



Headquarters CONR-AFNORTH (1 AF)



Air Force Auxiliary Mission Brief For 2008 AF Emergency Preparedness Liaison Officer (EPLO) Conference

Lt Col Douglas Goodlin
CAP-USAF/XO

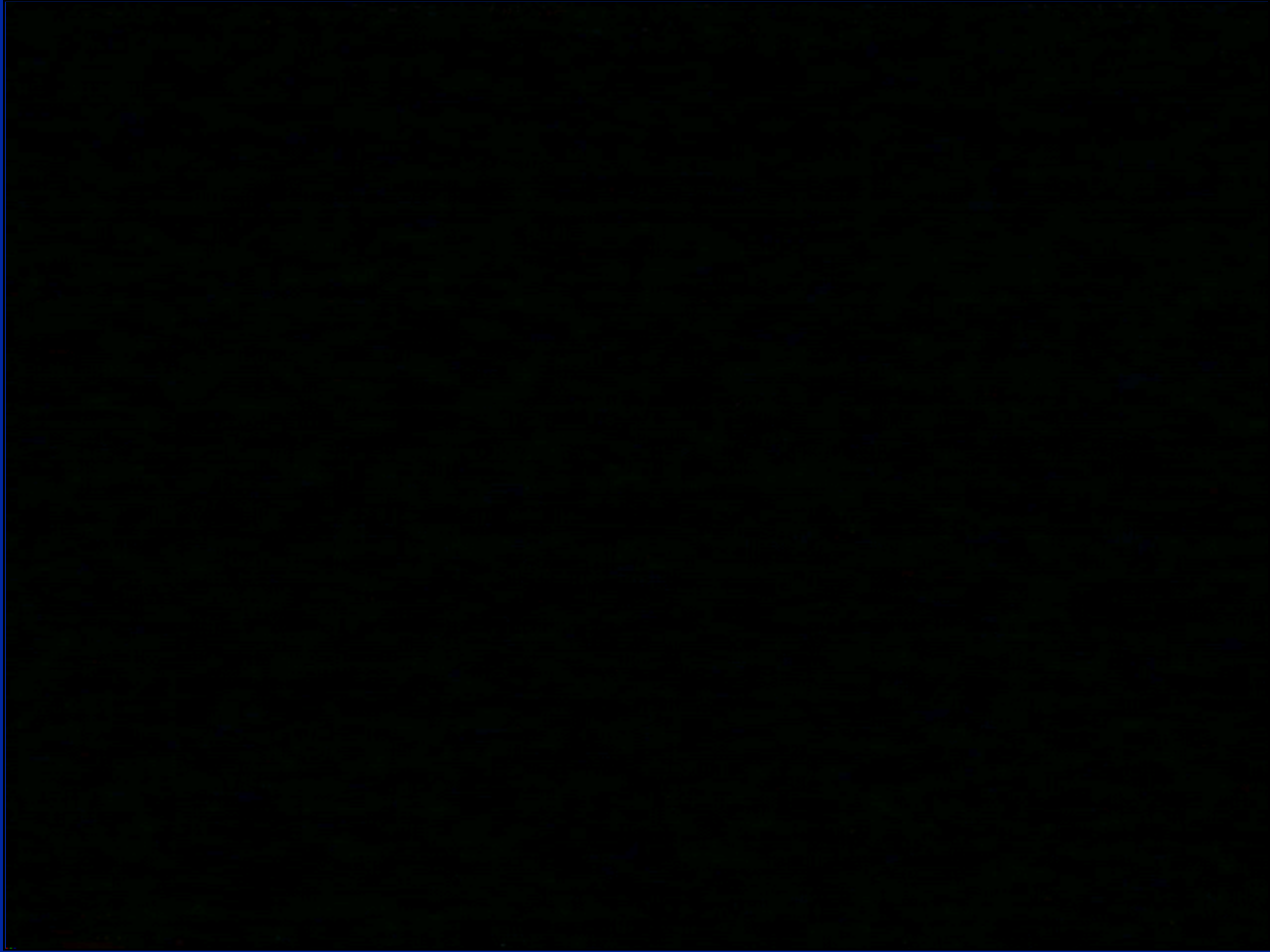
This Briefing is: UNCLASSIFIED



Outline

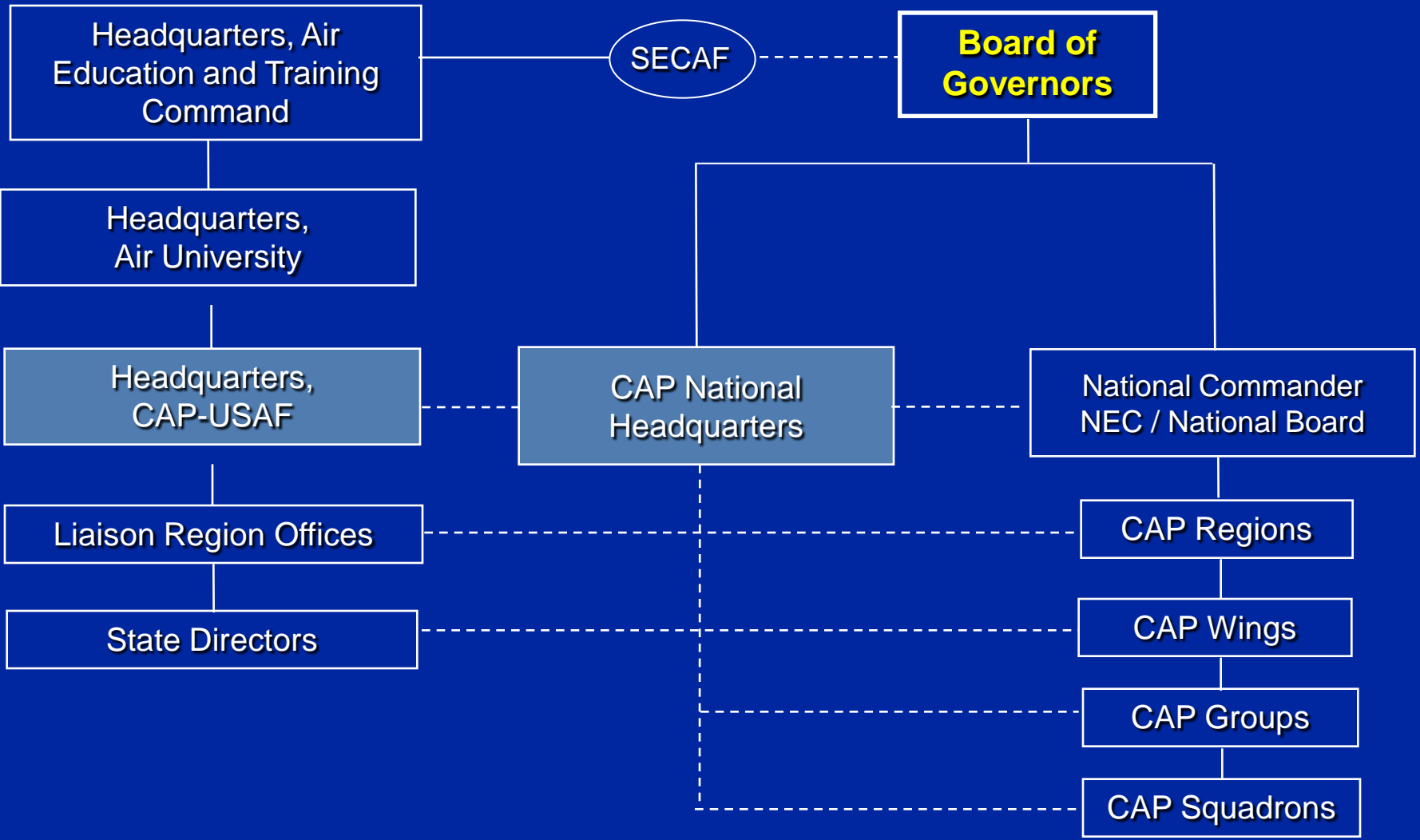


- **Organization**
- **The Mission Approval Process**
- **Platforms / Technology**



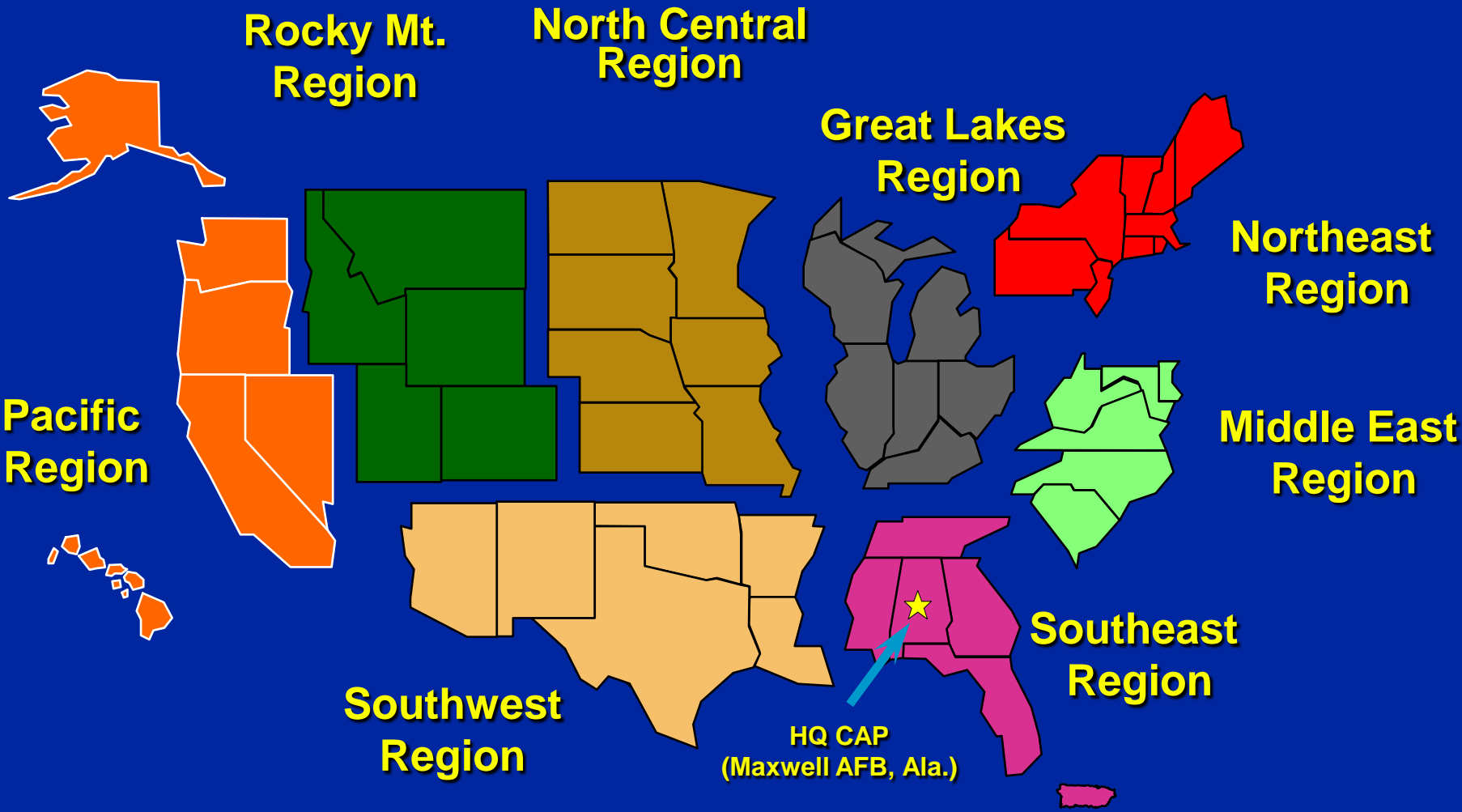


Organizational Structure



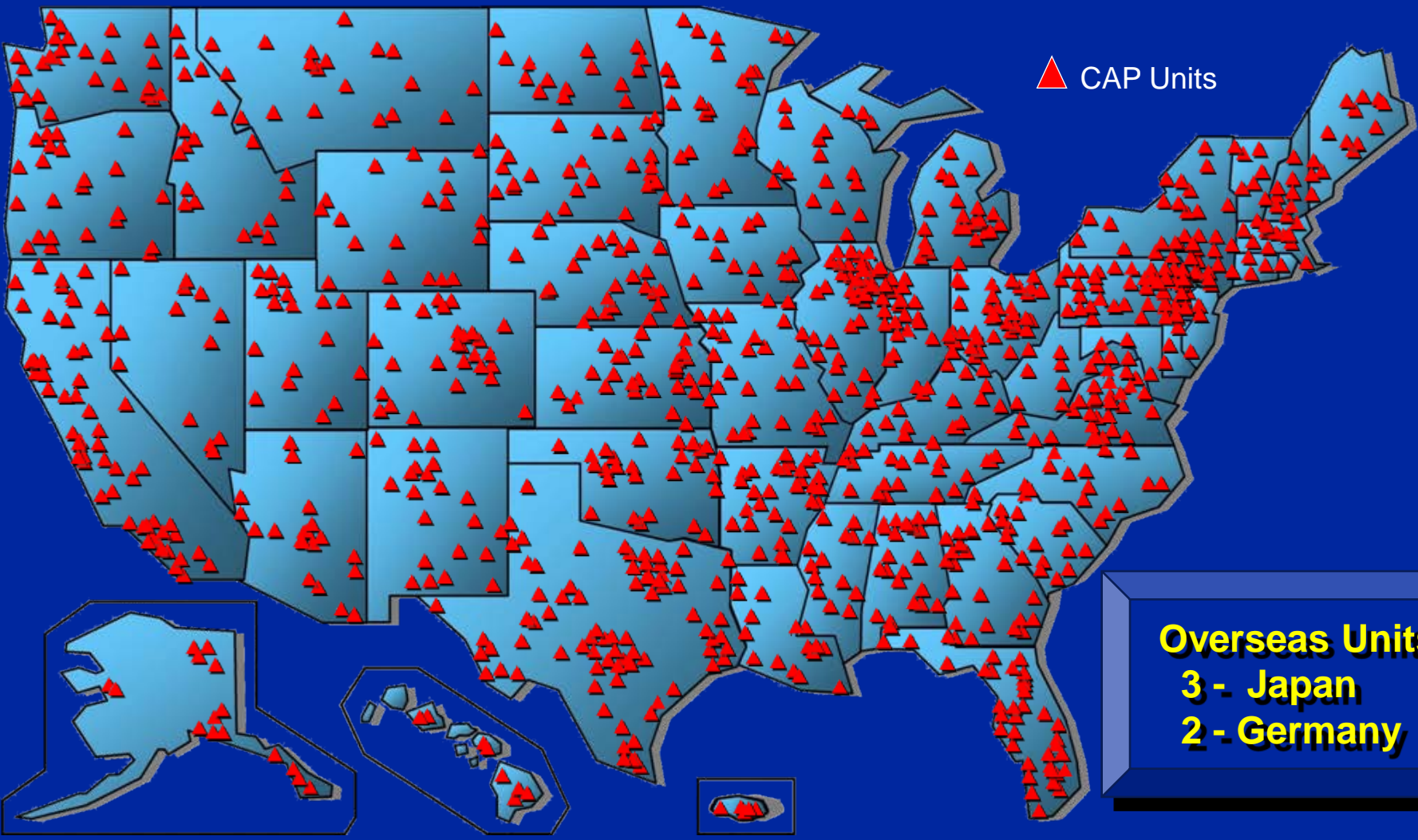


Civil Air Patrol Regions





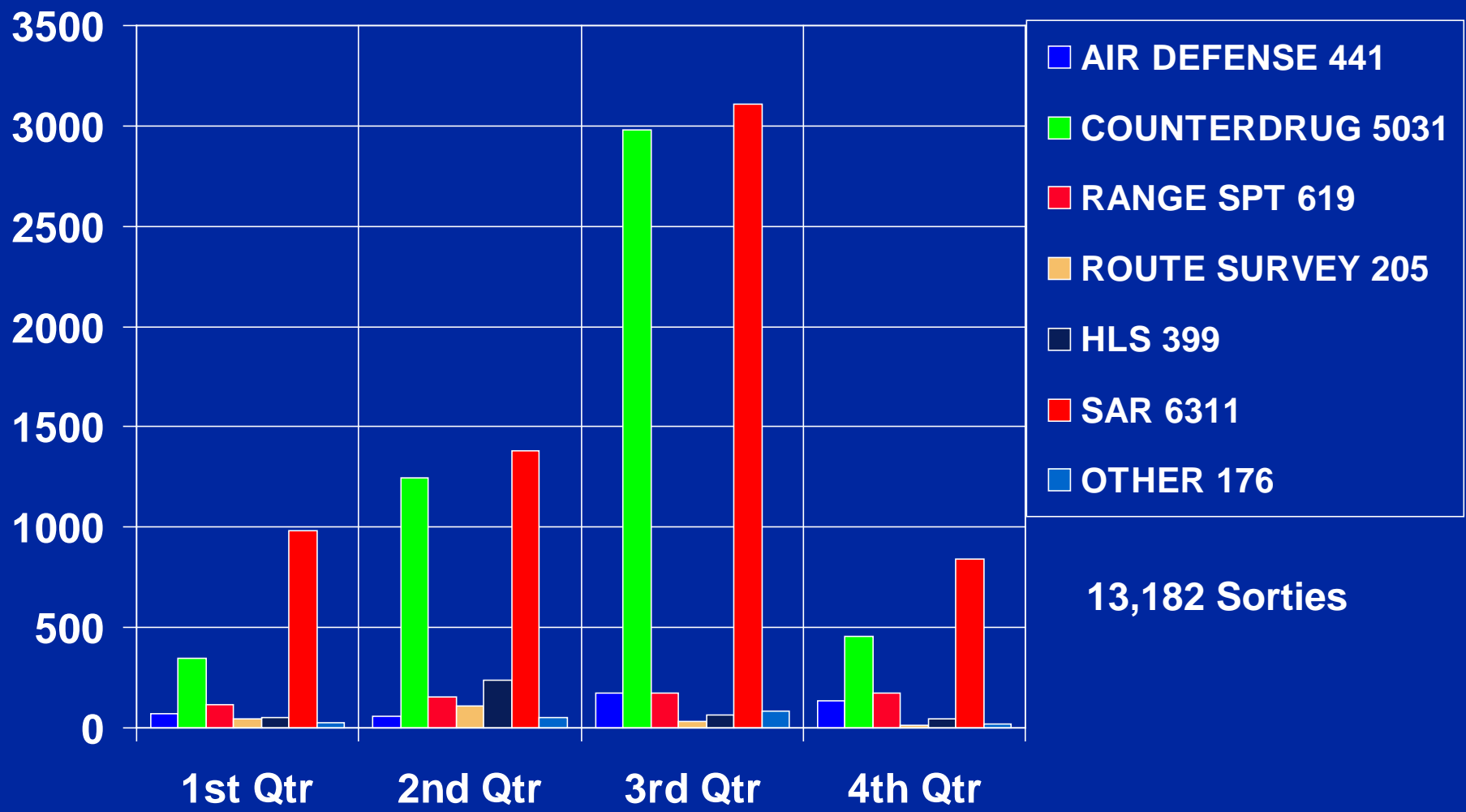
Civil Air Patrol Presence



Overseas Units
3 - Japan
2 - Germany



Calendar Year 07 1st AF Sorties



13,182 Sorties



AFI 10-2701 – AF Auxiliary



- In Accordance With Air Force Instruction (AFI) 10-2701, 1st AF is the mission approval authority for all Air Force assigned missions in the Northern Command (NORTHCOM) Area Of Responsibility (AOR) except:
 - CAP Training flights, Reserve Officer Training Corps (ROTC) flights, Cadet Orientation, Ferry Flights – mission approval for these is through CAP-USAF commander
 - Alaska-11th AF Commander



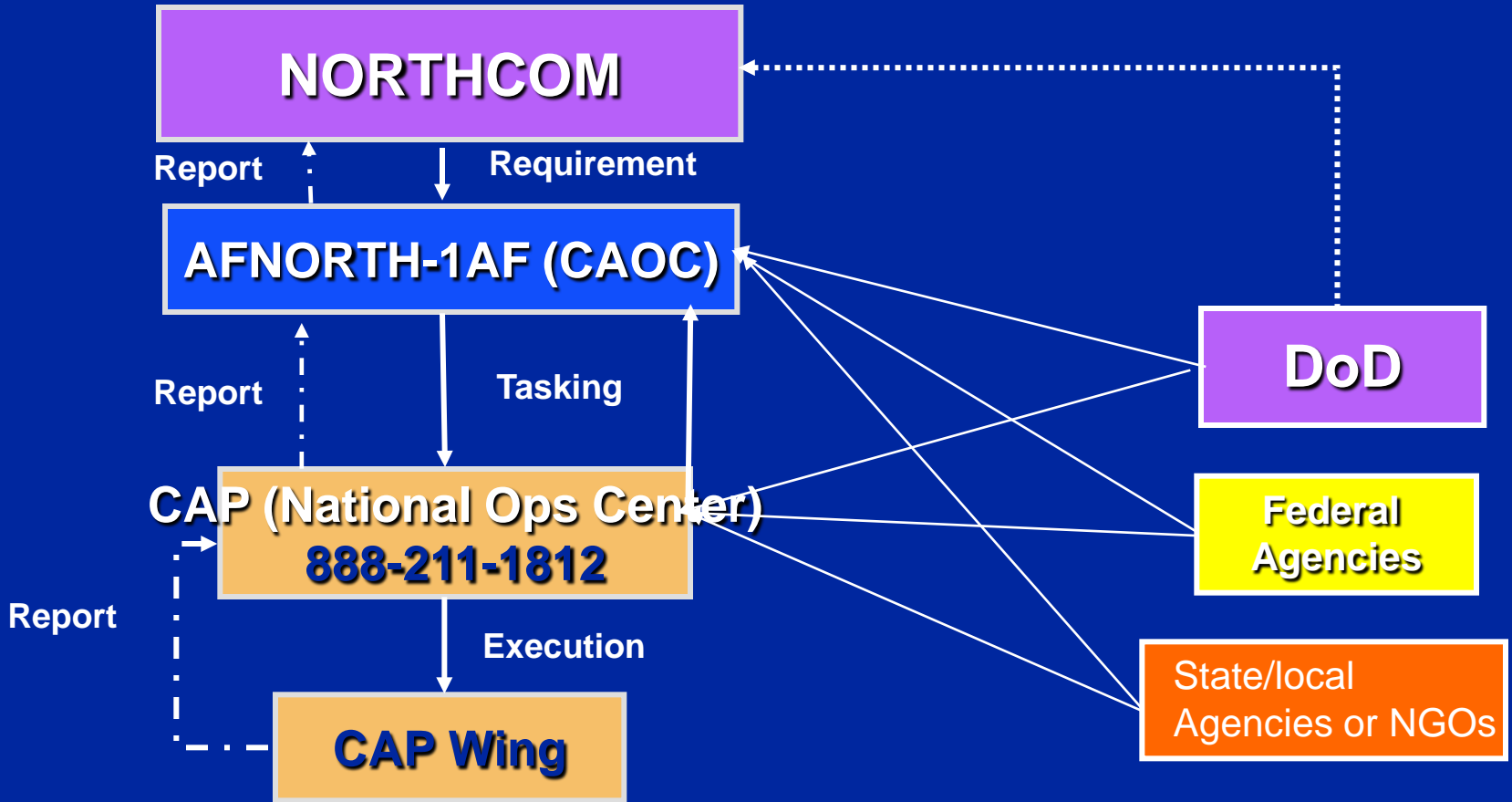
Civil Support Approval Process



- Department of Defense (DoD) policies that govern coordination and approval of requests for support to civil authorities normally do not apply to the Air Force Auxiliary
- The Secretary of the Air Force (SECAF) designee (1/11th CC), may respond directly to civil-support requests, including those involving counter-drug activities, using the services of CAP
- Approval authorities must ensure that CAP missions supporting State/local agencies or Non-Government Organizations (NGO)s as Air Force Assigned Missions (AFAM)s must demonstrate a “federal interest” in the activity
- CAP may only support an agency or department of the Federal government in its capacity as the Air Force Auxiliary



Request for Air Auxiliary



CAP ... Remain Under Military Control/Direction ...



The Approval Process

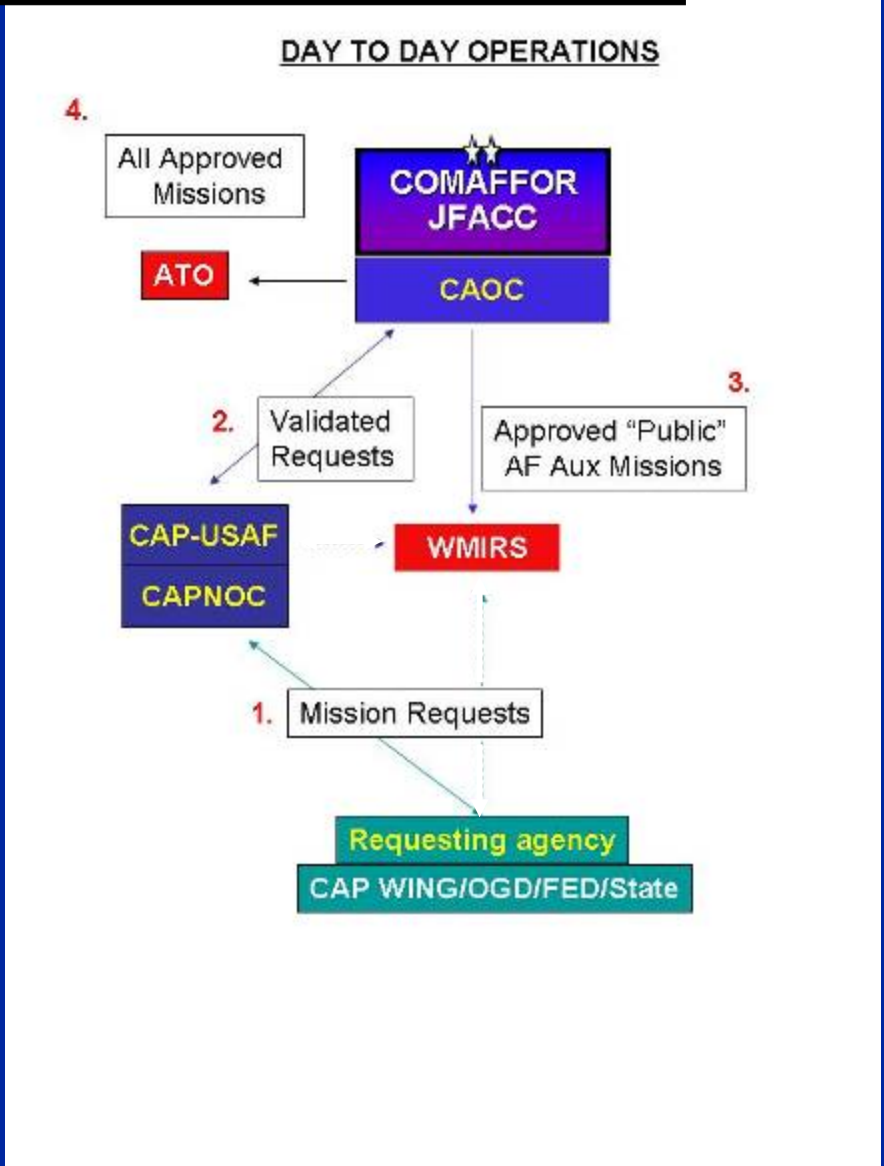
- All Joint Forces Air Component Commander (JFACC) approved missions (Including AF Aux) are published on the CONR/AFNORTH Air Tasking Order (ATO)
- As of 20 Jan 06, all AF Aux missions receiving JFACC approval have been published on Classified ATO.
 - “Public” Unclassified taskings available through CAP run Web based Mission Information and Reporting System (WMIRS)



Day to Day Approval Process



- Day to Day
 - Majority of missions
 - Handled by normal ATO process
 - Requests validated by CAPNOC and CAP- USAF
 - Does CAP have Assets/Legal
 - Approval-at bi-weekly ATO approval brief
 - Approved missions will be
 - Updated on WMIRS
 - Published on Classified ATO
 - Tracked daily via AFNORTH Situation Report (SITREP)
 - Mission closeout responsibility of CAP





Immediate Response Requests



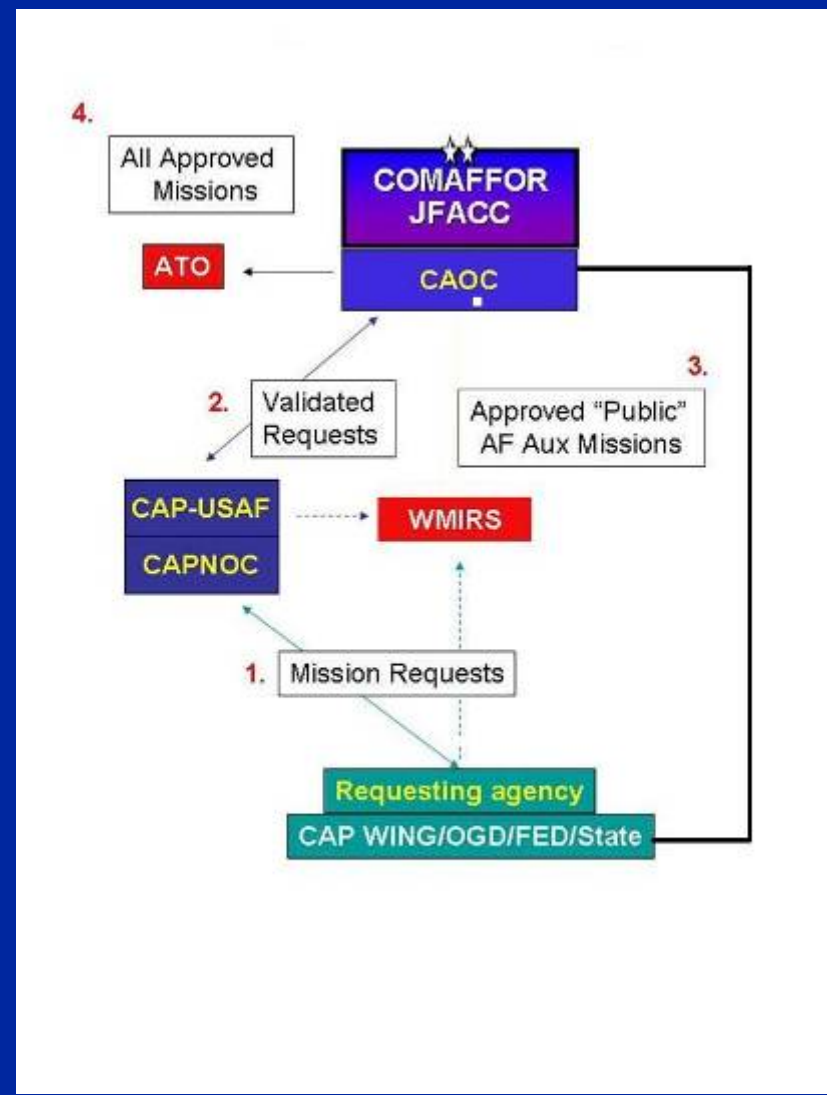
- Immediate response is appropriate when necessary to:
 - Save lives
 - Prevent human suffering
 - Mitigate great property damage under imminently serious conditions
- CAP must receive authorization from the 1AF AFNORTH/CC (Commander) or his/her designee to conduct an immediate response mission



Civil Support Approval Process



- Mission within ATO execution phase
- Requests validated by:
 - CAP National Operations Center (CAPNOC) and CAP-USAF or
 - AFNORTH Senior Duty Officer (SODO)
- Approval authority is the JFACC or his/her designee at CONR/AFNORTH Combined Air Operations Center (CAOC)
 - Available 24/7 365 Days
- Approved missions will be passed via telcon/e-mail to the NOC/Requester
 - Updated on WMIRS
 - Published on Classified ATO





AF AUX Capabilities/Assets

- Aerial Imaging- Ability to image, transmit and download high resolution digital photos from airborne platforms
- Airborne Visual Reconnaissance- Reconnaissance of isolated locations, border and coastal areas, ports and harbors and critical infrastructure
- Satellite Link Airborne Dynamic Retasking
- Light Air Transport / Air Taxi- Capability for human blood or organs, equipment, passengers, or search dog teams to austere or remote airfields.
- Air and Ground Fleet Availability- Fleet of over 530 aircraft, 940 ground vehicles
- Communications Support- VHF and HF capability and aerial communications relay
- Personnel- Cadre of 650+ Chaplains available for weekly religious services or general support.
- Law Enforcement Support- Ability to take law enforcement or VIP personnel aloft for visual reconnaissance of areas of interest

*****Normally can launch within 4 hours



Posse Comitatus Act



- Cannot:
 - Search
 - Seize
 - Arrest
 - Interrogate
 - Direct Law Enforcement Activities (LEA)



Mission Authorities



- Law Enforcement Agents (LEA) Transportation Authority:
 - May transport LEA for coordination and support force protection
 - May not transport prisoners or contraband (some exceptions – chain of custody)
 - May not transport in direct tactical support of LEA operational missions
 - May not transport where hostilities are imminent
- CAP Personnel may make spot reports of suspicious activities to LEAs



Sensitive Information

- Air Force Auxiliary is not an Intelligence Surveillance Reconnaissance (ISR) asset and therefore does not conduct INCIDENT AWARENESS AND ASSESSMENT (IAA) MISSIONS
 - USAF AUXILIARY CONDUCTS CIVIL SUPPORT MISSIONS FOR NON-INTELLIGENCE PURPOSES
- AF Aux Does NOT collect, disseminate, or retain information about U.S. persons
 - All information belongs to the requester
 - USAF can use info for force protection, then dispose
- Information includes:
 - Photographs
 - Video
 - Identifying information



CAP Resources

**950
Vehicles**



**530
Aircraft**



56,155 Members
34,682 Officers
21,473 Cadets

**14,900 Portable
Radios**

**2,100 Fixed
Land Radios**



**8,000
Mobile Radios**





Platforms



Gippsland GA-8 (16)

*Cruise speed 110-135 kts
Range 520-730 NM*



Cessna 206 (22)



Cessna 182 (235)

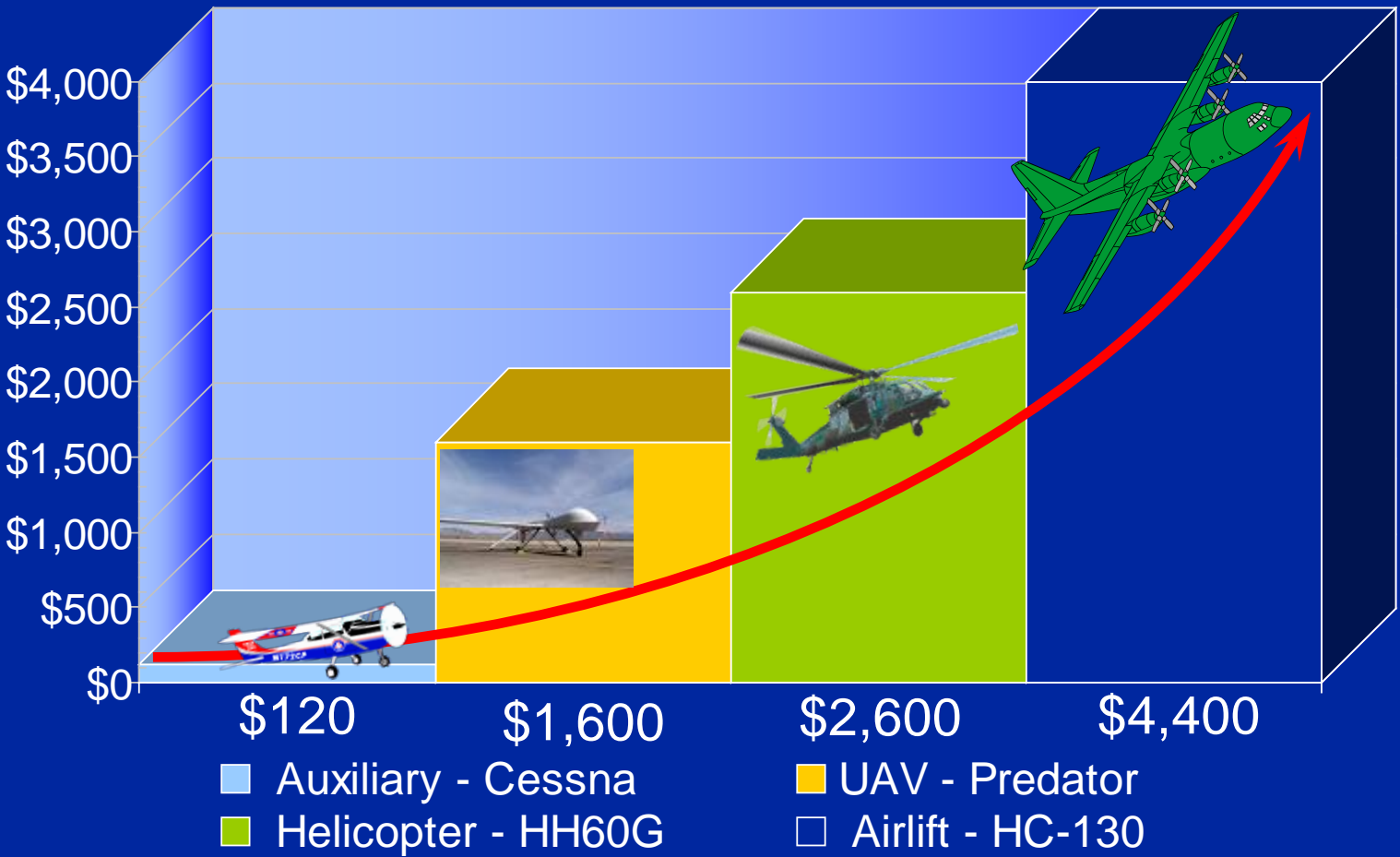
*Can operate with 2500' runway
VHF AM and FM radio*



Cessna 172 (262)



Cost-effective Force Multiplier





Responding to Emergencies

- 103 lives saved in FY07
- Large Scale effort during Fossett Search
- Wildfires in CA, FL, GA, SD, UT; Floods in IA, KS, NE, OK, SD
- ARCHER system used: to provide oil spill data for Environmental Protection Agency (EPA) and United States Geological Survey (USGS); to assist with Fossett search; to assist State of CA with vegetation and soil analysis after wildfires



Fossett Search Mission Base



Kansas flooding



Current Missions/Exercises

January:

MO, IL, WI – Tornado damage assessment for National Oceanographic & Atmospheric Agency (NOAA)

Ongoing:

DC, AZ, SD, CA, FL, VT & TX – Air Defense Sector support

DE, MD, & AZ - Traffic monitoring missions

FL - Eglin AFB Fire Patrol

CA - Imperial Valley counterdrug

SD - Collared animal surveys (mountain lions)

OH, SD, AR, AZ - Low Level route surveys

ME - Escort for new Navy ships

Upcoming:

WA & OR – Prep for Vancouver Olympics

WA & Middle East Region - Ardent Sentry exercise





AFNORTH Exercise



SITUATION: Incident caused damage to the Kentucky Dam on the Tennessee River

REQUIREMENT: Damage assessment photos as soon as possible

RESULT: CAP Images delivered within hours

Post-mission imagery



Pre-mission imagery





Exercises

**Federal Emergency Management Agency (FEMA)
Heartland Response**

- New Madrid Fault Exercise

NORTHCOM Support

- United Defense
- Determined Promise
- Top Officials 3/Ardent Sentry



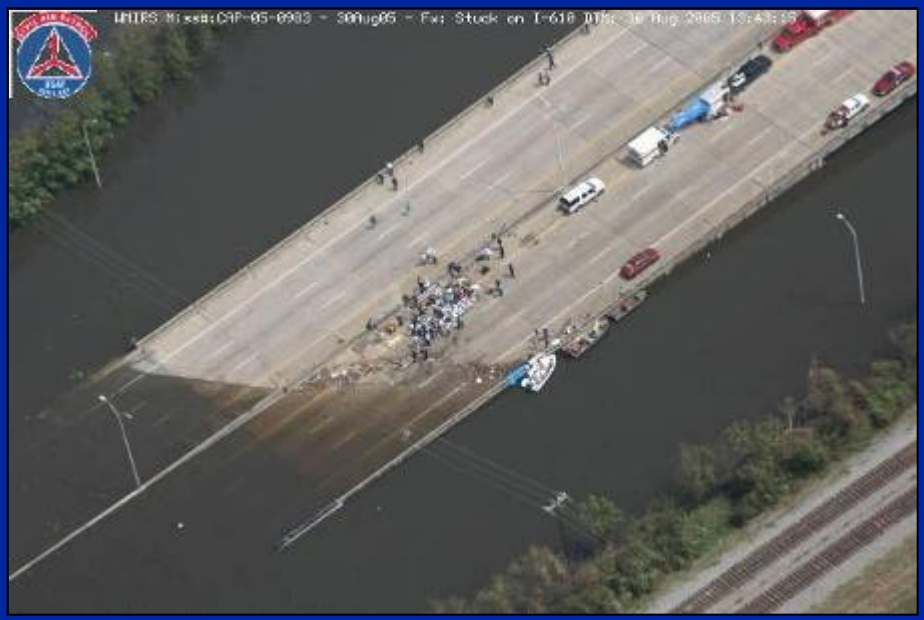


Hurricane Support



Hurricanes Katrina, Rita, Ophelia and Wilma

- 1,048 Air Sorties
- 2,023 Flight Hours; 131 Ground Team Missions
- Provided air transportation for hundreds of people

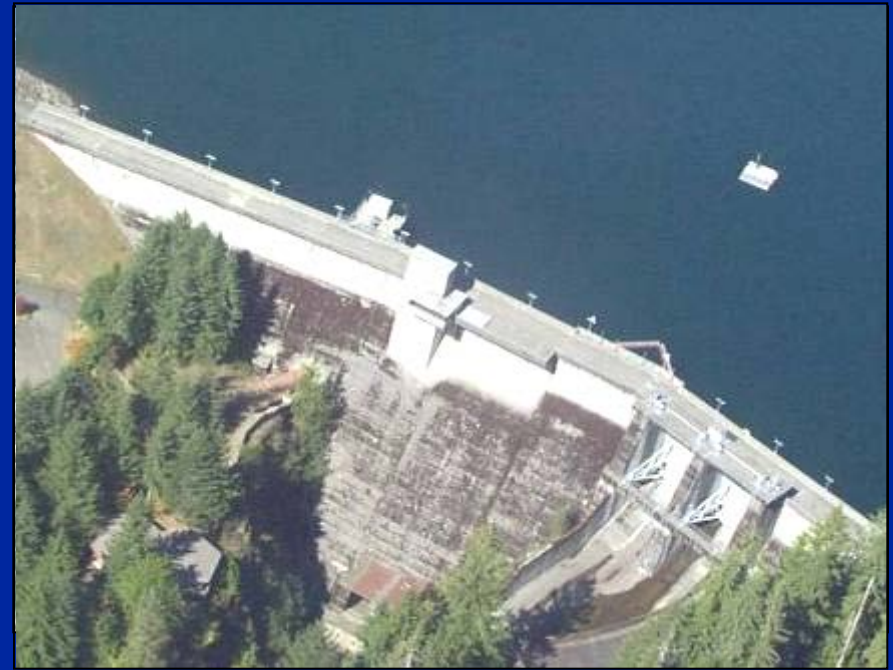




Additional Support



- Critical infrastructure
- Restricted or sensitive areas
- Borders





Operations



SDIS
Satellite-Transmitted Digital Imaging System

- Status
 - 100 systems in service now

ARCHER
Airborne Real-time Cueing Hyperspectral Enhanced Recon

- Status
 - 16 systems fielded

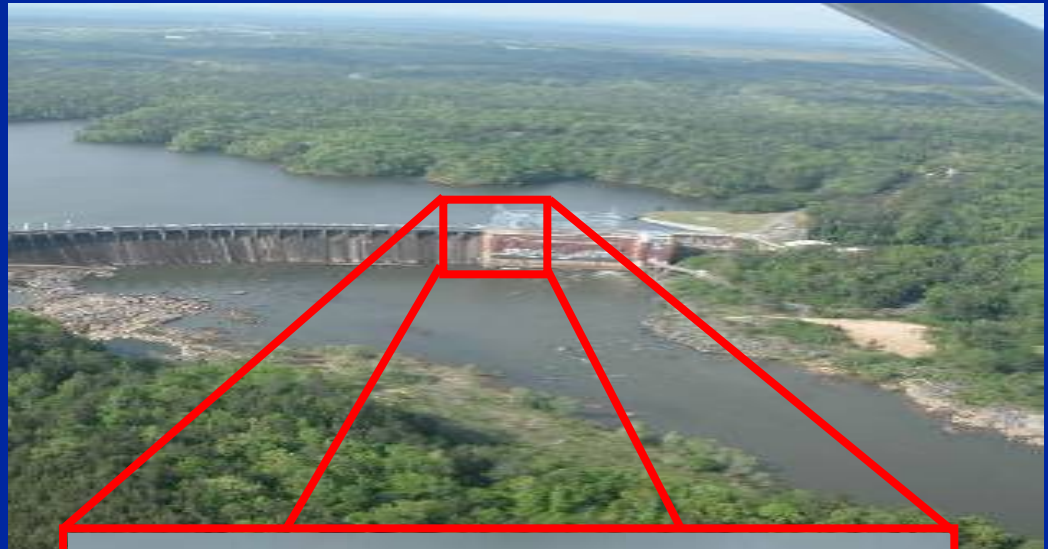




SDIS



What is SDIS?
Satellite-transmitted
Digital
Imaging
System





SDIS



Digital Photo automatically loaded into aircraft laptop



Locate the target. Take a digital photo



Image attached to an e-mail and sent via satellite phone



E-mail with image sent by satellite to Globalstar Internet Gateway

Globalstar USA

World Wide Web



Our Customers View in WMIRS



SDIS



Technology that enables CAP to send high resolution digital imagery from CAP aircraft to anyone anywhere in the world

Images are sent as JPEG attachments via standard e-mail to multiple addresses and/or a password-protected website

Imagery is transmitted near real-time. Files take less than 2 minutes to transmit.





SDIS



WMIRS Miss#LIXOS-SER04-2604 - 14Aug04 - Trailers 27-50.00N 81-58.11W DTM: 14 Aug 2004 18:34:21



WMIRS Miss#TNWG-HEARTLAND-RESPONSE-04 - 21Mar04 - Bridge, Dyersburg, TN 03 DTM: 21 Mar 2004 13:22:17



ARCHER



What is ARCHER?

Airborne

Real-Time

Cueing

Hyperspectral

Enhanced

Recon





ARCHER



- **ARCHER is a custom-designed system of hyperspectral imaging (HSI) hardware and software.**
- HSI is a technology that allows a sensor on a moving platform to **detect and/or gather reflected radiation (light)** from man-made or natural objects on the ground.
- Hyperspectral Imaging will **support current and future CAP missions**
 - Search and Rescue (SAR)
 - Disaster Relief (DR)
 - Homeland Security (HLS)



ARCHER



ARCHER executes three separate algorithms for target acquisition and identification:

- **Spectral signature matching:** detects specific spectral signatures using matched filters (find things with known spectral properties)
 - Potential Missions: HLS
- **Anomaly detection:** detects spectral anomalies (things that do not “belong”)
 - Potential Missions: Search and Rescue, Disaster Relief
- **Change detection:** detects changes over time through a pixel-by-pixel comparison.
 - Potential Missions: HLS, Disaster Relief



ARCHER



- ARCHER is a **non-invasive** reflective light technology
- ARCHER will **NOT** make detections:
 - Through solid materials (e.g., roofs, buildings, walls, floors, etc.)
 - Underground
 - Under snow
 - Under water
 - At night



ARCHER



The screenshot displays the ARCHER (Advanced Radar Correlation and Hypothesis) software interface. The main window shows a satellite map of a forested area with a road. A red circle highlights a specific target on the map, and a red arrow points from this target to a larger, zoomed-in view of the same target. The zoomed-in view shows a building with a blue roof. To the right of the map is a data table with columns for ID, Name, RST Type, RST Point, RST Lat, RST Long, Sum, Longitude, Latitude, Elevation, Reflivity, Date, and Date. Below the table are several panels: a 'Match' section with a grid of images, a 'Match Data' section with a larger image of the target, a 'Match Status' section with a 'Match Filter' button, and a 'Match Results' section with a 'Match Filter' button. A 'Match Filter' graph is also visible, showing a line graph of 'Match Filter' values over time. The interface includes various toolbars and a status bar at the bottom.

ID	Name	RST Type	RST Point	RST Lat	RST Long	Sum	Longitude	Latitude	Elevation	Reflivity	Date	Date
1	Archery	00001	001	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
2	Archery	00002	002	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
3	Archery	00003	003	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
4	Archery	00004	004	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
5	Archery	00005	005	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
6	Archery	00006	006	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
7	Archery	00007	007	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
8	Archery	00008	008	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
9	Archery	00009	009	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
10	Archery	00010	010	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
11	Archery	00011	011	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
12	Archery	00012	012	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
13	Archery	00013	013	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
14	Archery	00014	014	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
15	Archery	00015	015	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
16	Archery	00016	016	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
17	Archery	00017	017	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
18	Archery	00018	018	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
19	Archery	00019	019	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0
20	Archery	00020	020	000000	000	00	000000	000000	000000	00	2000-06-11 11:08:12.0	2000-06-11 11:08:12.0

Fort AP Hill Test Mission:
Match Filter Detection



ARCHER Change Detection



Sortie 1



Sortie 2



The Future for AF Aux

- Assume increased role in Civil Support mission
- More seamless integration within the Combined Air Operations Center and Air Force North (AFNORTH)



Civil Air Patrol



... performing missions for America!

Questions?

