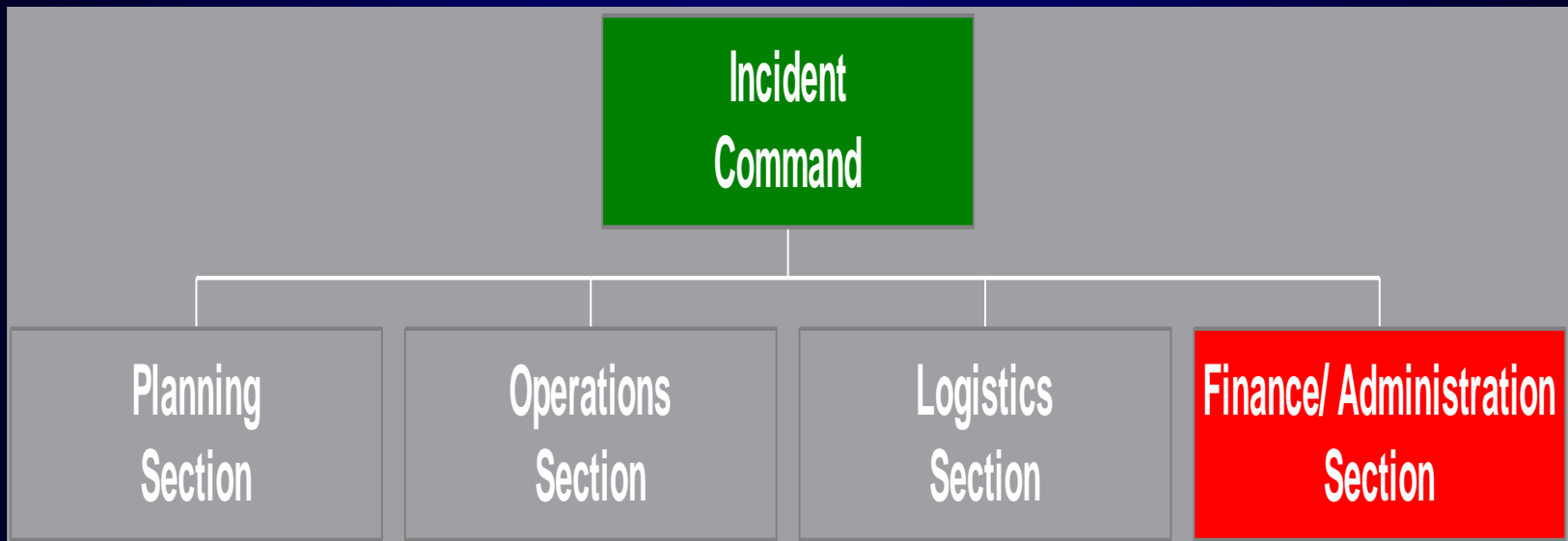
- Responsible for providing facilities, services, and materials, including personnel to operate the requested equipment for the incident
- Great significance in long-term or extended operations

The Logistics Section

Sub-Units

- Communications unit
- Food/water unit
- Supply unit
- Facilities unit
- Security unit

Finance/Administration



Finance/Administration

- The Finance Section Chief tracks costs, personnel records, requisitions, and administers procurement contracts required by Logistics.
- Critical for tracking incident costs and reimbursement accounting
- Very important in large magnitude incidents

Finance/ Administration

Sub-Units

- Time unit
- Compensations Claims unit
- Cost unit
- Procurement unit

INCIDENT COMMANDER

PUBLIC INFORMATION OFFICER

LIAISON OFFICER

SAFETY & SECURITY OFFICER

LOGISTICS CHIEF

PLANNING CHIEF

FINANCE CHIEF

OPERATIONS CHIEF

FACILITY UNIT LEADER

DAMAGE ASSESSMENT AND CONTROL OFFICER

SANITATION SYSTEMS OFFICER

COMMUNICATIONS UNIT LEADER

TRANSPORTATION UNIT LEADER

MATERIALS SUPPLY UNIT LEADER

NUTRITIONAL SUPPLY UNIT LEADER

SITUATION - STATUS UNIT LEADER

LABOR POOL UNIT LEADER

MEDICAL STAFF POOL UNIT LEADER

NURSING UNIT LEADER

PATIENT TRACKING OFFICER

PATIENT INFORMATION OFFICER

TIME UNIT LEADER

PROCUREMENT UNIT LEADER

CLAIMS UNIT LEADER

COST UNIT LEADER

MEDICAL STAFF DIRECTOR

MEDICAL CARE DIRECTOR

ANCILLARY SERVICES DIRECTOR

HUMAN SERVICES DIRECTOR

IN-PATIENT AREAS SUPERVISOR

SURGICAL SERVICES UNIT LEADER

MATERNAL - CHILD UNIT LEADER

CRITICAL CARE UNIT LEADER

GENERAL NURSING CARE UNIT LEADER

OUTPATIENT SERVICES UNIT LEADER

TREATMENT AREAS SUPERVISOR

TRIAGE UNIT LEADER

IMMEDIATE TREATMET UNIT LEADER

DELAYED TREATMENT UNIT LEADER

MINOR TREATMENT UNIT LEADER

DISCHARGE UNIT LEADER

MORGUE UNIT LEADER

LABORATORY UNIT LEADER

RADIOLOGY UNIT LEADER

PHARMACY UNIT LEADER

CARDIOPUMONARY UNIT LEADER

STAFF SUPPORT UNIT LEADER

PSYCHOLOGICAL SUPPORT UNIT LEADER

DEPENDENT CARE UNIT LEADER

Command Staff Positions

- There are three positions that report directly to the Incident Commander:
 - Information Officer
 - Safety Officer
 - Liaison Officer.

Information Officer

- **Public Information Officer**, is the conduit for information to internal and external stakeholders, including the media or other organizations seeking information.

Safety Officer

- **Safety Officer** monitors safety conditions and develops measures for assuring the safety of all assigned personnel.

Liaison Officer

- **Liaison Officer** serves as the primary contact for supporting agencies assisting at an incident.

ICS Concepts

ICS Concepts

Common terminology

- especially important when diverse agencies are involved
- applies to all organizational elements, position titles and resources

ICS Concepts

Modular organization

- Develops from the top-down organizational structure
- Command function established by IC
- IC activates other functional areas as needed

ICS Concepts

Integrated communications

- system uses a common communications plan, standard operating procedures, clear text, common frequencies and terminology

ICS Concepts

Unified command

- Incident functions under a single, coordinated IAP
- One Operations Section Chief has responsibility for implementing the IAP
- One ICP is established

ICS Concepts

Unity of Command

- Each person within an organization reports to only one designated person



ICS Concepts

Designated incident facilities

- EOC/ICP where the IC, Command Staff and General Staff oversee incident operations
- Where department heads, government officials, and volunteer agencies gather to coordinate their response
- **Staging areas** at which resources are kept while waiting for assignment

ICS Concepts

Incident Action Plans

- IAPs describe response goals, operational objectives, and support activities
- Usually, a written IAP is required when resources from multiple agencies are used, several jurisdictions are involved or the incident is complex
- Operational period defined

ICS Concepts

Manageable span of control

- In ICS, the span of control is optimal at 5
- If the number falls below 3 or exceeds 7, the organizational structure should be reexamined

ICS Concepts

Comprehensive resource management

- Maximizes resource use
- Consolidates control of single resources
- Provides accountability
- Reduces freelancing
- Ensures personal safety

ICS Concepts

Personnel Accountability

- All personnel must check-in as soon as they arrive
- Resource units, assignment lists and unit logs



ICS Concepts

Standardized Forms

- Forms drive documentation
- Improved documentation reduces liability and increases probability of financial recovery
- Improves communication
- Examples: action plan, activity logs, etc.

Summary

- The ICS is a hierarchical, flexible management structure
- Identifies critical management functions in order for an agency to develop and implement an IAP
- Ultimately, well-trained personnel are the most important element of any emergency response

Summary