

# *Headquarters Air Combat Command*

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## *Expeditionary Site Mapping (GeoReach) - Update*



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This Briefing is:  
**UNCLASSIFIED**

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# Overview

- **What is GeoReach for the Air Force**
- **What We've Accomplished**
- **Equipment/Support**
- **Capabilities**
- **Training**
- **Way Ahead**



# Current CONOPS Construct

- CSAF tasked Air Staff to develop capabilities-based CONOPS making *warfighting effects/capabilities the driver for all we do*
- Establishes the foundation for transforming to a capabilities-based Expeditionary Air and Space Force





# GeoReach Basics

## Global Mobility CONOPS Linked

- Global Mobility CONOPS calls for capability to:
  - Provide assets around the globe anytime, anywhere
  - Provide **tailored capabilities** to **stand-up** and **sustain** combat operations at **prepared and austere locations**
  - **Capability** to rapidly assess an airbase
  - **Perform pre action assessments**
  - **Plan base layout**

*“Collect/update data on runway and base infrastructure from airfields, remote and en-route to provide runway and basing capability and capacity, at frequent intervals prior to crisis development. Perform pre-action assessment. Maintain Worldwide awareness of airfield capabilities to support mobility operations”* **Para 5.1.1.2.1, GM CONOPS**





# GeoReach Basics

## COMACC Focus Area Linked

**Transformation:** Embrace new technology, operational concepts and tailorable combat/expeditionary combat support capabilities and **Onia Ops:** Integrate space power and information capabilities into a

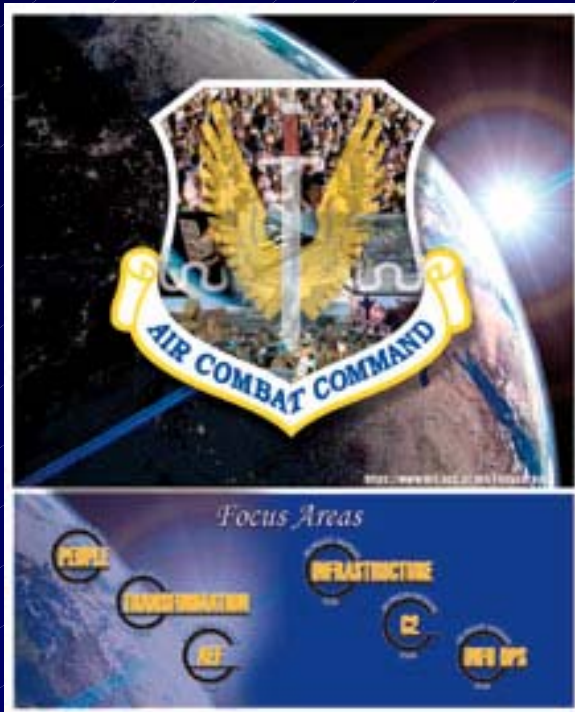
- seamless capability
- GeoReach enhances the way in which decisions are made
- GeoReach enables tailoring of AEF forces to support expeditionary combat support
- GeoReach enhances expeditionary combat support requirements by providing an advanced look at mission requirements
- GeoReach used to tailor Airborne RED HORSE forces to mission during O/F

Putting decision quality data in the hands of planners & commanders



# GeoReach Basics

## COMACC Focus Area Linked



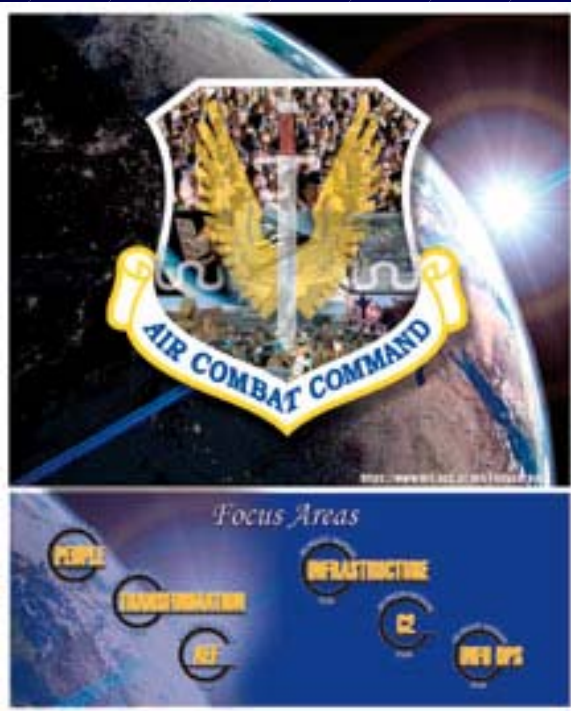
**Transformation:** *Embrace new technology, operational concepts and organizational structures to improve our warfighting capabilities*

- GeoReach is transforming the way in which expeditionary basing decisions are made
- Imagery library enabled CFACC planners to develop OIF basing plans (aircraft and facility / personnel beddown) without putting Airmen in harms way (risk avoidance)



# GeoReach Basics

## COMACC Focus Area Linked



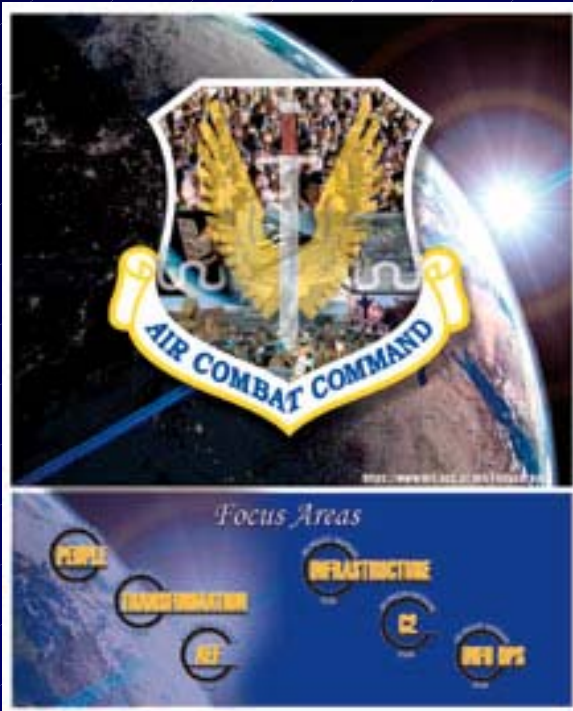
**AEF:** *Develop fully capable AEFs with tailorable combat/expeditionary combat support capability*

- GeoReach enables tailoring of AEF forces to meet expeditionary combat support requirements by providing an advanced look at mission requirements
- GeoReach used to tailor Airborne RED HORSE forces to mission during OIF



# **GeoReach Basics**

## **COMACC Focus Area Linked**



**C2: Aggressively develop full command and control of air and space power**

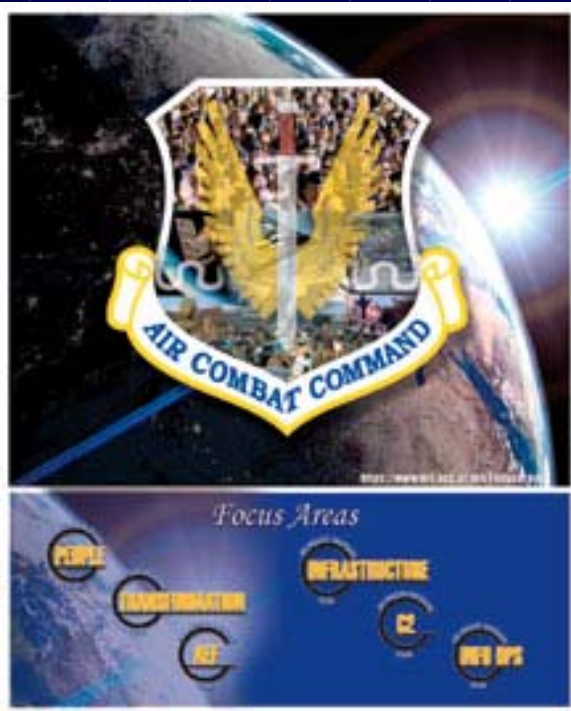
- GeoReach enhances C2 by enabling decision support of crisis response
- GeoReach enhances situational awareness for planners and senior leadership





# **GeoReach Basics**

## **COMACC Focus Area Linked**

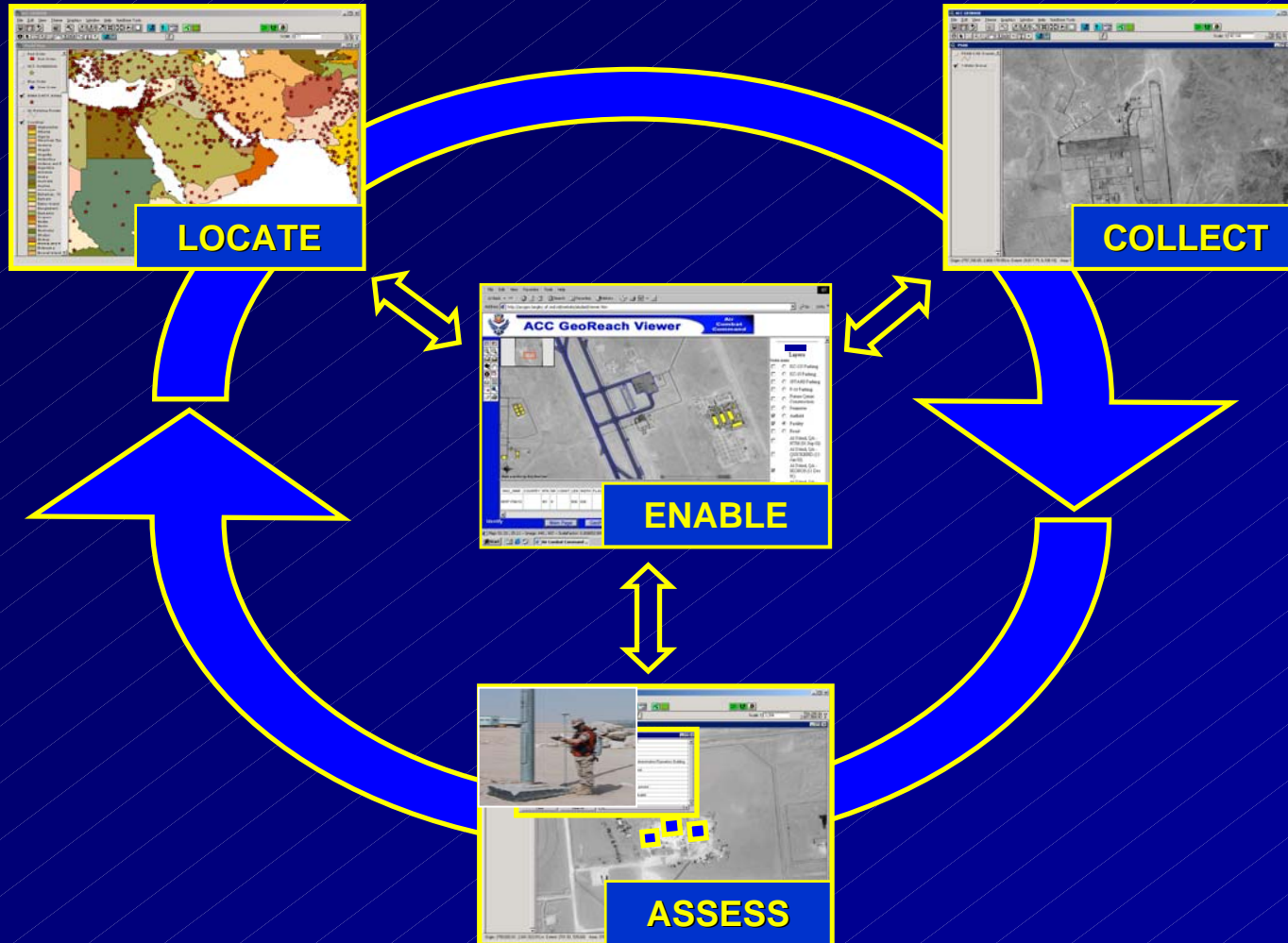


**Info Ops:** Merge air, space, intelligence and information operations into a seamless capability

- GeoReach provides the integrated framework for the storage and access of expeditionary site support planning data



# EXPEDITIONARY SITE MAPPING (ESM) CONOPS



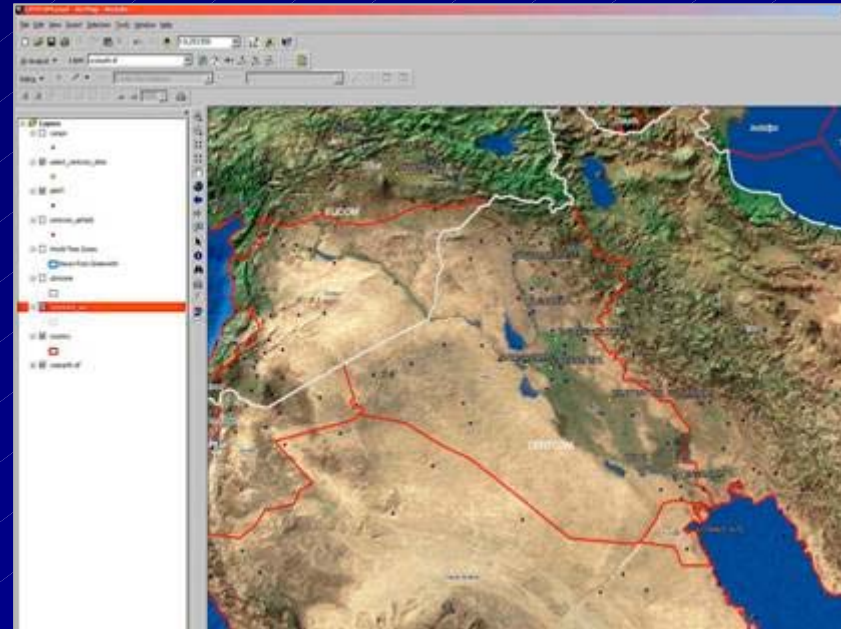
*ESM enables Global Mobility CONOPS Base Opening capability*



# GeoReach

## Expeditionary Capabilities - Worldwide Coverage

- Over 44,000 airfields worldwide can lead to massive undertaking to find suitable beddown locations
- GeoReach provides searchable database easing selection process
  - Old way...manually review publications and reports
  - New way...enter criteria into database search engine
- OIF impact
  - 60+ airfields identified in theater narrowed to 5 suitable in 2 days!



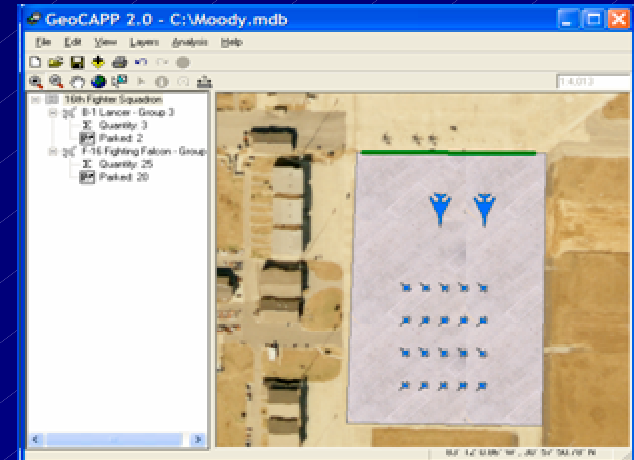
Fuses data from National and Commercial Sources for any chosen site



# GeoReach

## Expeditionary Capabilities – Beddown Planning

- Enables planning decisions to be made *“without putting boots on the ground”*
- Contingency Aircraft Parking Planner
  - Supports USAF, Army, Navy and NATO aircraft
  - Modeling for alternative Maximum On Ground scenarios
  - Optimizes existing/future ramp space
- Base Engineering Survey Toolkit
  - Permits USAF, Army and Joint Beddown scenarios



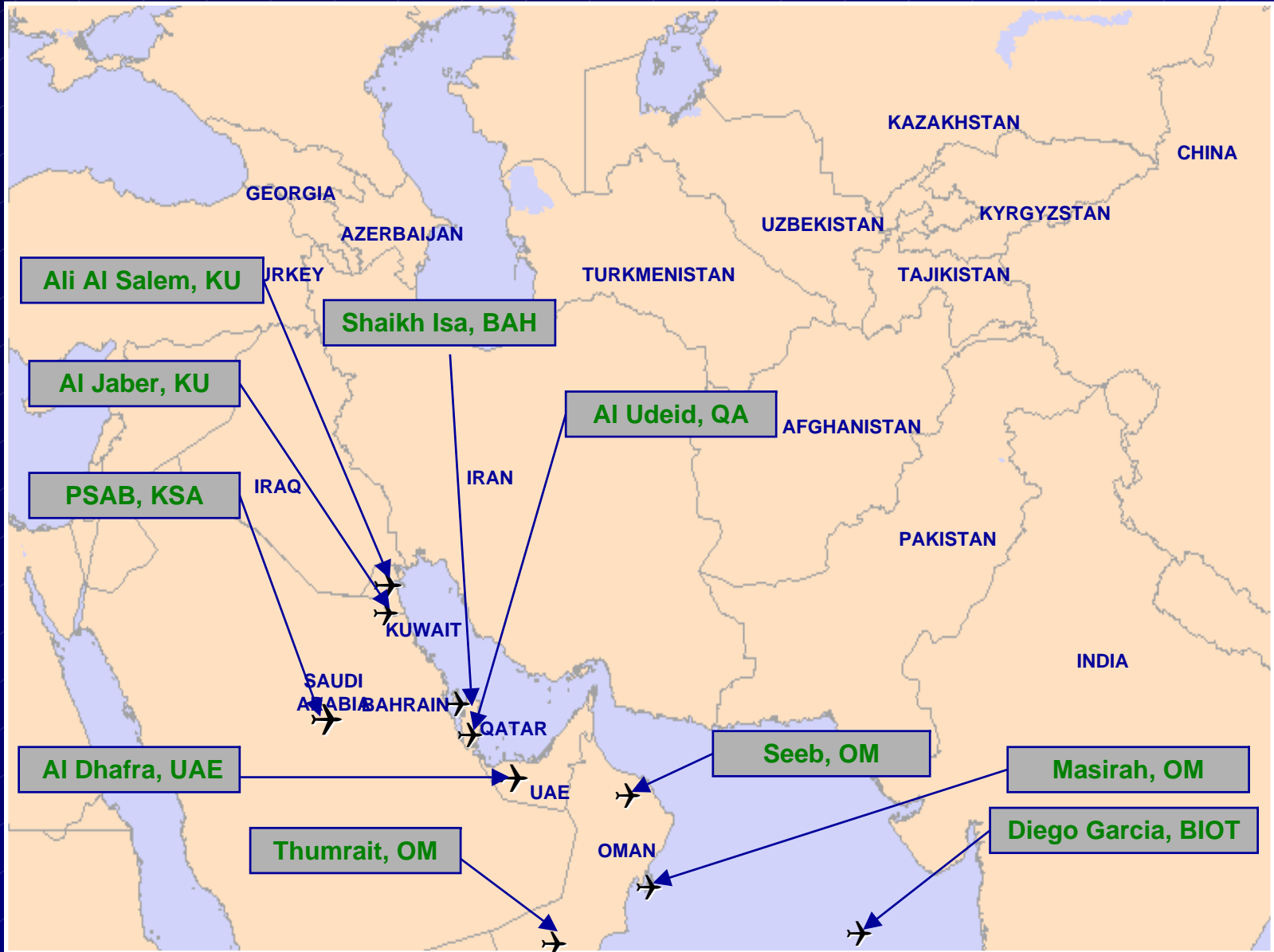


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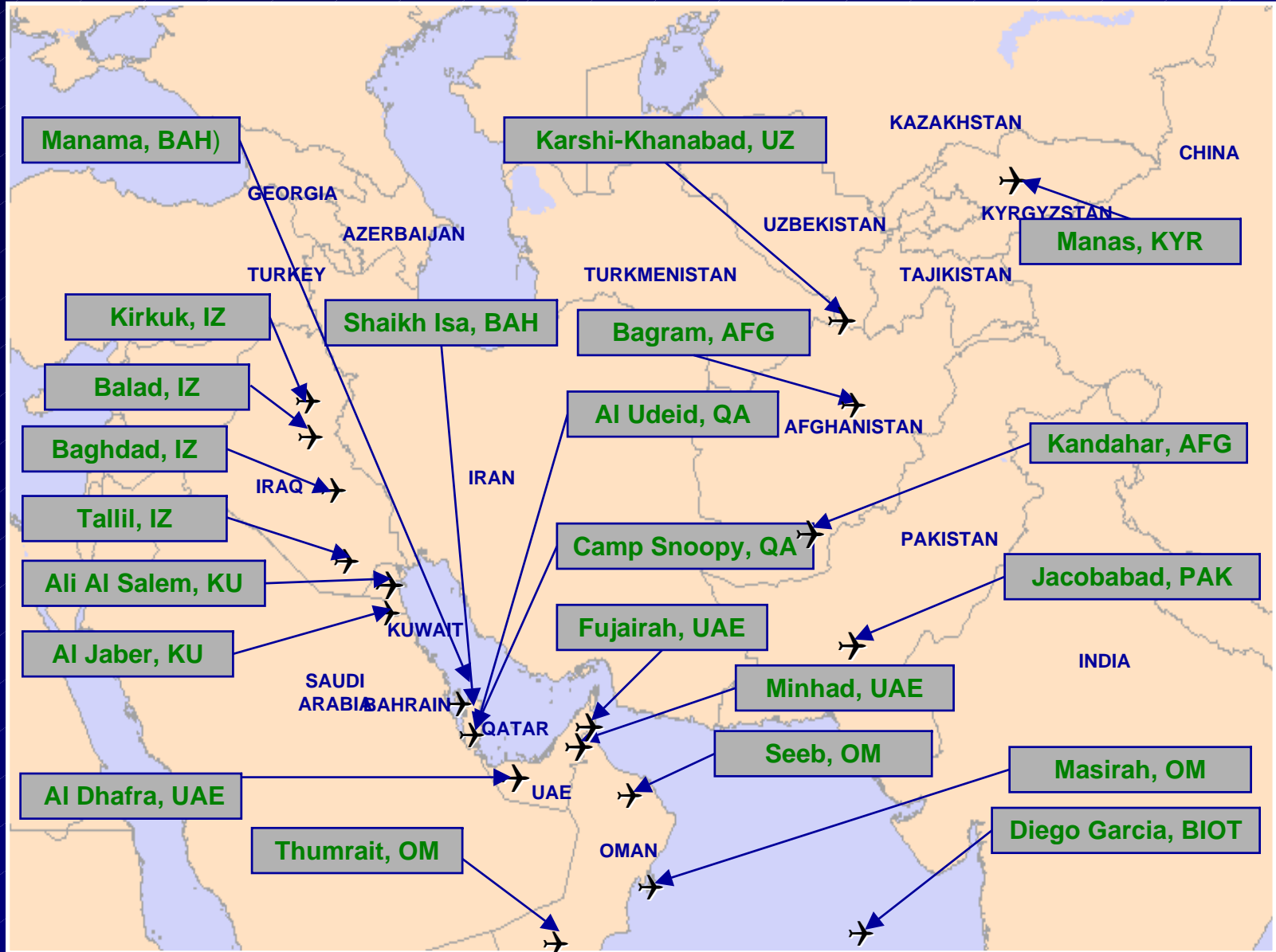


# Southwest Asia Air Bases – Sep 01



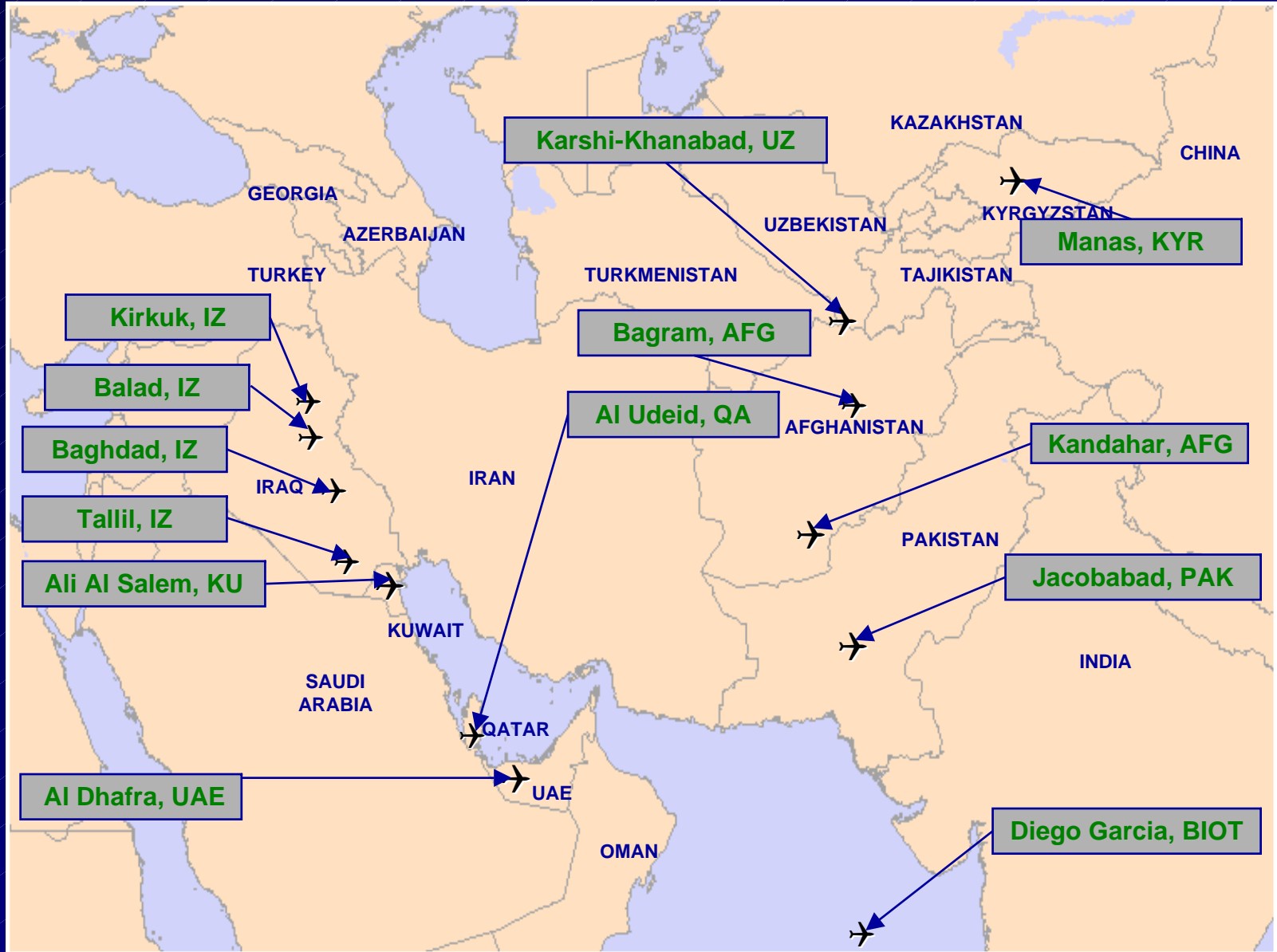


# Southwest Asia Air Bases – Jul 03





# Southwest Asia Air Bases – Jul 04







# ***GeoReach Support in OIF***

## ***Deployment Decision Data***

- Provided airbase securing forces (Contingency Response Groups) with potential seizure site imagery and related feature data
- Provided airbase recovery forces (Airborne RED HORSE) with airfield support and obstruction data
- Allowed deploying assets to be prioritized maximizing use of limited airlift assets



**Enables AEF's "Open the Airbase" Force Module**



# GeoReach Support in OIF

## Information for Deploying Forces

- Web based data source for 250+ forward locations
- Pavements, facility, and utility support data
- Links to local threat intel

ACC GeoReach  
Air Combat Command

DYNAMIC SITE - Highest Possible Classification is: SECRET//NOFORN//X1

IRAQ: Airfields of Interest  
CENTAF: Airfields of Interest  
SOUTHAF: Airfields of Interest

NEW Combined AOB

GeoReach CONOPS

Locate Determine potential deployment sites for GeoReach assessment

Image Access best available imagery and data from national and commercial sources

Assessment

Map

Enactment and v

Site

ACC

ACC GeoReach Viewer  
Air Combat Command

Layers

R0103 Parking  
R0105 Parking  
R0107 Parking  
R0108 Parking  
R0109 Parking  
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R0112 Parking  
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R0250 Parking



Postured deploying units to hit the ground running



# ***GeoReach Support in OIF***

## ***Assessment for Strategic Decisions***

- Checkmate tasked ACC to provide engineering assessment of potential forward staging sites inside Iraq
  - Evaluated and ranked 60+ sites
  - Forwarded top 5 recommendations...*2 of 5 have US forces there today*
  - Tasking took 2 people, 48 hours without boots on the ground

***“Outstanding support, you keep hitting them over the fence”***

**-- Checkmate staff**



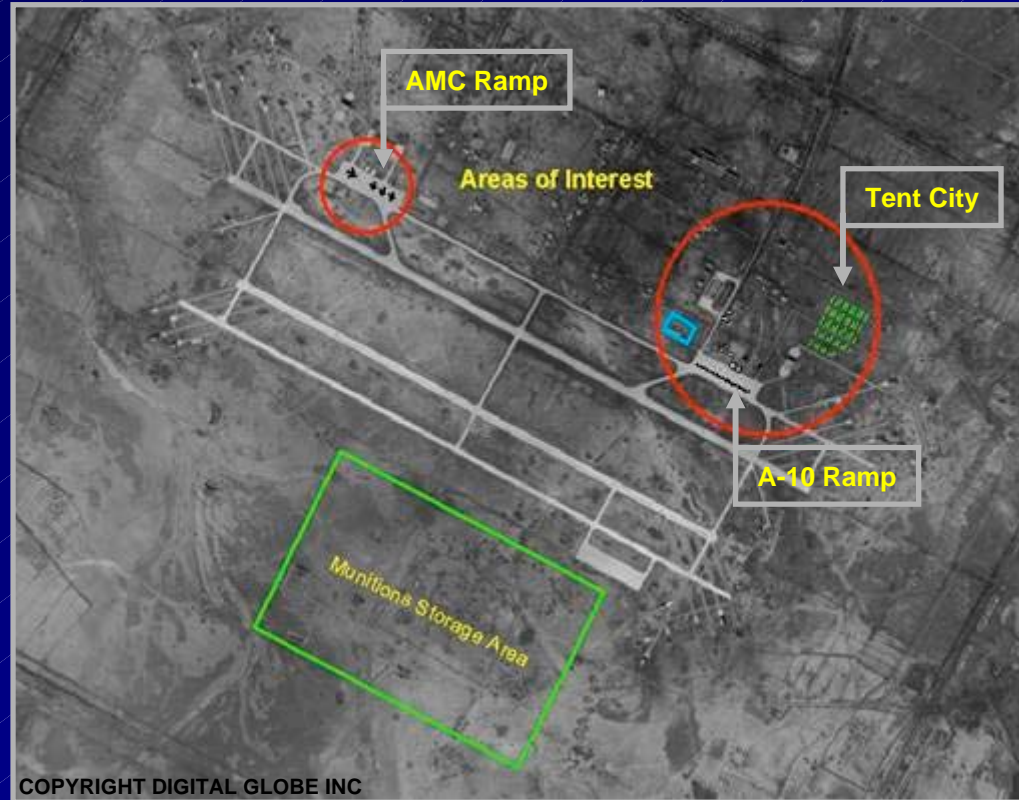
**Providing decision quality data to the CFACC**



# GeoReach OIF Support

## Force Beddown Planning

- Produced beddown plans for 4 sites in Iraq...*in use by USAF forces today!*
- Notional aircraft parking plans using Contingency Aircraft Parking Planner
- Deployed unit feedback:
  - “Amazing detail without having put anyone in harm’s way”
  - “Outstanding 75% solution, a critical time-saver for my troops”



Enables AEF's "Establish the Airbase" Force Module



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# ***Equipment/Support***

- **Dedicated GeoReach Websites – NIPRNET/SIPRNET**
  - **ArcIMS Map Services – Infrastructure, Force Protection, Safety**
- **GeoReach support for AMWC Eagle Flag Exercise**
- **Providing Interactive Force Protection Map Services for ACC/IN, CENTAF/IN and 820<sup>th</sup> Security Forces Group**
- **Providing GeoReach CIPs for CENTAF/SEW Safety Manager to develop Explosive Safety Plans**
- **Providing GPS data support and map services to NGA for Global Hawk operations**



# ***Equipment/Support***

- **Fielding SwiftLink Deployable Comm Node Reachback with access to NIPRNET and SIPRNET**
- **CENTAF funded GPS and GIS equipment for 8 bases in AOR**
- **Dedicated CENTAF GIO for Expeditionary GeoBase Support to SWA bases– GIS, GPS, and CAD**
- **Purchasing 120 Commercial Images from prioritized CENTAF Expeditionary Site Priority List**
- **ACC/CENTAF GIO support for AF deployed units**



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# ***New Capabilities***

- **Capability to Generate contours for any location in CENTCOM AOR without boots on the ground**
- **Exploiting the Air Force Geospatial Product Library**
- **Linking GeoReach Map Services to 480<sup>th</sup> Intelligence Wing - Force Protection Mapping**
- **Arc Catalog Data Tracker and Web Enabled Data Inventory Tool**
- **Digital Globe – QuickBird Satellite Collection Tool**



# ***New Capabilities – Cont.***

- **3D Analysis and Feature Extraction from Stereo Pair Imagery**
- **2D and 3D Imagizer CDs for deployable situational awareness**
- **AutoCAD Map Auto Populate SDSFIE Layers Tool**
- **Integrated GeoReach and NGA ArcSDE/Oracle database**
- **Integrated Army GIS/GPS Data to enhance CIP**



# Arc Catalog Data Tracker Tool

**Sites with Imagery Older Than 6-FEB-2004**

<b>Airport Name:</b>	A 306	<b>WAC:</b>	0380-08443	<b>Country:</b>	South Korea
<b>Image Date:</b>	1-Jan-2004	<b>Latitude:</b>	37.88375	<b>Longitude:</b>	127.71797
<b>Airport Name:</b>	A C MCCARTNEY	<b>WAC:</b>	0308-00931	<b>Country:</b>	United States
<b>Image Date:</b>	1-Jan-2000	<b>Latitude:</b>	42.41389	<b>Longitude:</b>	-89.32917
<b>Airport Name:</b>	ABQAIQ	<b>WAC:</b>	0547-08820	<b>Country:</b>	Saudi Arabia
<b>Image Date:</b>	28-Sep-2001	<b>Latitude:</b>	25.91128	<b>Longitude:</b>	49.59123
<b>Airport Name:</b>	ABU DHABI INTL	<b>WAC:</b>	0548-08849	<b>Country:</b>	United Arab Emirates
<b>Image Date:</b>	5-May-2003	<b>Latitude:</b>	24.43297	<b>Longitude:</b>	54.65114
<b>Airport Name:</b>	AFYON	<b>WAC:</b>	0342-08002	<b>Country:</b>	Turkey
<b>Image Date:</b>	31-Oct-2002	<b>Latitude:</b>	38.72631	<b>Longitude:</b>	30.60129
<b>Airport Name:</b>	AHMADI	<b>WAC:</b>	0444-08022	<b>Country:</b>	Kuwait
<b>Image Date:</b>	16-Jun-2002	<b>Latitude:</b>	29.04281	<b>Longitude:</b>	48.06354
<b>Airport Name:</b>	AHMADI	<b>WAC:</b>	0444-08824	<b>Country:</b>	Iran
<b>Image Date:</b>	16-Jun-2002	<b>Latitude:</b>	29.0985	<b>Longitude:</b>	51.03606
<b>Airport Name:</b>	AHMED AL JABER AB	<b>WAC:</b>	0445-08813	<b>Country:</b>	Kuwait
<b>Image Date:</b>	20-Dec-2002	<b>Latitude:</b>	28.93476	<b>Longitude:</b>	47.79186
<b>Airport Name:</b>	AKROTIRI	<b>WAC:</b>	0426-08048	<b>Country:</b>	Cyprus
<b>Image Date:</b>	11-Dec-2002	<b>Latitude:</b>	34.59042	<b>Longitude:</b>	32.98786
<b>Airport Name:</b>	AL AIN INTL	<b>WAC:</b>	0548-08865	<b>Country:</b>	United Arab Emirates
<b>Image Date:</b>	30-Nov-2001	<b>Latitude:</b>	24.26167	<b>Longitude:</b>	55.60917
<b>Airport Name:</b>	AL ASAD	<b>WAC:</b>	0427-08868	<b>Country:</b>	Iraq
<b>Image Date:</b>	28-Jul-2003	<b>Latitude:</b>	33.78554	<b>Longitude:</b>	42.44113
<b>Airport Name:</b>	AL DHAFRA	<b>WAC:</b>	0548-08850	<b>Country:</b>	United Arab Emirates
<b>Image Date:</b>	5-May-2003	<b>Latitude:</b>	24.24825	<b>Longitude:</b>	54.54772





# AutoCAD Map – SDSFIE Tool

The screenshot displays the AutoCAD Map software interface. The main window shows an aerial photograph of an airport tarmac area. A red rectangular selection box is drawn around a specific area containing several aircraft. The software interface includes a menu bar at the top with options like File, Edit, View, Insert, Format, Tools, Draw, Dimension, Modify, Express, Window, Map, and Help. Below the menu bar is a toolbar with various drawing and editing tools. The command line at the bottom shows the text: "Specify stretch point or [Base point/Copy/Undo/Exit]:", "Command: \*Cancel\*", and "Command:". The status bar at the very bottom displays coordinates (531849.7702, 2780123.6494, 0.0000) and various system settings like SNAP, GRID, ORTHO, POLAR, OSNAP, OTRACK, LWT, and MODEL. A "Communication Center" dialog box is visible in the bottom right corner, containing the text: "The easy way to keep you and your software up-to-date. [Click here.](#)"



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# *Training*

- **Provide Funding for GIS training for all ACC Prime BEEF units – EAs and Offutt EAs**
- **Fund GIS/GPS equipment and training for RED HORSE**
- **Fund hardware and software for Advanced GIS Supplemental Course at Ft Leonard Wood**
- **Provide funding for training and equipment to ACC Silver Flag**
- **Fund AFECEA GPS and GIS “just in time” training for ACC deploying units**



## ***Training – Cont.***

- **Continue to provide training and resources to CE trainers at Air Mobility Warfare Center**
- **Over the phone training with Map Services, Data Searches, and Web Links**
- **Train EOD on GPS data collection and Web Tools**
- **Train for Beddown Planning Procedures using GIS Tools**
- **Train on SwiftLink – Deployable Communication Devices for Reachback from field to HQ ACC and Bases (Once accredited)**





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# ***GeoReach Employment***

## ***The Way Ahead***

- **Train/Equip ACC Engineer units with GPS/GIS**
- **Expanding availability of SOUTHCOM forward locations**
- **Develop Operational and Tactical Guidance**
- **Maturing use of Expeditionary GeoBase**
  - **Provides base-specific common integrated data picture**



***Increased engineer capabilities for the Air Force***



***“ATTITUDE”***

***“DIRECTION”***

***“TEAMWORK”***

Serving ACC, the Air Force, and our Nation...

***Back Up***