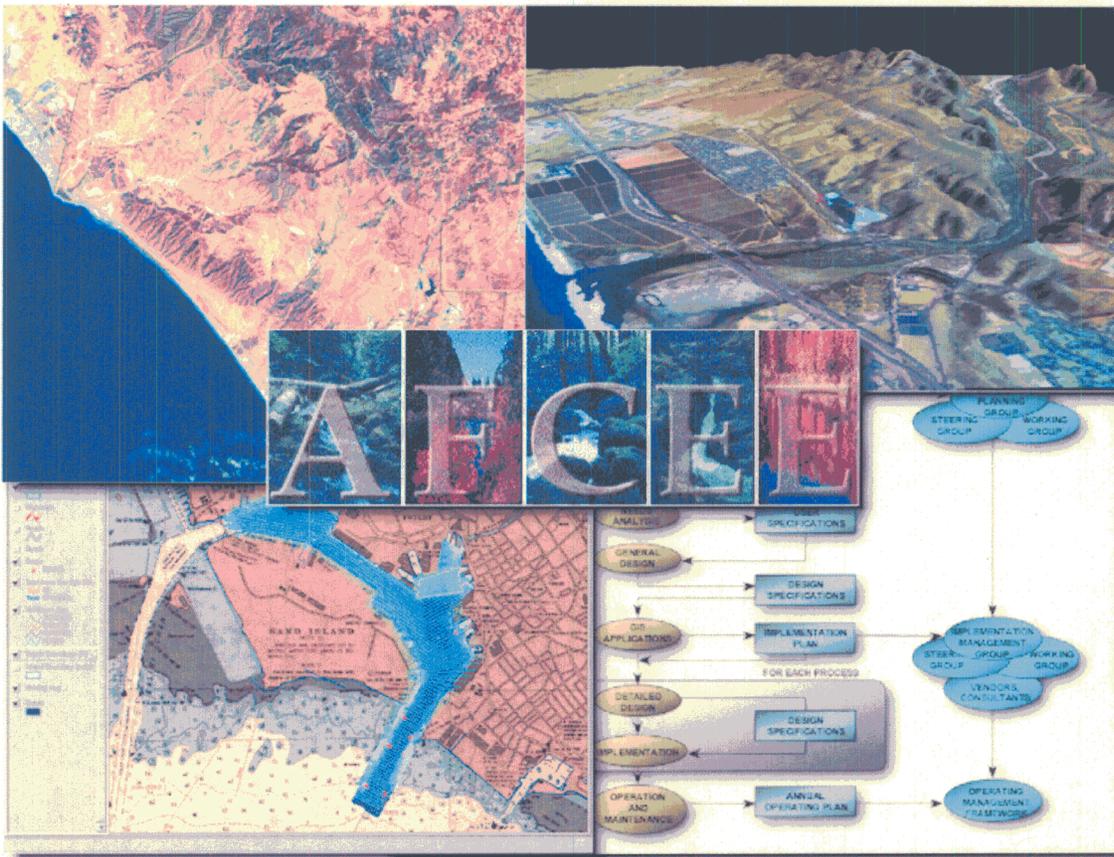


UNITED STATES AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE

# GEO INTEGRATION OFFICE STRATEGIC PLAN

2003-2005

October 2002





## AFCEE GEO INTEGRATION OFFICE STRATEGIC PLAN

---



# GEO INTEGRATION OFFICE (GIO) AN AFCEE OPPORTUNITY

## 1. INTRODUCTION

Developed initially in 2001, this plan was followed by the Air Force Center for Environmental Excellence (AFCEE) GIO in executing its program. The current version of the plan extends our program to the next fiscal year and provides as a prelude the accomplishments of the previous year.

Because geospatial information plays a key role in our national defense, knowing *what is where* is crucial for quantifying, developing, and organizing widely dispersed resources at installations and staging locations. As in national defense, geospatial information and related technologies have the capacity to significantly improve the commander's control of resources and related mission needs. Strategic planning benefits the growth, management, and stability of our business infrastructures during this culture of continuous and rapid technological change.

The HAF GIO was established in July 2001 for the sole purpose of bringing a GeoBase-enhanced mission capability to USAF operations and serving as a liaison between HAF, Major Commands (MAJCOM), installations, sister services, and other Federal and private organizations. The HAF GIO is responsible for establishing Air Force-wide GeoBase policy, programming, and process and technical guidance. All GeoBase development efforts at the MAJCOMs, Forward Operating Agencies (FOAs), and bases shall be performed within guidelines established by the HAF GIO.

Since the inception of GeoBase, HQ AFCEE has played an important role in supporting GeoBase through expertise and program management as stated in AFMD 19 and through contracting efforts. A strong relationship with the CADD-GIS Technology Center enabled AFCEE to remain on the forefront of the key components of GeoBase. This plan will clarify how the AFCEE GIO will continue to support the HAF GIO in their GeoBase efforts. It will expand our relationship with our customers and allow us to positively impact their GeoBase initiatives.

This strategic plan will depart somewhat from the normal examples of strategic planning efforts of the past. We will provide a concise statement of our desired end state at the end-of-the period covered by the plan and then focus on the organization as an interconnected system of components, as described by Col John Warden III in his book "The Air Campaign." We will then focus on those "centers of gravity" that can be positively influenced to increase the energies associated with our GIO organization to produce our desired end state.



## AFCEE GIO Vision

Providing avenues for commanders to effectively exploit One Base...One Map!

### 1.1 A VISION

The vision of the Air Force GeoBase is “One Base ... One Map”. As most information and data can be tied to a location in space, geography, i.e. “the map,” can be used to increase situational awareness for the base command echelon, improve base support planning (garrison *and* expeditionary), help minimize decision risk, ensure information superiority, and provide agile combat, homeland defense, and force protection support. To support the HAF GIO in its efforts, we play a crucial role in the implementation of GeoBase throughout the AF. Our vision to support the HAF GIO:

### 1.2 STRATEGIC LINK TO THE HAF GIO STRATEGIC PLAN

Our goals are aimed at melding our vision with the strategic steps listed in the HAF GIO Strategic Plan in order to provide quality support to the HAF GIO. The HAF GIO has identified the following three goals and objectives for the AF GeoBase effort:

#### Goal 1: Develop Core GeoBase Capabilities

- Establish a common definition and understanding of GeoBase
- Establish operational architecture based on GeoBase functional requirements
- Establish a baseline assessment of existing GeoBase investments
- Define and document GeoBase system architectures
- Define and document GeoBase technical architectures
- Define the Common Installation Picture (CIP)
- Develop a standards-based geospatial data architecture
- Create an application framework to access GeoBase services

#### Goal 2: Enhance Mission Capabilities through Integration with GeoBase

- Establish a detailed view of the GeoBase system interfaces
- Consolidate mapping processes through GeoBase services
- Enhance key mission systems with GeoBase services
- Explore opportunities to complement Air Force mission systems and processes

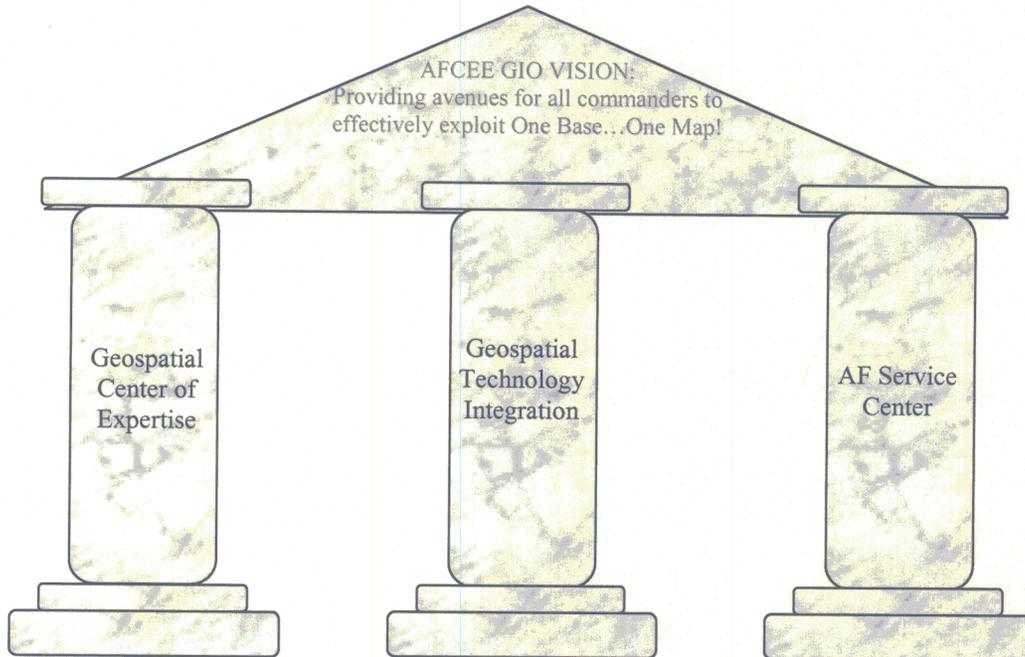
#### Goal 3: Execute and Sustain the GeoBase Program

- Develop strategic and implementation planning guidance
- Establish a GeoBase education and training plan
- Promote the GeoBase program
- Partner with other organizations for mutual benefit
- Establish policy and guidance
- Programming
- Program management

The AFCEE GIO, as an extension of the HAF GIO, endeavors to provide the execution of the goals and objectives outlined above to support the entire AF GeoBase community.



## AFCEE GEO INTEGRATION OFFICE STRATEGIC PLAN



### 1.3 THE DESIRED END STATE

Much the same way AFCEE is indispensable to the Air Force, so too the AFCEE GIO intends to provide the same indispensability to the AF world of GeoBase. The focus of our work consists of three separate, but overlapping pillars:

- Center of geospatial expertise
- Integration of geospatial technologies into, specifically, the environmental world and more generally the CE world
- Service center in support of a cross-functional AF customer base

These pillars align with the goals stated above for the AF GeoBase program.

#### 1.3.1 Center of Geospatial Expertise

As the name center of expertise denotes, AFCEE should be the center that AF customers come to for development of core GeoBase capabilities ([AF GeoBase Goal #1](#)). It is widely understood that the AF cannot afford to provide the needed expertise in all matters geospatial to all AF customers. Therefore, AFCEE GIO can and should provide the expertise in a combination of in-house assets and contract capability to answer all the questions related to the use and establishment of geospatial technologies. AFCEE must bring to the table the processes and procedures to fully understand how geospatial technologies relate to one another and how these technologies can enhance both the CE mission and other mission areas that may need to use the GeoBase CIP.



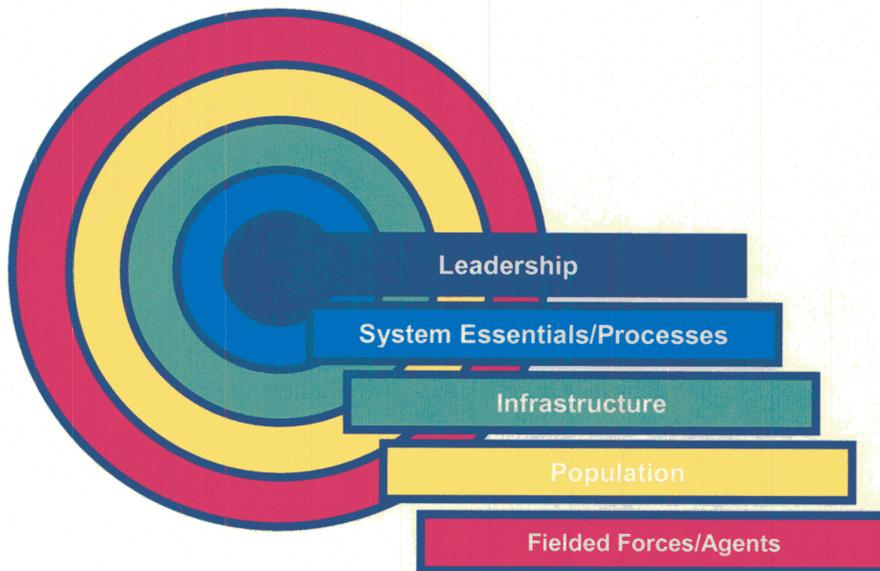
### 1.3.2 Mission Integration

As the CE functional expert in the area of GIS (AFMD 19), we must include objectives and strategies that will position AFCEE to take a greater role in the development of CE specific areas once the AF GeoBase program has reached a state of equilibrium. AFCEE endeavors to form a synergistic relationship with the Air Force Civil Engineer Service Agency (AFCEA) to ensure current and planned CE automation efforts take advantage of the geospatial technologies to the maximum extent practicable. As CE mission processes are enabled within the GeoBase framework, knowledge and skill will be built that will have a wider impact on mission areas outside of the CE realm. This ultimately will support the **AF GeoBase Goal #2, Enhance Mission Capabilities through Integration with GeoBase.**

### 1.3.3 GeoBase Support Center

The essence of **AF GeoBase Goal #3, Execute and Sustain the GeoBase Program**, is at the heart of the AFCEE GIO vision. The AF must utilize all available avenues to execute the program at all levels. The key to this execution is the availability of contracting avenues that offer the most flexibility in terms of speed of award, flexibility to change with technology, and ease of customer interaction. In the out years, this will be AFCEE's primary mission with respect to GeoBase. The other pillars are key to supporting this overarching mission for the AFCEE GIO. With the knowledge built using the first two pillars, the third stands a much greater opportunity for success.

## 2. AFCEE GIO CENTERS OF GRAVITY



The diagram above shows the five circles or Centers Of Gravity (COG) developed by Col John Warden, USAF, Retired. His current company, Prometheus Strategies Inc., further developed this diagram as it relates to the workings of an organization. From a strategic standpoint, to increase the energy of any of the centers of gravity will work to increase the energy of the entire organization, thereby increasing its productivity. A strategic assessment that provides a vivid end state picture and a focus on those centers that can directly affect that outcome lead to a successful organization. That is the goal of this plan. We will identify the areas above as they relate to the AFCEE



## AFCEE GEO INTEGRATION OFFICE STRATEGIC PLAN

---



GIO and then begin to assess where energy can be applied to increase the overall energy of the organization to accomplish the vision of this plan.

### **2.1 LEADERSHIP**

The entire GIO staff provides crucial leadership in their varied areas of expertise: contracting, technical and integration efforts, and overall program management. Leadership also exists within other directorates, and the AFCEE Director. They provide the support to the program that allows for effective use of our assets. They also provide top-cover in support of efforts to ensure we can operate completely unhindered. Leadership for our program also comes from the HAF-GIO. Since we support the HAF in their execution of the GeoBase program, their support and leadership is vital to our efforts.

### **2.2 SYSTEM ESSENTIALS/PROCESSES**

Key and central to the overall function of the AFCEE GIO is our contracting process. Secondary systems and processes relate to our specialized knowledge of geospatial technologies and their impact on the overall AF mission. Supporting systems consist of our budgeting and programming processes as well as training methods. As stated earlier, all these processes buttress our vision to provide GeoBase support to the full range of AF customers. The customers are an integral part of our business and can be influenced in any number of ways.

### **2.3 INFRASTRUCTURE**

Being an information technology solution, GeoBase relies heavily on computer networks for its infrastructure. So too does the work of the GIO. With the exponential growth of the IT world, the GIO must maintain a state-of-the-art architecture to facilitate the key processes mentioned above.

### **2.4 POPULATION**

Our population COG is the entire AF base that requires visualizing their legacy data against a map of the installation. One key to our success is to provide an indispensable service to the population. As we provide a quality product, we should then expand the population, thus serving a greater role in the GeoBase world. The HAF GIO, MAJCOM GIOs, and our contractor support can all be an adjunct of this population depending upon whether we are supporting them or getting support from them.

### **2.5 FIELDED FORCES/AGENTS**

The primary fielded forces in our GeoBase battle are the members of the AFCEE GIO. They are the front line in our efforts to provide service for our population. Secondly, those contractor personnel that represent the AF and/or AFCEE act as our agents to further the GeoBase cause. Additionally, each customer we provide exemplary service can be our agent to spread the word about our capabilities to influence the GeoBase world.



AFCEE GEO INTEGRATION OFFICE  
STRATEGIC PLAN



### 3. GIO GOALS, OBJECTIVES, TIES TO VISION

The following goals and objectives outline the AFCEE GIO plan to achieve the vision of: Providing *avenues* for all commanders to effectively exploit One Base...One Map! These goals will also identify the COGs affected and the way increased energy/focus will allow the GIO to achieve its desired end state. A map of the goals, objectives, and time lines is included in Attachment 1.

#### GOAL 1

##### **BECOME RECOGNIZED CENTER OF GEOSPATIAL EXPERTISE.**

*Supports the vision by providing an easily accessible avenue for field units to get answers for GIS-related questions. Supports the AF by helping to develop core GeoBase capabilities.*

##### **Objective 1.1 – Understand the Fundamental Components and Uses of Geospatial Information**

###### Task 1.1.1 – Develop a Training Plan for Geospatial Information Expert Services

Develop guidance that describes the educational requirements for understanding the fundamental concepts and components of geospatial information and technologies. Determine the sources of education AFCEE personnel can utilize to achieve the goals of the Training Plan.

###### Task 1.1.2 – Participate in Educational Opportunities through the AF and Commercial Sources

Identify the sources of educational support to understanding the fundamental components and uses of geospatial information and technologies. Ensure costs for these opportunities are programmed into the AFCEE GIO budget for execution each year.

###### Task 1.1.3 – Develop a GeoBase 101 Primer.

A primer for GeoBase components and uses should be developed to provide needed information to individuals not normally involved in GeoBase activities. The primer should enable the receiver to adequately answer basic questions, whether technical or contractual in nature, for new personnel getting involved in a GeoBase world.

###### Task 1.1.4 – Review and Coordinate Policies and Guidance to Support the Exploitation of GeoBase

Cooperatively assist in developing policies and guidance with other AF support organizations. To encourage ingenuity and creativity, policies should be guidance oriented, not directive. Policies and guidance must be inclusive, not exclusive. Review the policy using AF recognized procedures and standards. Enforce policies and guidance through contractor activities and deliverables.

##### **Objective 1.2 – Build Expertise Based on Fundamental Components and Uses of Geospatial Information**

###### Task 1.2.1 – Describe the Fundamental Components of GeoBase

Develop guidance (statements of work, guidance documents) that describes the fundamental concepts and components of geospatial information and technologies. The guidance documents should provide users and contractors the needed information to achieve GeoBase initial operating capability goals and beyond.

###### Task 1.2.2 – Provide Geospatial Expertise Assets

AF and AFCEE customers need to have access to a high level of expertise in geospatial information management and technologies. Effective utilization of existing personnel to provide geospatial expertise coupled with expansion of capability through education of other in-house personnel and contractor representation is a must to achieve this



## AFCEE GEO INTEGRATION OFFICE STRATEGIC PLAN

---



goal. Along with the expertise, a mechanism must exist to effectively utilize these assets in our day-to-day processes.

### Task 1.2.3 – Develop a GeoBase Simulator

A GeoBase simulator is important to AFCEE geospatial services for a number of reasons: testing of developed applications, confirmation of the feasibility of new architectures, and train users of GeoBase enabled systems. Distributed and Intranet environments will be used to assess, test, integrate, and acquire new GeoBase capabilities and COTS products. The outcome will be a management structure that quickly enables new technologies to efficiently supply updated GeoBase capabilities to all AFCEE customers.

### Task 1.2.4 – Expand AFCEE GIO

A formal relationship between all in-house personnel must be established. An expanded GIO would include, but would not be limited to, a partnership with members of the GIS section of Mission Support-Computers (MSC), representation from the Range Support Unit, members of the comprehensive planning community, members of the Environmental Quality (EQ) (ACES-EM integration) and representatives of Environmental Restoration (ER) (remediation work containing geospatial information).

## GOAL 2

### PROVIDE GEOBASE INTEGRATION SERVICES

*Supports our vision by enabling units to effectively exploit one map! Supports the AF effort in all three goals for GeoBase.*

### Objective 2.1 – Educate Customers on the Uses of GeoBase to Support the Mission

#### Task 2.1.1 – Provide Education on the Value of Geospatial Information

Educate customers on the value of geospatial data to support mission requirements. Illustrate the need to create and maintain accurate and complete geospatial and related attribute data. Explain the nature of data relationships between civil engineering and other base organizations. Illustrate situations where data users rely on mission critical information that is created and maintained by other data owners.

#### Task 2.1.2 – Provide Education on GeoBase Use to Support Base Missions

Develop a GeoBase fundamentals educational curriculum, supported by technology demonstrations, to inform installation management and staff of the principles, capabilities, and limitations of geospatial information and related technologies. Educate users about GeoBase potential for improving mission performance, by effectively working with GeoBase public and private support communities, and getting the most from GeoBase investments. The curriculum will include real world examples of GeoBase uses to support mission essential civil engineering work processes.

### Objective 2.2 – Provide GeoBase One-Stop-Shopping to AF Customers

#### Task 2.2.1 – Provide Contracting Avenues for GeoBase

Develop contracting mechanisms that will enable AFCEE to provide premier support to the GeoBase community. Utilize existing vehicles as appropriate and create unique specific vehicles with qualified contractors. Primary concerns for implementation are speed of award, breadth of contractor knowledge and depth of contractor presence. Collaborate with AF functional offices to establish requirements for GeoBase to enable their legacy systems.

#### Task 2.2.2 – Collaborate with AFCESA to Integrate ACES within the GeoBase Framework.

Collaborate with AFCESA to establish requirements for linking geospatial data to the Automated Civil Engineer System (ACES). Evaluate which ACES business modules and tabular data should be integrated with geospatial



## AFCEE GEO INTEGRATION OFFICE STRATEGIC PLAN



information. Evaluate existing Spatial Data Standards (SDS) database constructs to enable virtual linkages between tabular data and GIS features.

### **Objective 2.3 – Develop Internet Tools**

#### Task 2.3.1 – Develop a GeoBase Support Internet Site

Develop content and access tools in the form of an Internet site that provides 24 hours, 7 days per week support on GeoBase issues and products. Provide answers to frequently asked questions (FAQ) about GeoBase-related issues and products. Provide access to GeoBase guidance and policy documents. Expand the existing GeoBase support web site to include a database of GeoBase “endorsed” applications.

#### Task 2.3.2 – Provide Capabilities to Access Sources of Geospatial Information and Services

The AFCEE shall provide AF customers with access to quality geospatial information, services, and technology - a menu of mission/task-related products, services and related cost/performance. The interface to the customer will have many of the characteristics of an information marketplace such as quality/cost comparison information, flexibility, choice of supplier, customer feedback, and ubiquitous help. Use market concepts to manage geospatial information resources to provide customers the products and services they need on time and at an affordable cost. Develop an Internet application to enable browsing and querying of services and products.

## **GOAL 3**

### **PROVIDE A GEOBASE SUPPORT CENTER**

*Supports our vision by keeping the user base current on geospatial technologies that increase the timeliness of our exploitation of geospatial information and technology. Supports the AF vision by providing a needed sustainment mechanism for GeoBase.*

### **Objective 3.1 – Promote Standards for GeoBase Planning**

#### Task 3.1.1 – Define the Components and Use of a GeoBase Strategic Plan

Develop tool and product specifications for the development and use of a GeoBase strategic plan to evaluate and plan GeoBase investments. GeoBase strategic planning enables customers to plan and execute GeoBase investment plans based on their collective mission needs. Promote the use of AFCEE services contracts to accomplish strategic planning tasks.

#### Task 3.1.2 – Define the Components of a GeoBase Needs and Work Process Assessment

A needs assessment is a detailed study of the needs of potential users of GeoBase. Base criteria on GeoBase requirements for customer work processes. Select key customer work processes for enhancement using GeoBase. A detailed work process assessment shall be developed for GIS data input, conversion, maintenance, analysis, and output (maps, reports, multi-media products) workflows. Selected mission workflows should be documented using the Unified Modeling Language (UML).

#### Task 3.1.3 – Define the Components and Use of a GeoBase Implementation Plan

The implementation plan includes recommendations for the development and integration of engineering and mapping information systems at AF installations. The plan will outline required system development steps and will describe in detail the activities to be performed during each step of system implementation. The implementation plan will include a projected overall program schedule. Use guidance available from AF, DoD, and industry sources.



## AFCEE GEO INTEGRATION OFFICE STRATEGIC PLAN

---



### Task 3.1.4 – Define the Components of a GeoBase Education and Training Plan

Recommendations will include alignment of education and training seminars to tasks inherent to GeoBase implementation and data collection events. Education will be scheduled after key deliveries of data and successful hardware and software setup, configuration, and testing. The plan shall be composed of parallel plans for various user levels and a variety of subject matter experts. Training plans shall include coursework for both management and technical staff.

### Task 3.1.5 – Define the Components and Use of a GeoBase Sustainment Plan

Establish standards for organizations, personnel, and duty responsibilities for sustaining a base GeoBase program. Personnel requirements shall be based on the data input, maintenance, analysis, output, quality assurance, and management needs of each base organization. Plans will emphasize the use of existing personnel resources, if possible. Plans will also include estimates of expenditures for a variety of geospatial data collection and maintenance scenarios. Plans will include estimates of expenditures for hardware and software refresh and new geospatial technologies.

## **Objective 3.2 – Develop Sustainability for GeoBase**

### Task 3.2.1 – Promote the Capture and Sharing of Organizational GeoBase-Related Knowledge

Identify, organize, and centralize access to available GeoBase knowledge sources critical to the CE mission. Knowledge management will leverage the value of GeoBase investments. The implementation of knowledge management methods and tools will facilitate collaborative GeoBase knowledge creation and sharing, and will, in turn, optimize the effectiveness of strategic and tactical decisions. The outcome should be an agile, responsive, and learning CE organization in which knowledge for critical mission support is available where and when needed.

### Task 3.2.2 – Develop Best Practices for GeoBase Development and Operation

Best practices outline the values and principles that will guide an organization to maximize the benefit, and exploit the capabilities of GeoBase. They also provide a brief yet descriptive checklist of priority activities and requirements. Use guidance available from industry, AF, DoD, and Federal Geographic Data Committee (FGDC) sources to determine best practices. Publish the document on the GeoBase Support Internet site.

### Task 3.2.3 – Recommend GeoBase Program Support Requirements to HQ/AF

Develop recommendations for AFCEE GeoBase program support. Recommendations will consider funding of collaborative guidance development, customer support, and other services. Present recommendations to the HAF GIO for support of GeoBase.

### Task 3.2.4 – Develop Position Descriptions for GeoBase Support Personnel

Develop guidance that describes GeoBase support personnel positions of GeoBase Coordinator, GIS Analyst, GIS Database Manager, and GIS Technician. Position description will include the following sections: purpose, organization goals or objectives, duties and responsibilities, knowledge, skills, and abilities. Position descriptions will be used for government as well as contracted personnel. Publish the document on the GeoBase Support Internet site.