



NDIA Conference November 4th, 2008





ISR Innovations and UAV Task Force Directorate

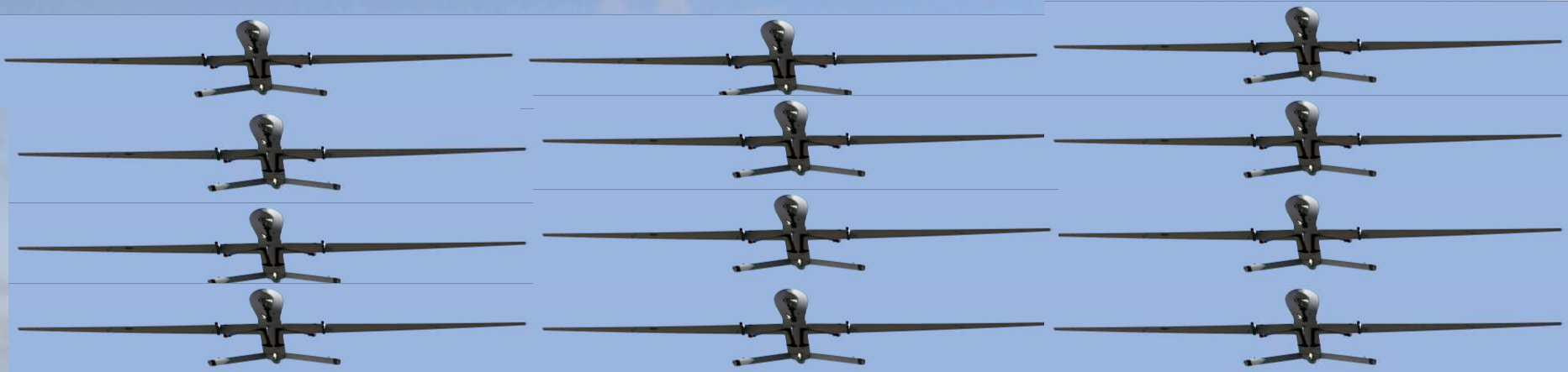


November 2008



He's armed and dangerous
And now he's an actual "Intel Guy"

USAF UAV Task Force





Yoda of Predator

Tazar AB Hungary 1996



Kandahar AB Afghanistan 2008



A2-U's Expertise:

We've done it longer than anyone else.

We built many of the capabilities.

Our personnel are flying it today.

****And Snake can still fit into a Flight Suit**

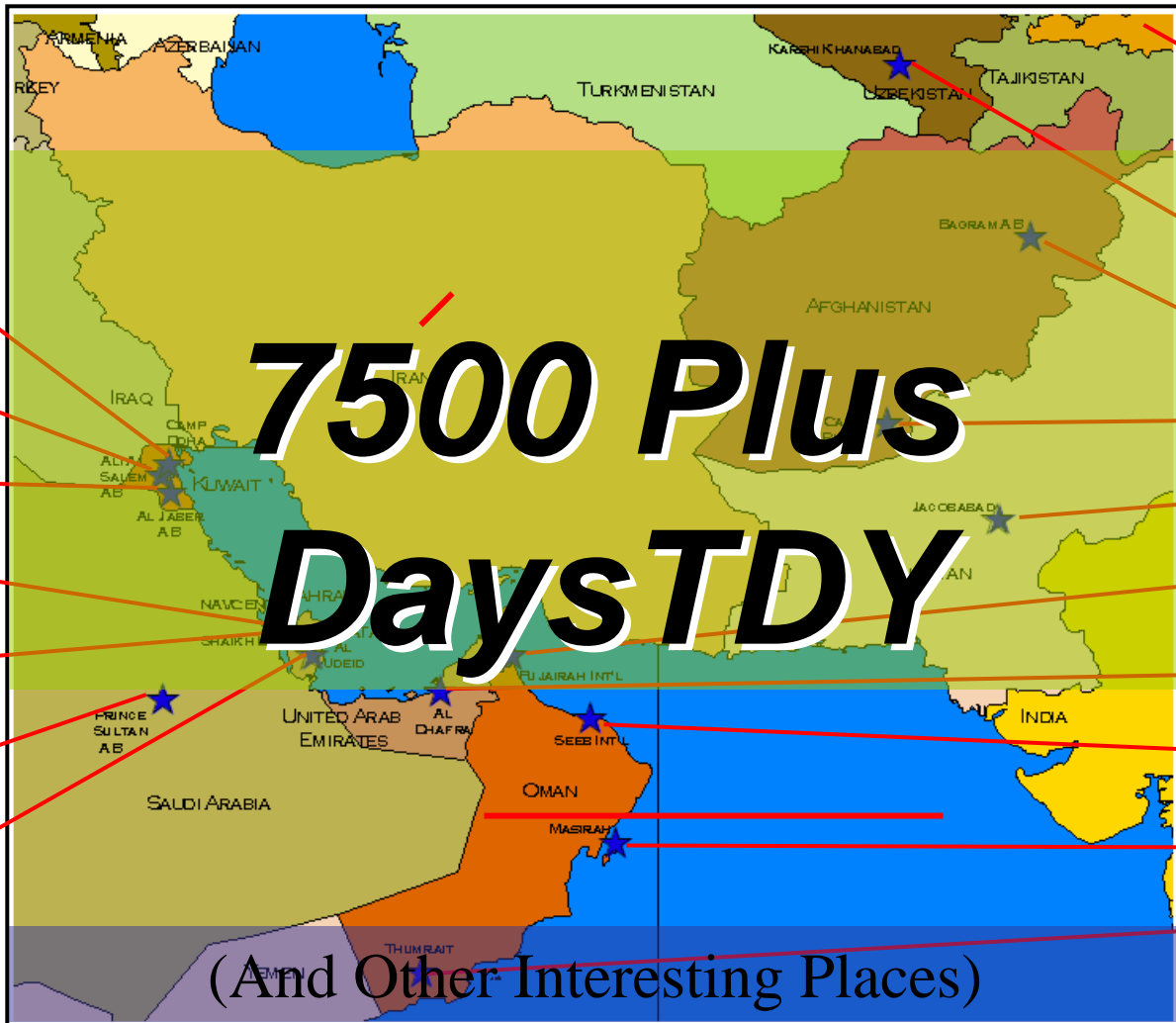


A2-U in the AOR

June 2001 – August 2008



- Balad
- Baghdad
- Tallil
- Camp Doha
- Ali Al Salem
- Al Jaber
- NAVCENT
- Shaikh Isa
- PSAB
- Al Udeid



- Manas Kyrgyzstan
- Karshi Khanabad
- Bagram
- Camp Rhino
- Jacobabad
- Fujahra
- Al Dhafra
- Seeb
- Masirah
- Thumrait

(And Other Interesting Places)



MQ-1 Predator Reaches 440,000 hours



4000 + Weekly Combat Hours
28 Combat CAPS

MQ-9 Reaper 30,000 hours



Over 400 Combat hours a week

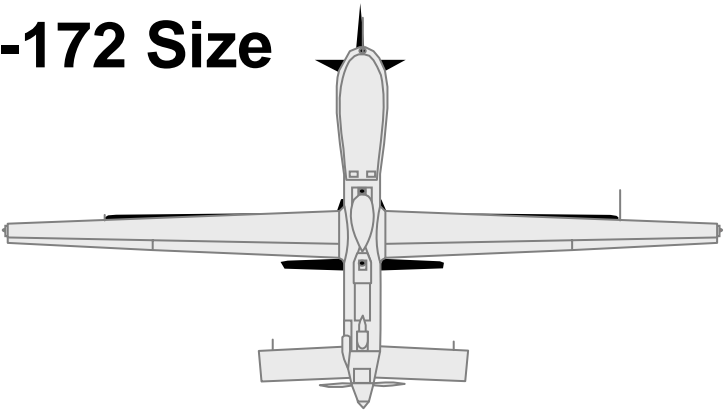


MQ-1/MQ-9 Comparison

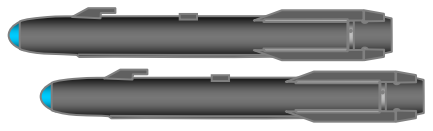
MQ-1

MQ-9

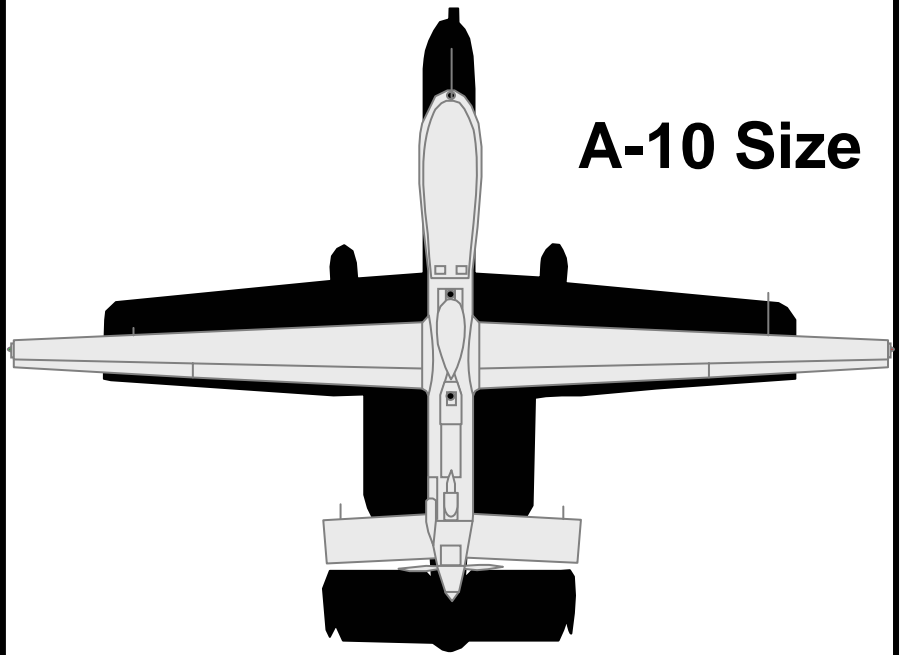
C-172 Size



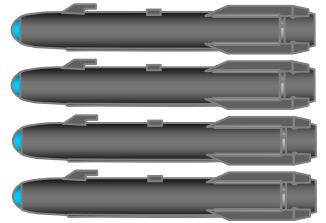
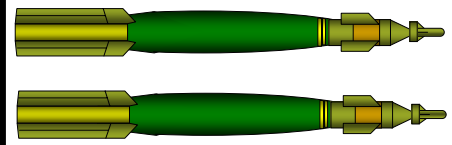
2 x Hellfire



A-10 Size



2 X 500 lb bombs & 4 x Hellfire





Smart reach back UAV Operations

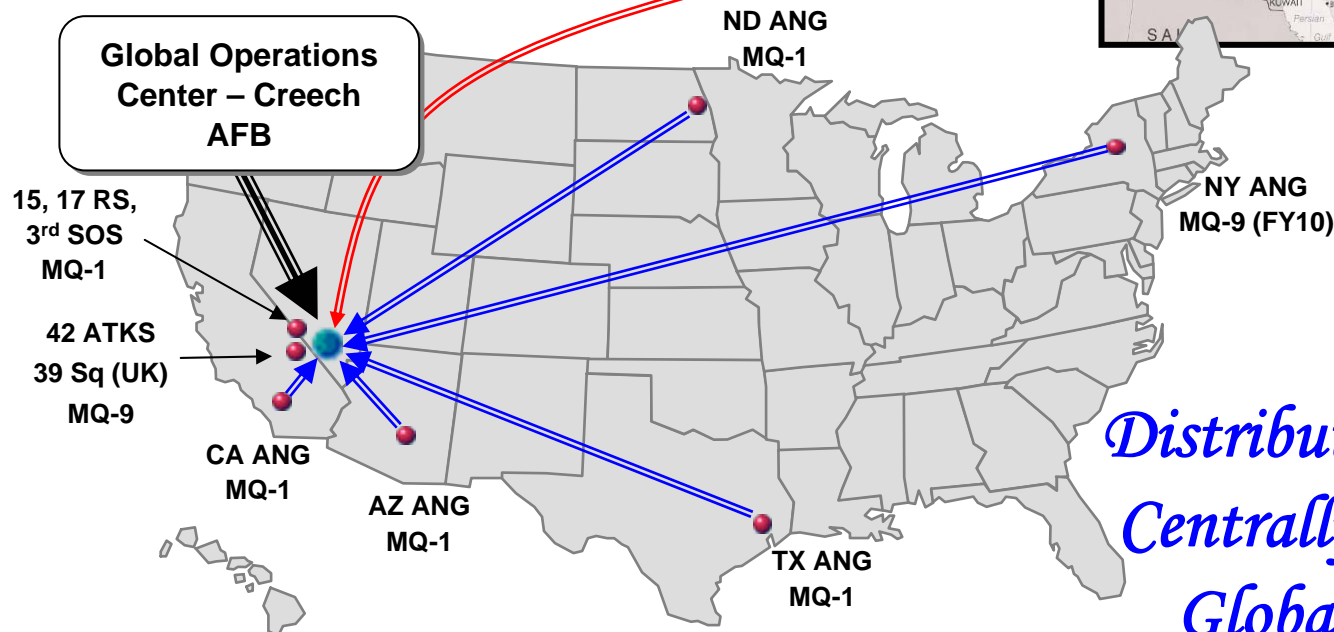


Total Force Operations

Active Duty, Reserve, National Guard,
Special Operations, United Kingdom

6 - Stateside operations centers

5 - Launch and recovery units in theater

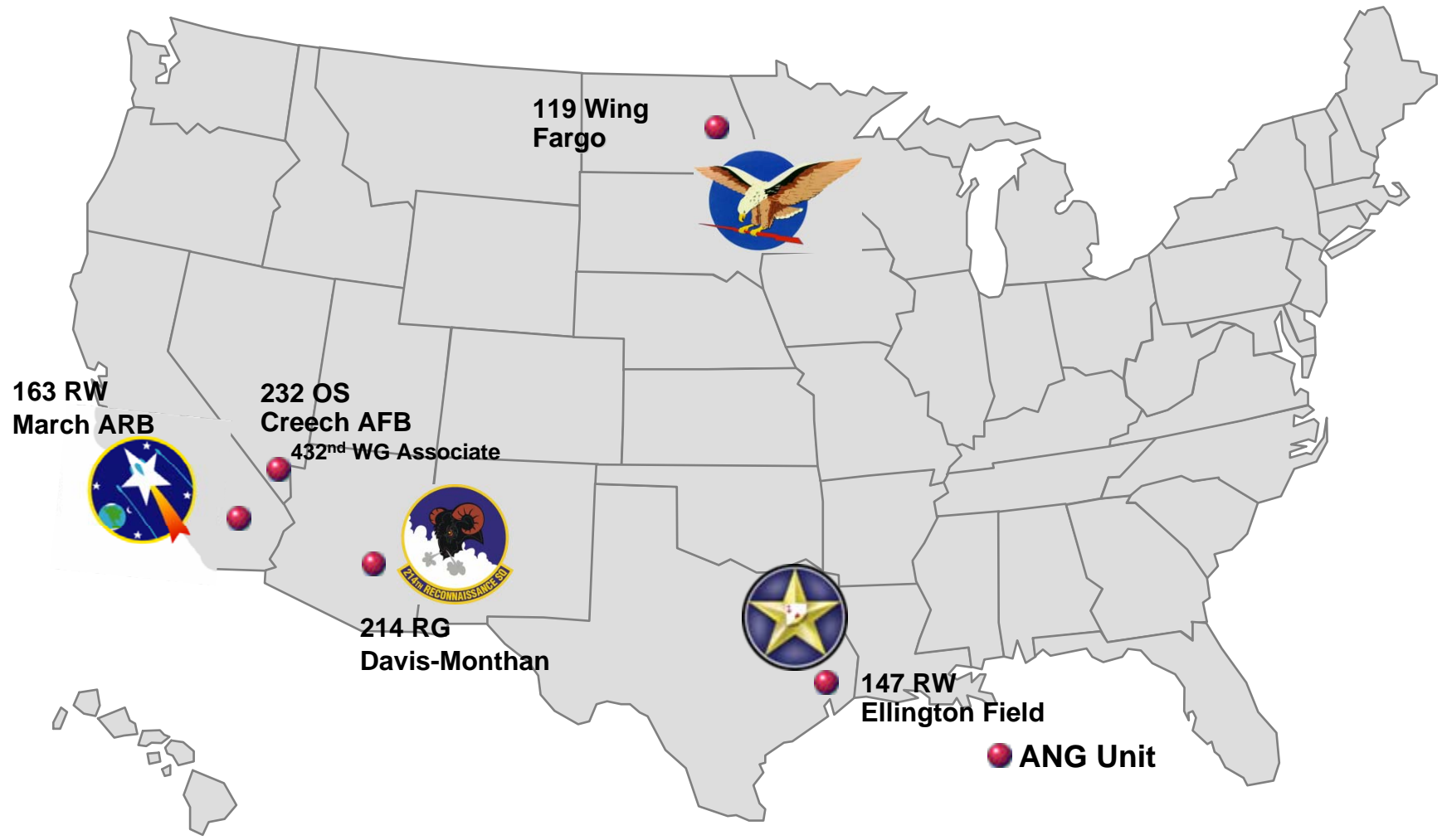


*Distributed Operations
Centrally Coordinated
Globally Applied*

Over 1000 personnel flying Combat Operations not in harms way



ANG MQ-1 Organization





Air National Guard Total Force Transformation



- **Convert BRAC units to new UAVs Mission**
- **Maintaining years of Aircrew experience**
(F-4, F-15, F-16, F-117, A-10, B-52, C-5, C-17, C-21, C-130, KC-135, & AH-64)
- **From a high time of 5000+ hours to an average of over 1500 hours**
- **Minimum training for High Combat Experience**
- **Maintaining extensive Maintenance, Logistics, Training, Intel Support, and Facilities to the new mission at a minimum cost**

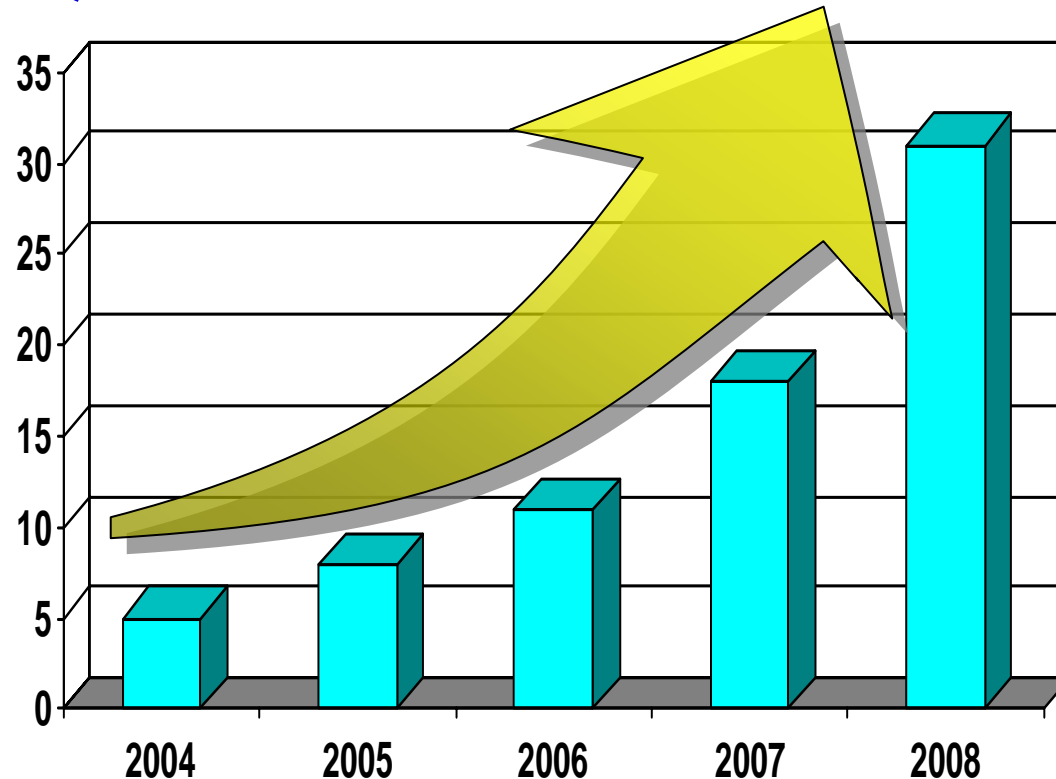
**Bottom line: Flying, armed UAV's is not simple
13 ½ years and 450 K hours lesson learned**



Predator Combat Growth

Air Force MQ-1B Predator Combat Air Patrols

- 2004 = 5
- 2005 = 8
- 2006 = 11
- 2007 = 18
- 2008 = 31
(Planned)



520% Increase in 4 years!



Predator Innovations



<i>Laser Designator</i>	<i>Kosovo</i>	<i>38 Days</i>
<i>Hellfire</i>	<i>2001</i>	<i>61 Days</i>
<i>Remote Split Ops</i>	<i>2001</i>	<i>5 Days</i>
<i>Stinger</i>	<i>2002</i>	<i>91 Days</i>
<i>ROVER</i>	<i>2002</i>	<i>4 Days</i>
<i>Hellfire Sleeve</i>	<i>2002</i>	<i>21 Days</i>
<i>GBU-12</i>	<i>2003</i>	<i>9 Months</i>
<i>Link-16/SADL</i>	<i>2004</i>	<i>8 Months</i>

FalconView Multi-Predator Tool, Super Splitter, Cursor on Target, UAS Mission Information System, Blue Force Tracking, Civil Air Tracks, ISR Information Services, Wing/Squadron C2, Predictive Control Displays, Predator FalconView enhancements . . .



ROVER

Full Motion Video directly to the Warfighter



Predator

SNIPER Pod

Litening Pod

P3

Raven

Pioneer

Pointer

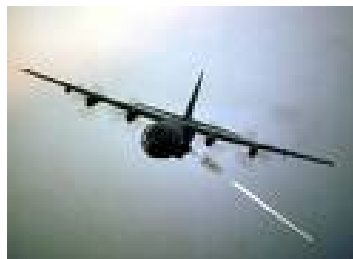
AC-130

Shadow

Hunter

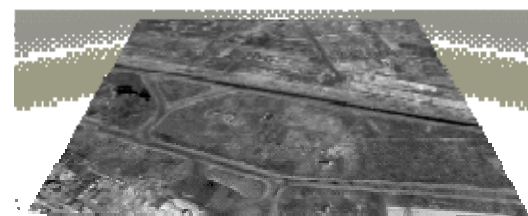
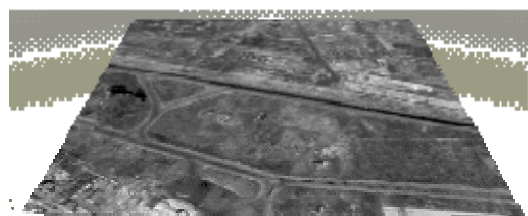
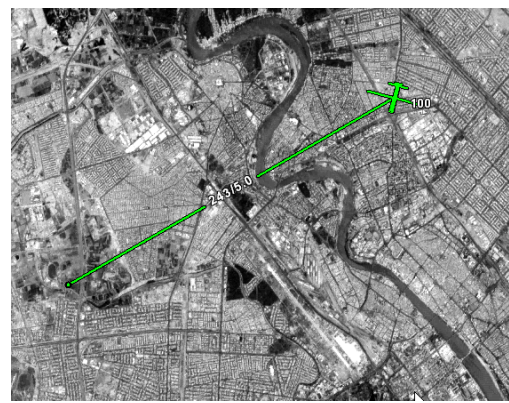
Fire Scout

Scathe View





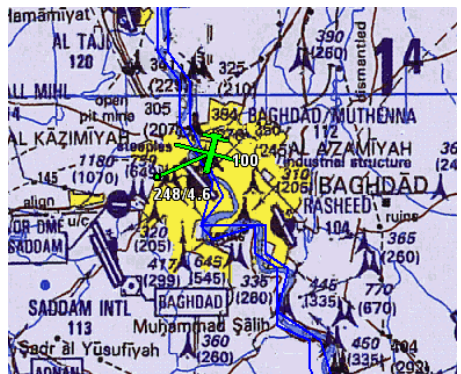
ROVER Big Picture



PSS-SOF Precision Targeting



**FalconView
Maps
+
Imagery**



ROVER



ROVER

Revolutionizes the Battlefield

Over 14 NATO and ISAF countries use ROVER

- | | | | |
|----------|-------------|-----------|---------------------|
| – UK | France | Australia | Germany |
| – Norway | New Zealand | Canada | Portugal |
| – Italy | Spain | Sweden | Belgium Netherlands |



***85% of CAS mission done
with ROVER in OIF***



Fielded ROVERs



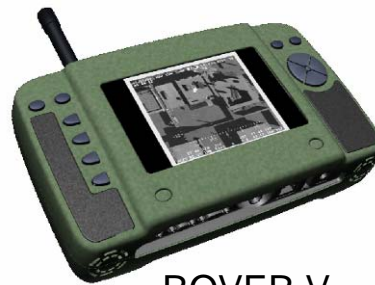
ROVER I: (Pred to AC-130)
Total Delivery – 20

ROVER II: (Aircraft to JTAC)
Total Delivery 147

ROVER III – Multi-band receiver C/L/KU
Total Delivery 2331



ROVER IV
Total Delivered 1169



ROVER V
On Order 9

ROVER 4200



OSRVT 1083

ROVER Recycling Program Upgrade
ROVER 3's to ROVER 4's only \$7K



ROVER 5 Test Sep 08

- Full Encryption
- 4 pounds
- John Madden
- Full production Nov 08





OEF Coalition Warfare 38 Nations in ISAF

All members must have the same maps and imagery



A2-U Afghanistan Eagle Express



- *145 Laptops computers with NATO releasable maps and imagery on FalconView*
 - *Six Regional Commands*
 - *Provided FV training*





Enhanced Combat Situational Awareness



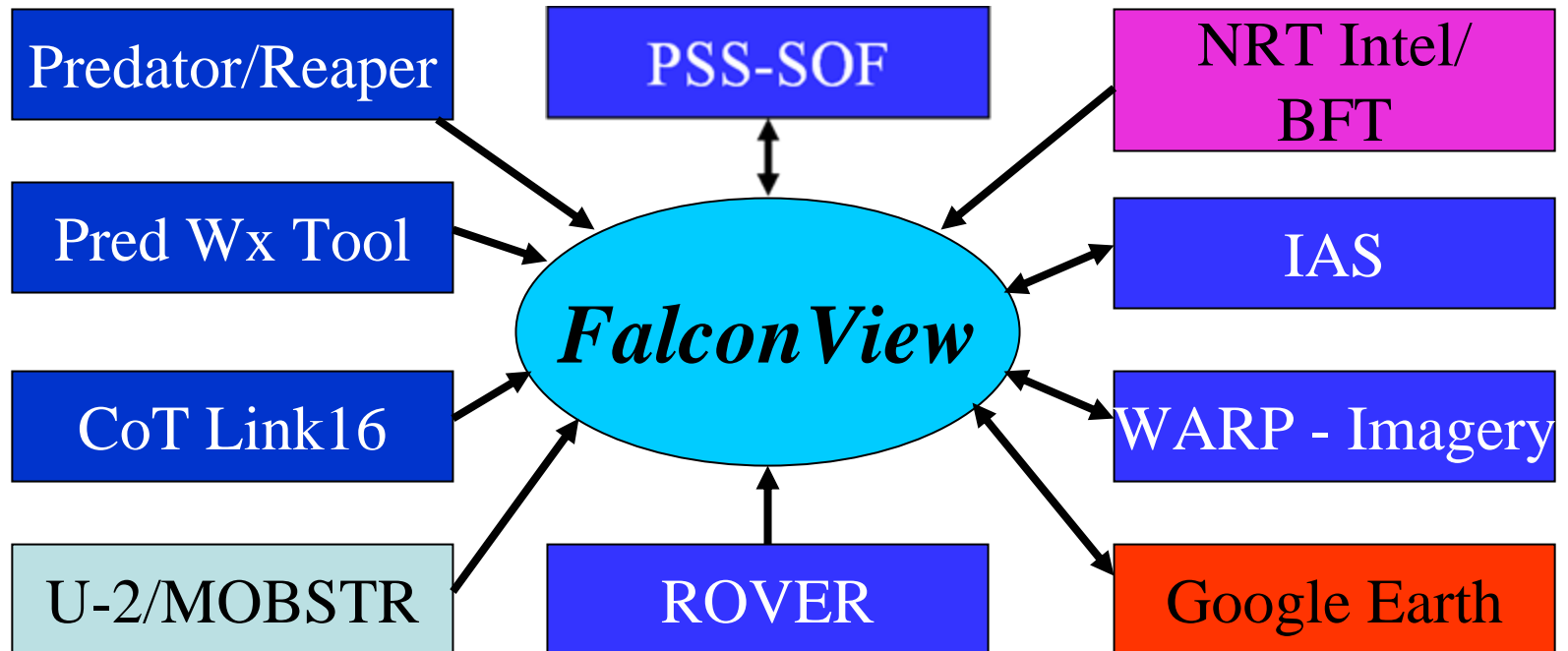
It's not the number of UAV's that are in the sky, it's how you get the data to the lowest tactical level



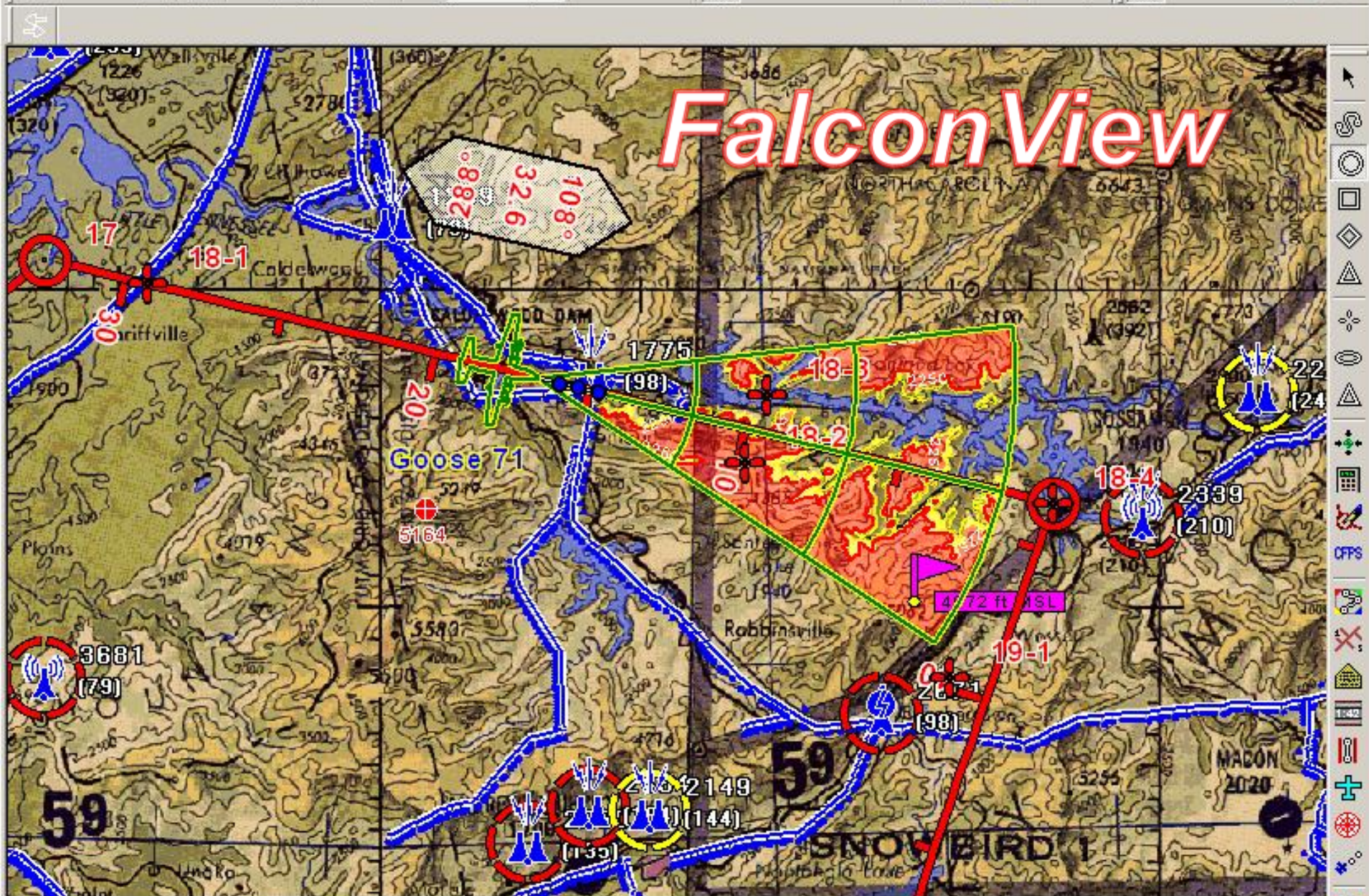
FalconView New Technology



Increasing Connectivity – the “glue” that provides SA to the operator



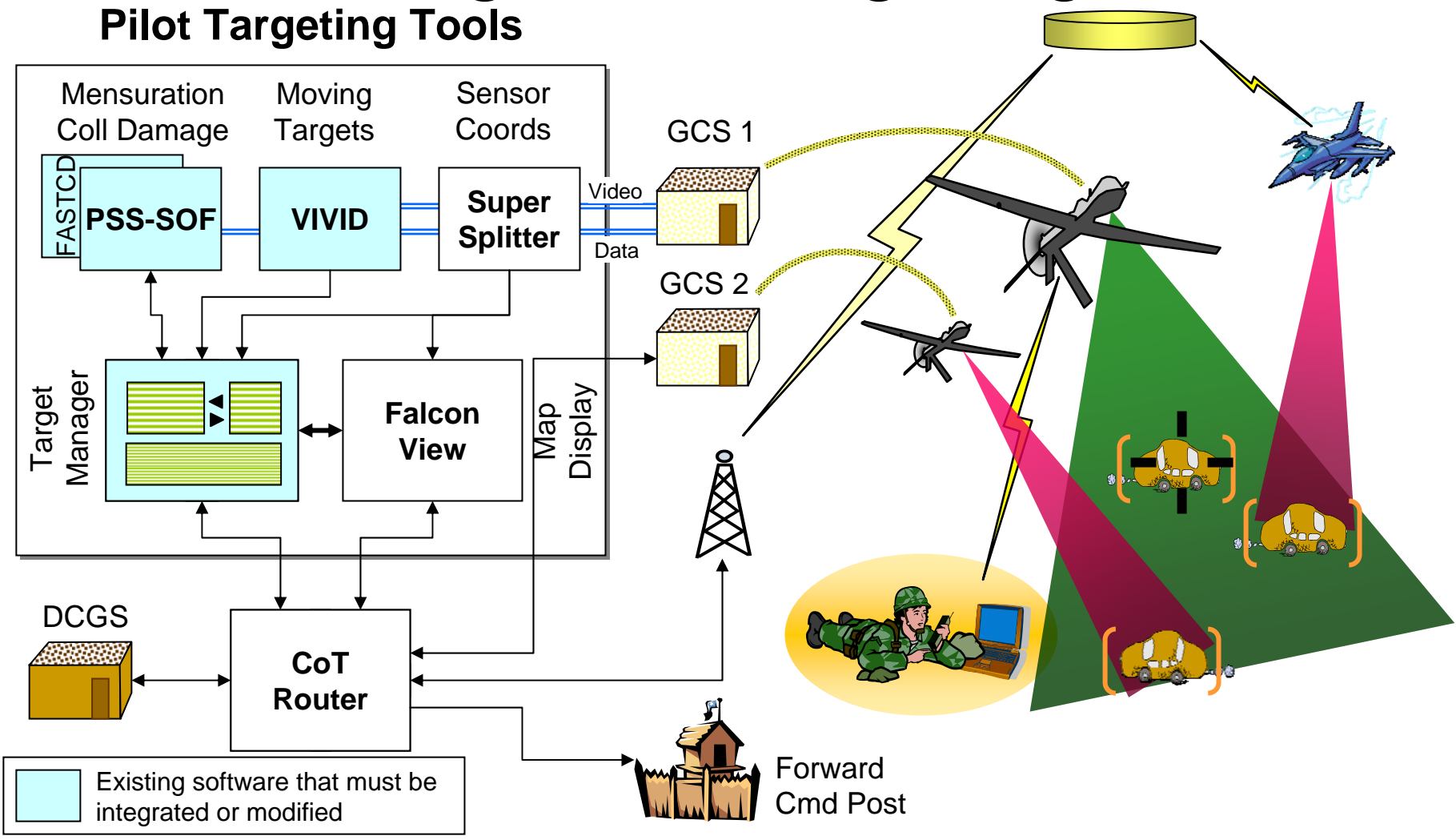
Even used on Air Force One!





Predator Reaper Integrated Targeting

Pilot Targeting Tools





ROVER & FalconView Support



A2-U ROVER Team



ROVER Video posted NORTHCOM website



Fire Fighter (Don Green) embedded with A2-U



FalconView Training for State Fire Chief



EV5 Worldwide Support



Hurricane Katrina

San Diego Fires

Northern CA

Fire Lines

Big Island Fires

Tsunami Assistance

RP Flooding

RP Mudslide

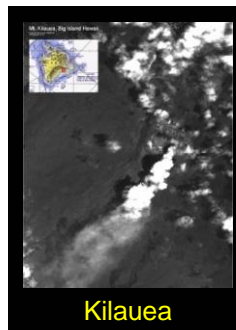
US Natural Disasters

Burma Cyclone

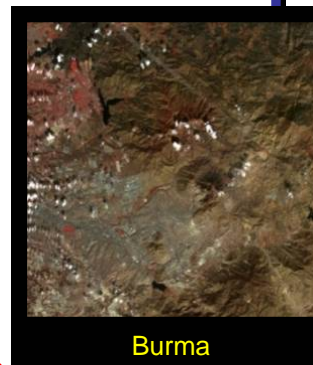
Volcano



Hurricane Katrina



Kilauea



Burma



Florida Images



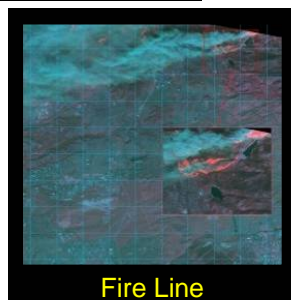
RP Mudslide



San Diego Fires



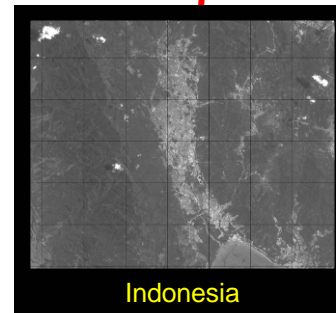
California Fires



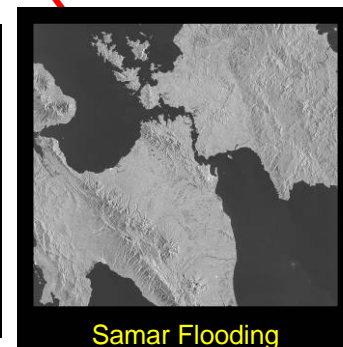
Fire Line



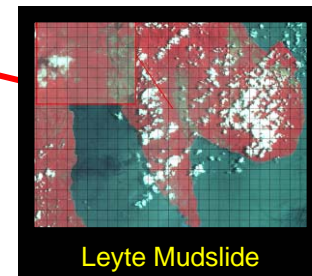
Big Island Fires



Indonesia



Samar Flooding



Leyte Mudslide



EV5

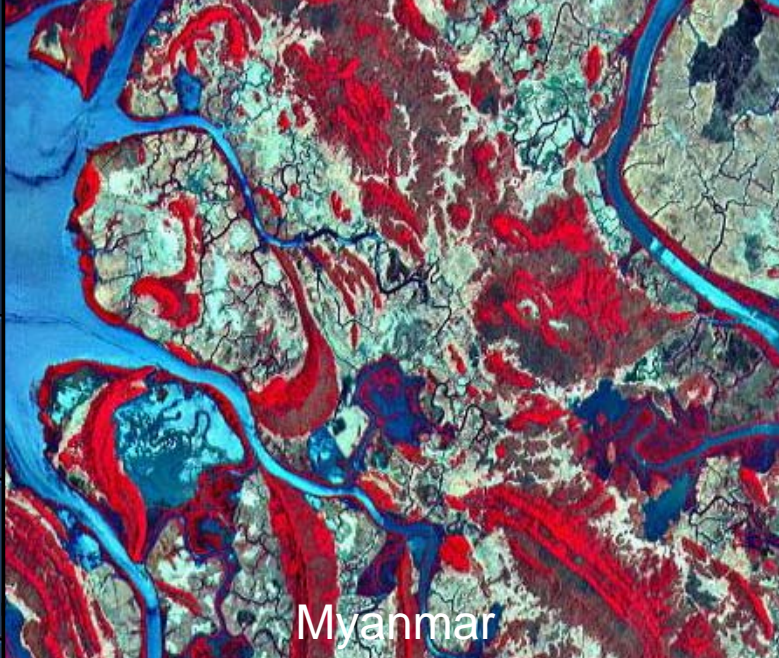


IKONOS

SPOT-5

SPOT-4

SPOT-2



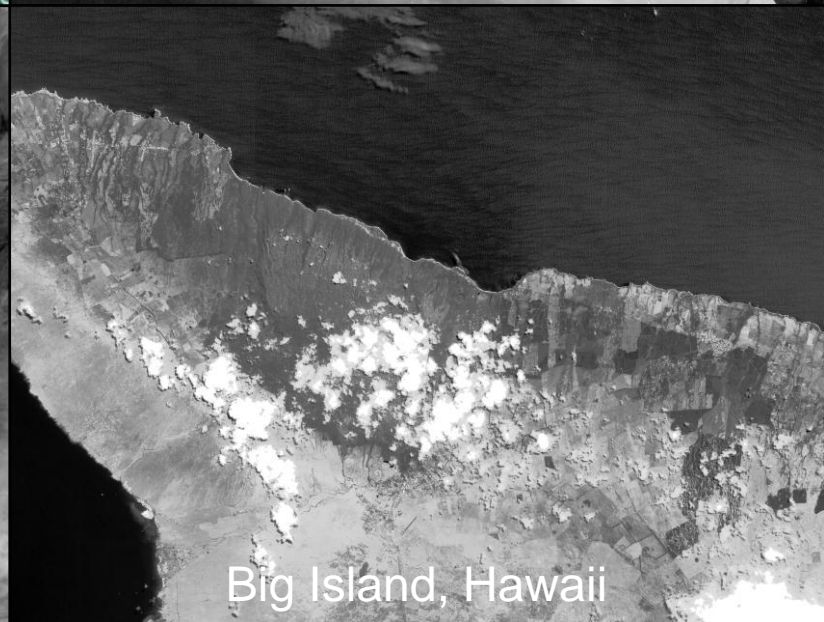
Myanmar



Malaysia



Nellis AFB



Big Island, Hawaii

Resolution: 20 meter
Revisit Time: 2-3 Days

Imagery: EO Panchromatic & Multispectral
Times: 1000-1400
License: Title 50



IKONOS

SPOT-5

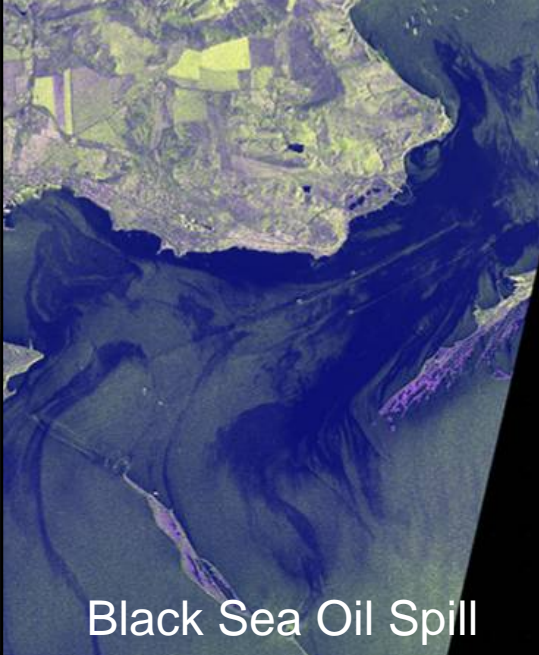
SPOT-4

SPOT-2

RADARSAT-1

RADARSAT-2

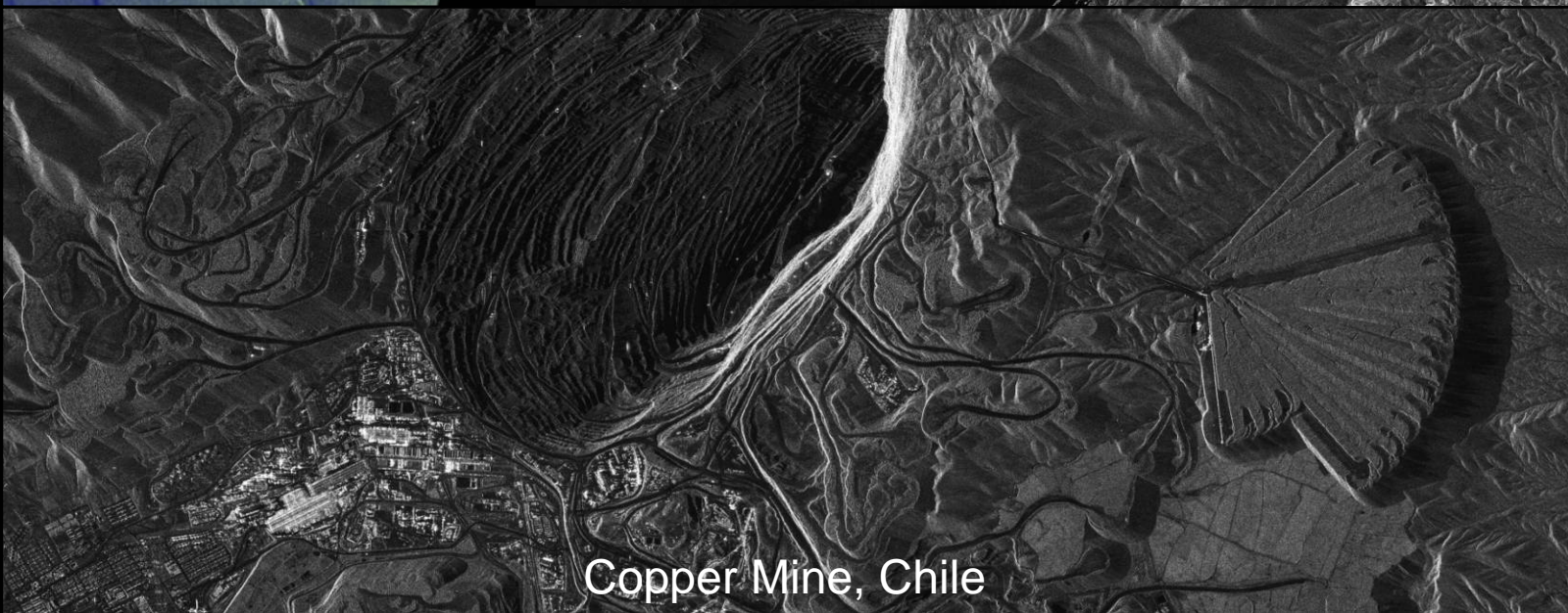
TerraSAR-X



Black Sea Oil Spill



Strait of Gibraltar



Copper Mine, Chile

Resolution: 1, 3, 9, 16 & 32m

Imagery: Radar License: Title 50

Revisit Time: 2-3 Days

Times: 0530-0730 & 1730-1930



Smithsonian NASM

Dedication 23 Apr 2008



16 Sep 01 thru 25 Jul 03
Combat Sorties 196
Combat Hours 2606

1st Hellfire Test 16 Jan 01
1st Hellfire Combat Shot 07 Oct 01





USAF Way Ahead

- Support Today's Fight
 - Increase Combat CAPs
 - Increase MQ-9 Reaper Deployments
- Continue Innovation and Rapid Fielding
- Improve Full Motion Video to the Warfighter
- Improve Interoperability of Multiple Systems
- Next Generation MQ-X



A2U



Questions???

