Headquarters U.S. Air Force

Natural Infrastructure Management Data Tool

Session #3864

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NIM Data Tool

- Background and Vision for the Tool
- Status Review of The Measures
- Next Steps
BFAC (BRAC Facility Analysis Capability) Tool

- Developed to support 2005 Base Realignment and Closure analysis
- Provides an analytical engine to determine the impact of force structure changes on Air Force installations
- Existing Data System on The Air Force Portal

A Robust Decision Support Tool to Evaluate Built & Natural Assets

Integrity - Service - Excellence
The NIM (Natural Infrastructure Management) Tool

- The NIM Tool is being implemented on BFAC’s database platform
- Will provide a single repository for built and natural infrastructures to support holistic asset management
- Will provide an analytical capability to evaluate availability of natural assets to support mission requirements
- A web-enabled tool; accessible from anywhere by any authorized person via the Air Force Portal
NIM Data Tool - Purpose

• Provide HQAF/A7CA (Asset Management division) with a systematic operational asset management process for the data collection, review, display and analytical capabilities for managing installations’ natural and built infrastructure assets.

• The system has the ability to track & evaluate environmental quality programs, energy, and benchmarking and tracking Air Force wide performance metrics for justifying and prioritizing resources.

• Supports the President’s Management Agenda. The outcome will enhance the Air Force’s effectiveness to support better decision making and better asset management.
NIM Data Tool - Capabilities

• NIM Data Tool has capabilities to:
  • Support “top-loading” of appropriate data extracted from other existing feeders systems (e.g. AFRIMS, ESOHMIS, KBCRS, RMAST, ACES-RP, BFAC, ORED etc.) with user validation at various organization levels.
  • View GIS layers, and allow rollup data in a usable and consistent manner.
  • Identify excess and shortages of assets, assign capability ratings, conduct “what if” drills for stationing analysis
  • Prioritize mission essential projects through a defensible, quantitative risk based scores that has a potential for integration with planning, programming and budgeting processes.
NI Data Management - Concept of Operations

NI Users at the HQAF

NI Users at the MAJCOMS

NI Users at the Installations

NI Server

Analysis Engine

Rating & Analysis

NI Data Administrators
At HQ, MAJCOM, & Installation level

User Interface
(Web Browser)

NIM dB

User Accounts

User Interface
(Web Browser)

Admin

HISTORICAL

CURRENT

Data Entry
Data QA
Data Review/Report

Data Approval

Data Analysis

Data View/Report

Data Approval

Data Approval

User Accounts

User Interface
(Web Browser)

HQAF Approved Data

Data Analysis

Data Analysis

Analysis Engine

Rating & Analysis

Phase I Implementation

INTEGRITY - SERVICE - EXCELLENCE

NOTIONAL
NIM Tool Will Help Improve Management of Natural Infrastructure Data

Overarching objective: Provide decision-making support information for NIM

Focus: Assist NI Data Analysis by quantifying availability of NI to support mission requirements

- Provide a central repository for NIA data
- Determine objective capability ratings and mission risk scores
Objective, consistent analysis highlights opportunities and deficiencies to effectively support operations at an installation or range.
**Set of Measures Compare Required to Available Natural Infrastructure Assets**

Each asset type is assessed by specific measures.

<table>
<thead>
<tr>
<th>Military Operations Area, Gamecock</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Testing &amp; Training Accessible Airspace Volume:</strong> Volume of available airspace</td>
</tr>
<tr>
<td>- 50,000</td>
</tr>
<tr>
<td>- 10,000</td>
</tr>
<tr>
<td>Mission Capability Score: 9</td>
</tr>
<tr>
<td>Mission Dependency Index: 1</td>
</tr>
<tr>
<td>High NI Rating – Explanation Required: View/Edit NI Rating Explanation</td>
</tr>
</tbody>
</table>

| **Testing & Training Day Hours:** Availability of annual airspace day hours |
| - 2,400 | Capacity – Number of hours the airspace is published or designated as available |
| - 800 | Encroachment – Number of hours other users schedule the airspace. |
| - 1,000 | Utilization – Number of hours scheduled |
| Mission Dependency Index: 4 | |

| **Testing & Training Night Hours:** Availability of annual airspace night hours |
| - 2,400 | Capacity – Number of hours the airspace is published or designated as available |
| - 1,000 | Encroachment – Number of hours other users schedule the airspace. |
| Mission Capability Score | NI Rating |
| Mission Dependency Index: 3 | |
| Problem(s) with asset data, rating cannot be calculated. |
Data Entry Screen

Air Force Installation Resource
Capability Assessment Tool (AIRCAT)

Natural Infrastructure Asset Data

Describe Asset: Enter data describing an asset

Base Name: Langley Air Force Base
Asset: Air & Space, Airspace, Test & Training Area, MTI

<table>
<thead>
<tr>
<th>Asset</th>
<th>Owned/Used</th>
<th>Airspace Height (Ft)</th>
<th>Airspace Area (SF)</th>
<th>Mission Dependency Index*</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>IR-009</td>
<td>0</td>
<td>5</td>
<td>200</td>
<td>2</td>
<td>Craft, Flare</td>
</tr>
</tbody>
</table>

General Comment

Accessible Airspace

<table>
<thead>
<tr>
<th>Capacity*</th>
<th>Encroachment*</th>
<th>Capacity*</th>
<th>Encroachment*</th>
<th>Utilization*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1600</td>
<td>380</td>
<td>24</td>
<td>8</td>
<td>10</td>
</tr>
</tbody>
</table>

Major function buttons

List of selections made on previous screens

Module title and description

Data display, selection, and entry area
Data Review by Measure

BRAC Facility Analysis Capability
Air Force Installation Resource Capability Assessment Tool (AIRCAT)

Scenario Creation

Define Scenario: Add: Natural Infrastructure Measure Data Review

Base Name: Langley Air Force Base
Asset: Air & Space, Airspace, Test & Training Area, MTR, IR-106

Testing & Training Accessible Airspace Volume: Volume of available airspace
- 50,000 Capacity – current airspace volume
- 10,000 Encroachment – Incompatible volume due to avoidance areas, no fly zones, etc.

Testing & Training Hours: Availability of airspace hours
- 2,400 Capacity – Number of hours the airspace is published or designated as available
- 800 Encroachment – Number of hours other users schedule the airspace
- 1,000 Utilization –
Sample Screen for NI Data Entry

### Natural Infrastructure Asset Data

#### Module Title and Description
- **Air Force Installation Resource Capability Assessment Tool (AIRCAT)**

#### Data Display, Selection, and Entry Area
```
<table>
<thead>
<tr>
<th>Asset</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IR-009</td>
<td>Field, Fire</td>
<td>Chaff, Foam</td>
</tr>
</tbody>
</table>
```

#### Major Function Buttons
- Add, Edit, Delete
- Data Display, Selection, and Entry Area

#### List of Selections Made on Previous Screens
- General Comment
  - Accessible Airspace
    - Capacity
    - Encroachment
    - Utilization
- Airspace
  - Area
  - Height
- Mission Dependency Index

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**Integrity - Service - Excellence**
Structured Assessment Methodology Determines Capability Ratings

Capability ratings reflect dependency of mission on natural resources

**Natural Resource Capability Rating**

- **N-0**: Opportunity
- **N-1**: No risk
- **N-2**: Low risk
- **N-3**: Medium risk
- **N-4**: High risk

**Risk Score**

**Availability** = (Required – Encroachment)

**Mission Risks**

Airspace

I n t e g r i t y  -  S e r v i c e  -  E x c e l l e n c e
NIM Data Tool Can Support AF Processes & Systems

Offers shareable installation resource data and analysis capabilities

- MAJCOMs’ Dashboards
- Funding Analysis
- Realignments and Beddowns
- Range Sustainability
- Weapons Acquisition Resource Capability Gap Analysis
- Capability, Compliance, Conformance
- Defense Readiness Reporting System
- NEPA Process

Integrity - Service - Excellence
Future Initiatives…

In AICA: Information and Knowledge Management

Potential Migration to EESOH-MIS
The Next Six-Months

- Finish the NIA Guide
  - Final Set of Measures
- Finish the NIM Data Tool
  - Beta Test with AMC Data
  - Modify as necessary
- Make Available on the Portal
- Populate The Installation Data (baseline)
- Annual Installation Updates
QUESTIONS?