

March 21, 1999 at 1600 hrs, Mile 68 Seward Highway



Incident Command System (ICS)

Managing Spontaneous Resources



The Incident Command System

- † Because of its flexibility, ICS has become a *de facto* standard for incident management throughout North America and has been adopted officially by many state and local governments.

The Incident Genes

- † Chaos
- † Lack of Information
- † Bad Information
- † Injury or Death
- † Risk of Injury/Death
- † Amorphous Energy
- † Undefined Authority
- † Hysteria





Common Management Errors

- † Failure to Lead
- † Failure to Know Resources
- † Failure to Take Risks
- † Failure to Take Proper Immediate Action
- † Failure to Establish Objectives
- † Failure to Properly Delegate
- † Failure to Document



The 8 Components of ICS

- † Common Terminology
 - Functions
 - Resources
 - Facilities
- † Modular Organization
- † Integrated Communications



Components of ICS

- † Unified Command Structure
- † The Incident Action Plan (IAP)
- † Manageable Span of Control
- † Designated Search Management Facilities



Components of ICS

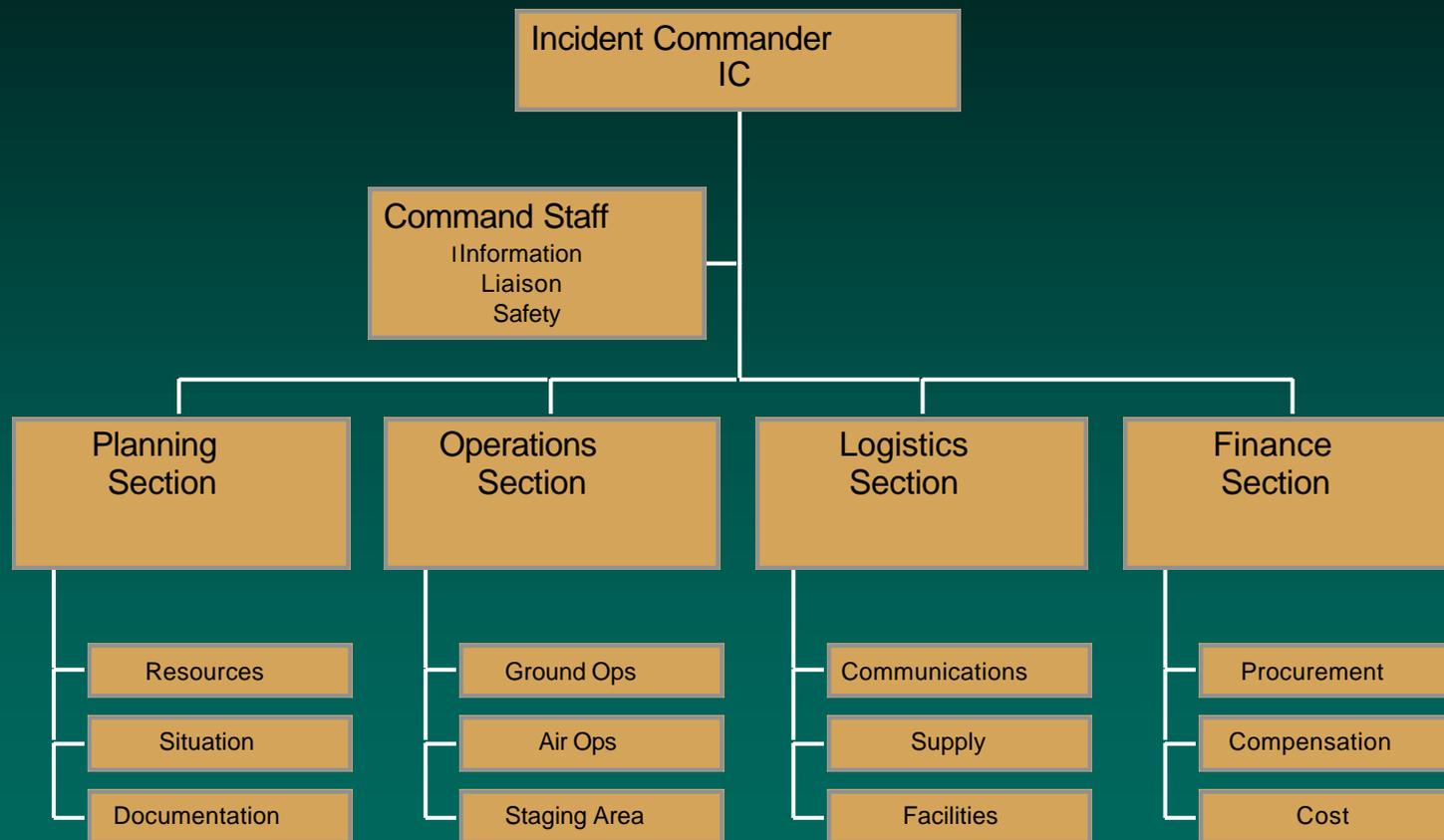
- † Comprehensive Resource Management
 - Single Resource
 - Task Force
 - Strike Team
 - Tracking resource status (RESTAT)
 - † Assigned
 - † Available
 - † Out of Service



Organizational Structure Of ICS

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

ICS Organizational Structure





Command Section

- † Evaluating the urgency of the incident
- † Appointing section chiefs
- † Selecting the location of incident facilities
- † Initiating or approving the resources
- † Preparing the Incident Objectives
- † Establishing strategy and tactics



Command Section

- † Carrying out agency policy
- † Soliciting technical specialists
- † Interfacing with external agencies involved
- † Identifying and mitigating hazards
- † Dealing with media, family, and external influences
- † Organizing the incident critique



The Incident Commander

- † Command Staff
 - Safety Officer
 - Information Officer
 - Liaison Officer
- † General Staff



Incident Commander

- † Provides overall mission objectives
- † Approves the Incident Action Plan (IAP)
- † Final decision maker



Planning Section

- † Obtaining and analyzing maps and aerial photographs
- † Maintaining a list of all resources assigned to incident
- † Anticipating additional needs for resources
- † Planning for demobilization



Planning Chief

- † Determines search strategies and proposes alternative strategies
- † Collects and documents all information necessary for planning
- † Conducts the planning meeting and briefings
- † Coordinates the preparation of the IAP



Operations Section

- † Responsible for organizing tactical operations and committing search resources



Operations Chief

- † Determines resource requirements
- † Ensures segment boundaries are realistic for tactical assignments
- † Determines tactics
- † Determines work assignments



Logistics Section

- Facilities
- Transportation
- Supplies
- Equipment
- Food services
- Sanitation
- Shelter
- Medical services



Logistics Chief

- † Ensures that the resource ordering procedure is known
- † Determines resource availability and fills mission resource requests
- † Provides for resource delivery



Finance/Administration Section

- † Responsible for handling needed financial services on the incident



Finance Chief

- † Processes procurement billings
- † Documents all mission expenditures



The Incident Action Plan

- † A plan for the successfully resolving the search.
- † Has three characteristics:
 - Must be dynamic and flexible.
 - Must be updated for each operational period.
 - There must be only one plan for the operational period.



The Incident Action Plan (IAP)

- † Defines operational periods
- † Written objectives reflecting the policy and needs of all jurisdictions
- † Divisional assignment lists (tactical assignments)
- † Organizational chart
- † Search maps delineating assignment areas



The Incident Action Plan (cont.)

- † Communications Plan
- † Resources status and availability
- † Mission situation/ status report
- † Weather information
- † Situation predictions
- † Medical plan
- † Transportation plan



The Incident Action Plan (cont..)

- † Safety consideration for weather, hazards, etc.
- † Air operation summary (ICS-220), if appropriate
- † Subject profile
- † Trip plans; backcountry permit, route, etc.



Avalanche!

Multi-Dimensional SAR

Area Facts...

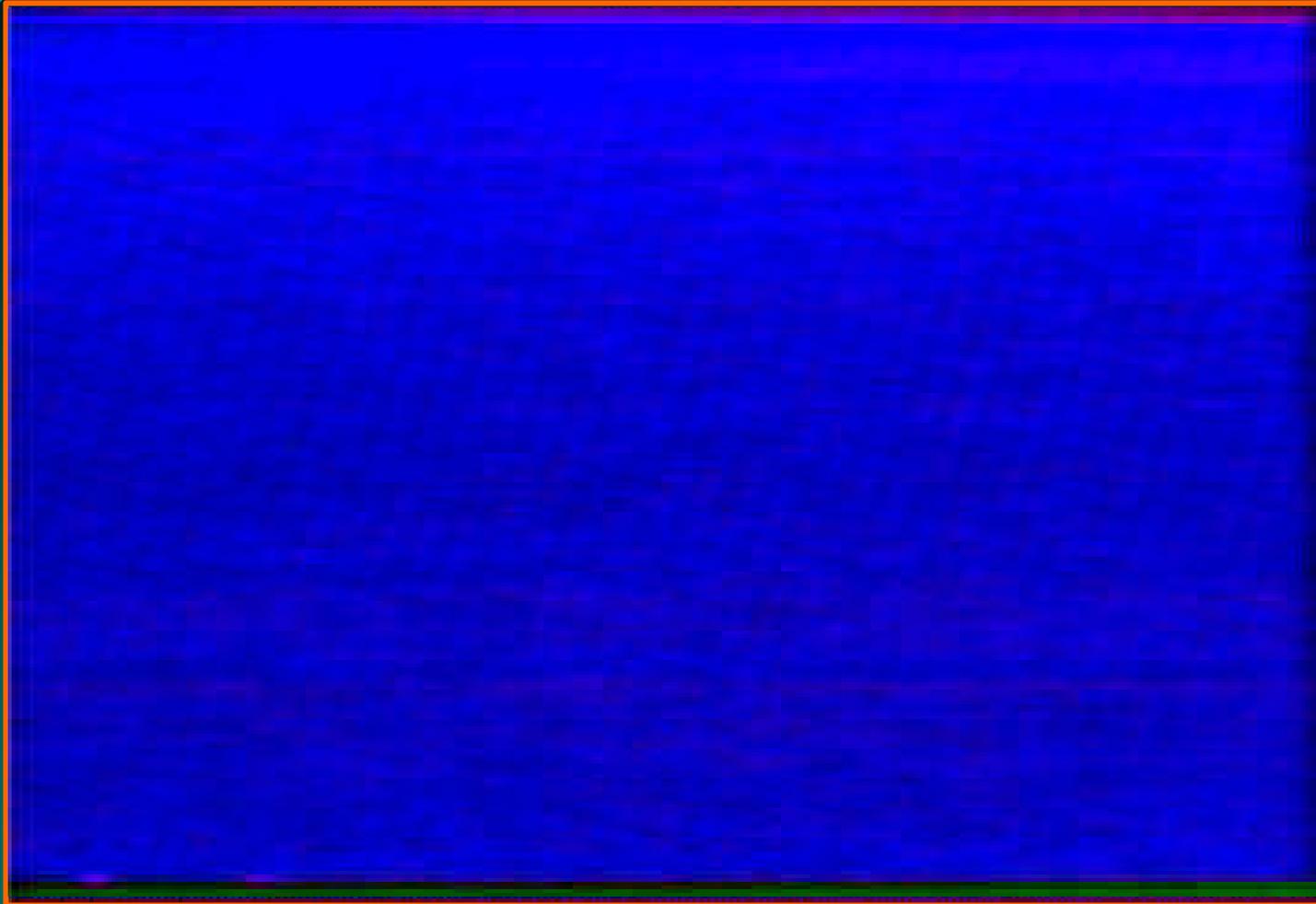
- † Mile 68 Seward Highway is one hour drive south of Anchorage
- † Well used recreational area for snow machines, skiers, other winter activities
- † 100 snow machine users on any given day
- † Clear Day with temperatures in the mid 20's
- † Weekend

Weather History...

- † Succession of storms involving heavy snowfall
- † Past week included clear, sunny days
- † winter of cooler-than-usual temperatures

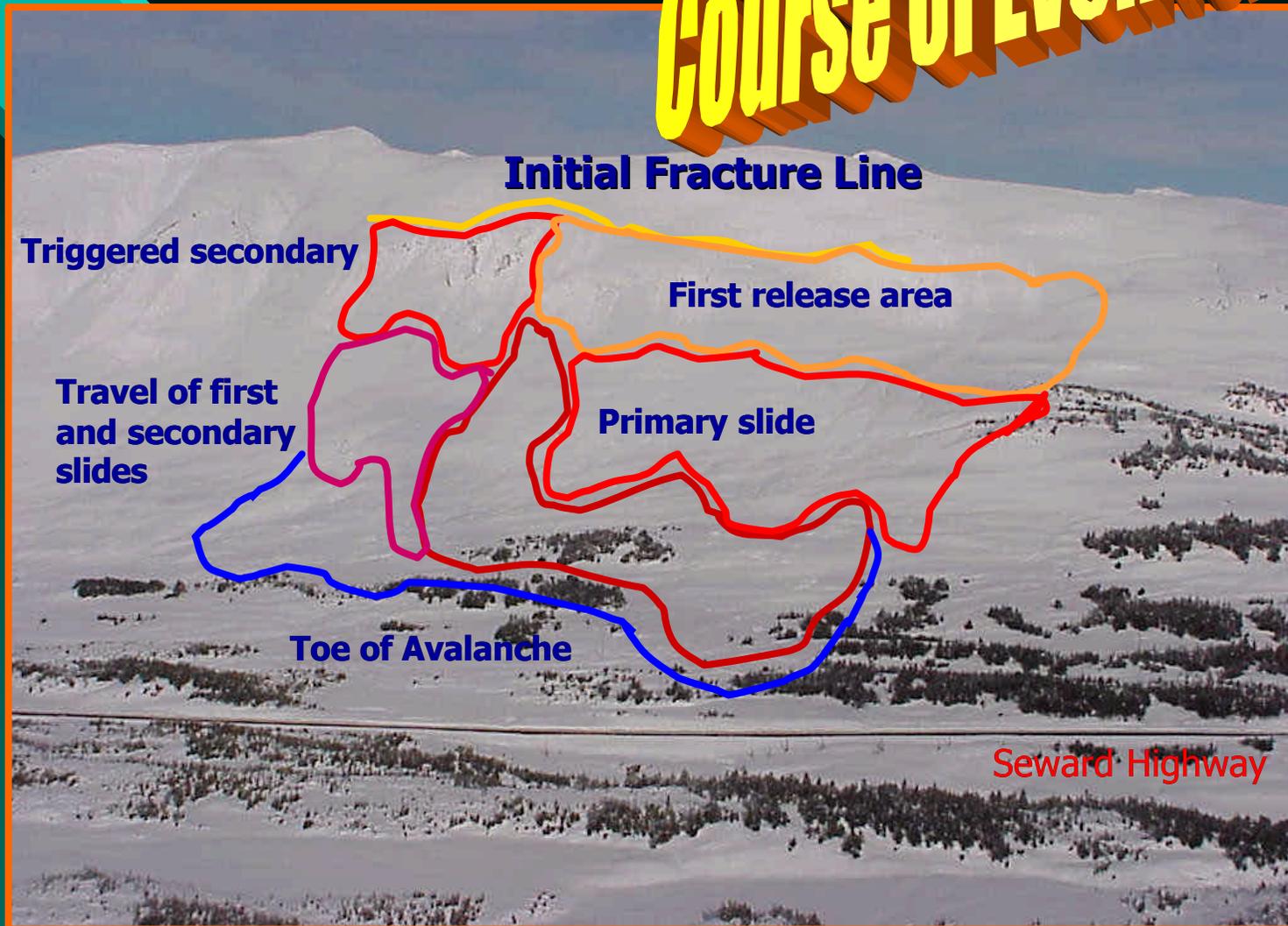
All of this resulted in...

What Happened



March 21, 1999 at 1600 hrs, Mile 68 Seward Highway

COURSE OF EVENTS...



Avalanche Facts !

- † 3 Km wide
- † 560m vertical tall
- † 1000m long
- † 1-3m depth
- † 190 million cu/ft
- † 11 kilos per cu/ft
- † 2.2 million metric tons or...





Chronology...

- † 911 Call (cell phone) rec'd at 1600 hrs on 3-21-99
- † Call received at DPS Emergency Operations Center 60 miles away
- † Dispatch activated SAR Preplan and Callout ...
 - AST Girdwood / AST SAR Coordinator / Helo One
 - Alaska Mountain Rescue Group (AMRG)
 - Alaska Search and Rescue Dogs (ASARD)
 - Alaska Mountain Safety Center (AMSC)
 - Nordic Ski Patrol (NSP)
 - Girdwood, AK Fire /EMS

Immediate Issues...

- † On site volunteers started immediate rescue
- † Few / no beacons, unknown if victims had them in use
- † Few / no probes and shovels, little experience in their use
- † Inaccurate eye witness accounting of victim locations
 - all in different locations with different perspective
- † Many victims / witnesses left the location
- † Inexperienced, ill-equipped, untrained volunteers
- † Inadequate safety considerations and control

Chronology...

3-21-99

- † 1600-1645 hrs. self-rescue period
- † 1645 hrs. AST arrives with AMSC, ASARD
- † 1730 hrs. Statewide SAR Coordinator arrives
- † 1800 - 2000 hrs. search operations are conducted
 - 105 persons involved
 - 1 ASARD K-9
 - 15-20 snow machines
- † Results: 2 persons recovered
- † **Two total recoveries**





Incident Base Established

- † Located at Girdwood Fire Hall, Girdwood, AK
- † Communications via land line phone, cell, VHF radio, and fax
- † Cooking area
- † Offices
- † Rehabilitation area
- † Parking / Landing for Helo

To Anchorage
40 miles

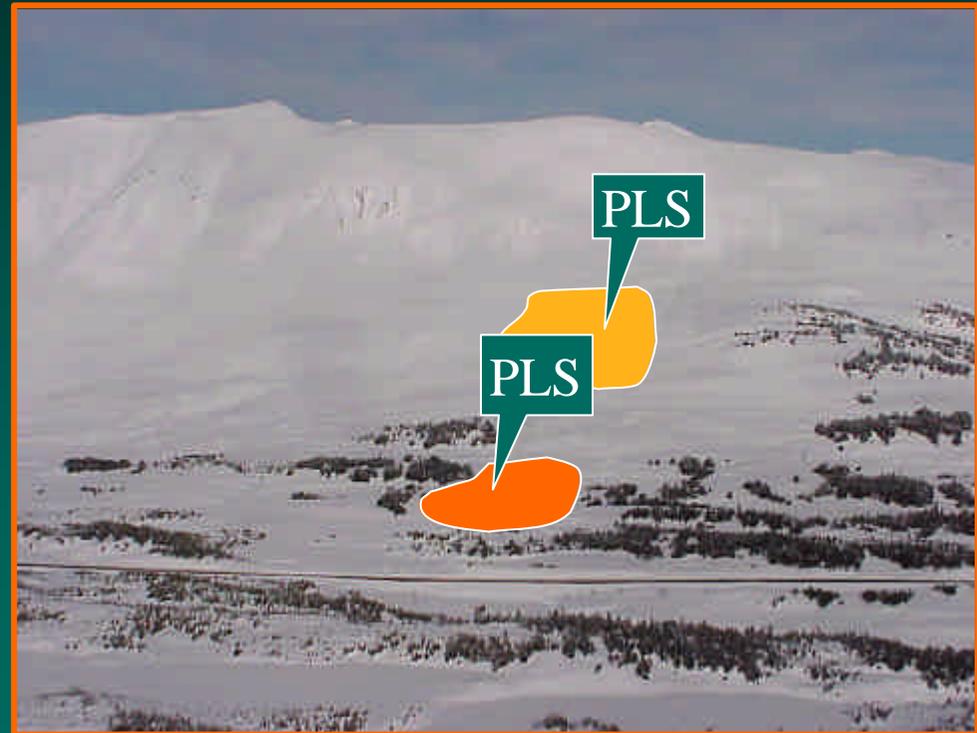




- † Incident Action Plan drafted
- † Search area broken into two Divisions:
 - Based on Witness Observations
 - Upper Division
Saddle on upper slope
 - Lower Division
Northern toe of avalanche

Chronology...

3-22-99



Chronology...

3-22-99

- † ICS Assignments made
- † IC, Deputy IC, Safety, PIO
- † Operations Chief
- † Deputy Ops Chief
 - Staging Area Manager
- † Logistics Chief
- † Communications Unit Leader
- † Documentation Unit Leader

Chronology...

3-22-99



- † IAP distributed
- † Resources assembled at staging area
- † Searchers briefed
- † Assigned @ Staging Area to Division
- † Safety Brief / Inspection
- † Probe Training
- † Teams deployed via snowmachine

Chronology...

3-22-99

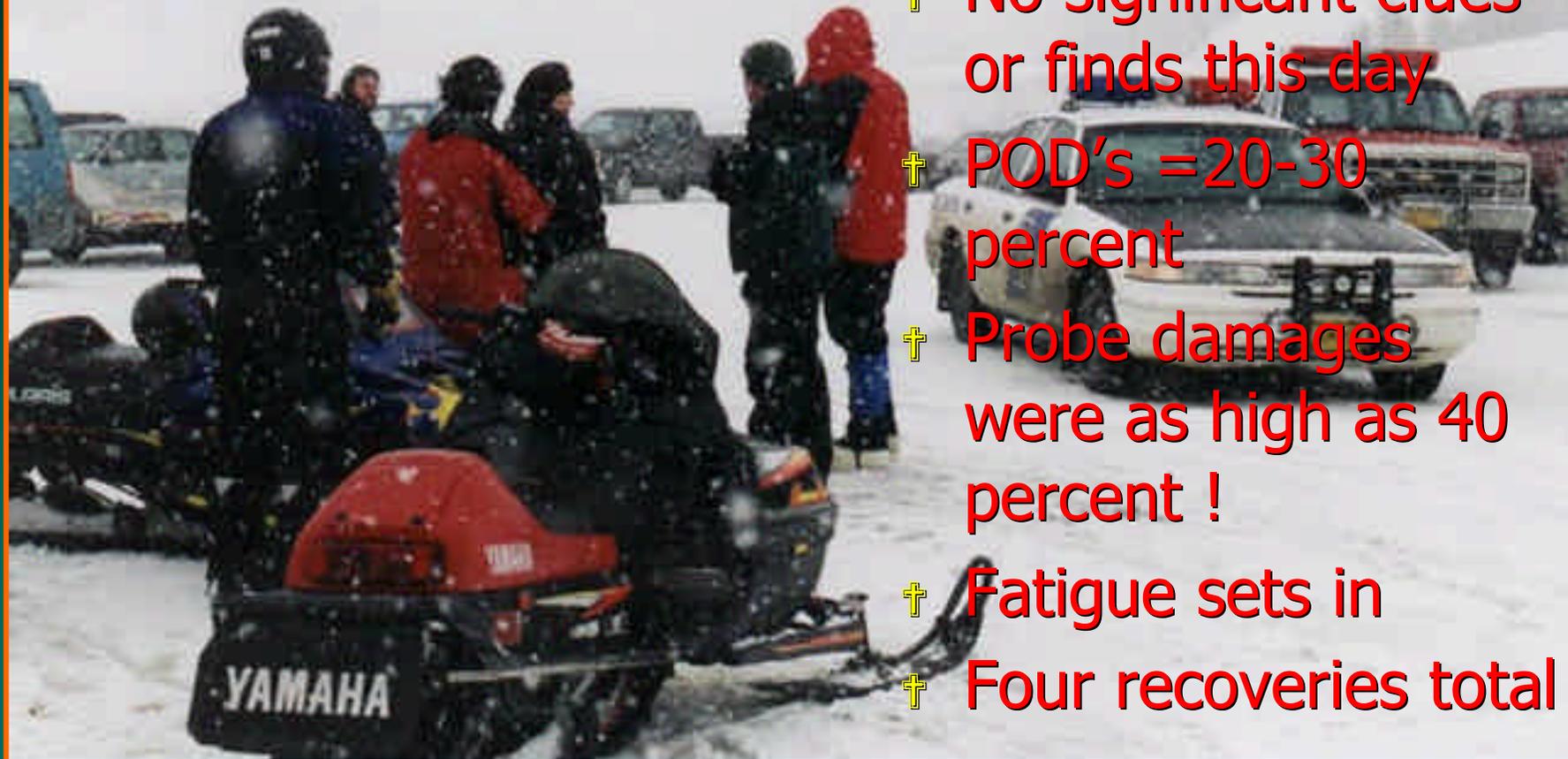
- † 170 searchers
- † Two K-9
- † 60 snow machines and operators
- † One Helicopter
- † 12 hours of probe operations
- † Results: Two persons recovered
- † **Four total recoveries thus far**

Chronology...

3-23-99

- † 350 searchers
- † one SAR Dog
- † 100 Snowmachines
- † Incident Management Team consisting of:
 - AK State Troopers
 - Anchorage Fire Dept.
 - Alaska State Parks
 - Civil Air Patrol

Results of 3-23-99



- † 12 hours of search/probe operations
- † No significant clues or finds this day
- † POD's = 20-30 percent
- † Probe damages were as high as 40 percent !
- † Fatigue sets in
- † Four recoveries total

Chronology...

3-24-99



- † Governor visits SAR ICP
- † 450 Volunteers including:
 - 100 Army Nat. Guard
- † Weather deteriorates
- † SnowCat used to groom search area
- † Continued equipment damage
- † No dogs available
- † Searchers Fatigued

Results of 3-24-99

- † 12 hours of search effort
- † no clues found until 1730 hrs
- † Snow Machine of victim found
- † Fifth victim found after 1/2 hr probe effort
- † Weather creates hazard of avalanche and injuries
- † **Five total recoveries**



3-25-99

- † Excess of 13,000 hours of search effort
- † approximately 645 volunteers and paid searchers
- † Saw weather continually deteriorate
- † Searchers fatigued
- † POD's for search areas remained under 30 percent on first pass
- † PODcum under 50 percent
- † Tension mounts in ICP
- † Family pressure evident



3-26-99

- † Family continues “unofficial” Search for remaining victim
- † Family quits after new avalanche threatens incident site
- † Another snow machine buried approximately 120 miles to the north requiring a recall of SAR assets
- † SAR Ops on this lasted for 16 hours !!

What did we learn?



- † ICS is a must for any operation
- † Initial response and setup sets the stage for success
- † Span of Control Critical
- † PIO is worth their weight in gold
- † Assign people according to their skill, not desire
- † Assign Logistics Chief early if the task is equipment intensive





Keys To Success

- † Pre-planning
- † Investigation
- † Proper Application of Resources
- † Use of ICS Team
- † Operational Flexibility



Components of the IAP

- † Incident Objectives

 - † ICS-202

- † Organizational Assignment List

 - † ICS-203

 - † Lists all individual assigned to incident management positions.



Components of the IAP (cont..)

† Communication Plan

- Identifies radio frequencies and assigns them to specific functions.

† ICS-205

† Medical Plan

- Describes procedures for treating injured searcher

† ICS-206



Components of the IAP (cont..)

- † Other forms as required, such as:
- † Air Operations form **ICS-220**
- † Briefing and Debriefing forms
- † Subject profile (LPQ)
- † Footprint diagram
- † Traffic pattern
- † Map of the search area

ICS for First Responders

- † Establish Communication Chain
- † Assume Leadership
- † Call-up Pre-planning
- † Delegate Early and Often (ICS Tasks)
- † Establish Initial Goals and Objectives
- † Document
- † Act Now; Anticipate for Next
- † Keep the Cavalry Coming

Secret of Incident Management



† *Keep Your Eye On
The Ball!*