DATA STEWARD OPERATIONS
(PROMOTING DATA STEWARD ACTIVITY)

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Abstract

The purpose of this course is to describe successful Data Steward processes at Nellis Air Force Base. The 99th Civil Engineer GeoBase program utilizes data stewards to obtain and maintain geospatial information to improve our mission. Data Stewards (Managers, Craftsman, Operators, Contractors, etc.) contribute immeasurably to the validity and accuracy of geospatial data. Each Data Steward is trained to create, collect, and sustain mission data sets within their area of expertise. The Data Stewardship Workflow outlines a process that enables data stewards to incorporate GeoBase solutions into their current workflow. This provides a systematic tool to enable maintenance of the data throughout its life cycle. As stakeholders, our Data Stewards facilitate the "corporate knowledge" technology transfer, which provides unparalleled information acquisition across the "basing space" (installations).

History

The Air Force has traditionally relied on Engineering Assistants to update installation real property and infrastructure assets. Engineering Assistants used Computer-Aided Drafting (CAD) software to maintain the Base Comprehensive Plan (BCP) from As-Built project data and in-house work orders. This required a large manpower investment, which has steadily decreased over the past ten years. Each installation faced the same reality, a backlog of as-built data.

Idea

The Geobase program provided a technological opportunity for increasing infrastructure data accuracy. GeoBase's "One Installation, One Map" philosophy requires a much broader involvement by data owners to cooperatively update map features. The Air Combat Command Geo Integration Office (ACC GIO) fostered this concept with guidance for each installation to adopt a "Data Steward" relationship with infrastructure managers. This led to the idea of "Data Stewardship."

Data stewardship essentially specifies who owns the mission data set and is responsible for meeting the requirements necessary for creating, sustaining, and administrating the mission data. Once the data steward has been identified, a relationship is established between the data steward and the installation Geo Integration Officer (GIO). A general workflow process was developed in order to:

- Tailor to individual mission support functions.
- Demonstrate functional participation in the QC and data maintenance process.
- Integrate GeoBase into existing operational controls.
- Establish cross-functional relationships that leverage efforts of external organizations.

Plan

The ACC GeoBase Implementation Guidance emphasizes the need to have a data stewardship plan in place for mission data sustainment. This guidance helped to define a business process which would:

- Identify and open lines of communication to the data steward and those who are dedicated to maintaining the geospatial data that resides in the GeoBase repository.
- Specify a standardized data management workflow process.
- Identify and utilize familiar habits and procedures for maintaining geospatial data.
- Implement Mission data and the GIO's Common Installation Picture (CIP) data into the Data Steward's work environment and processes.
- Ensure data integrity and promote timely updates.
- Review the GIO's technical support and guidance available to the Data Steward.

The design of the GeoBase data stewardship plan is based on current functional processes, which streamlines the overall system. Employing GIS capabilities that leverage current personnel responsibilities benefits the data steward and the Geo Integration Office.

Execution

The first step was to create and charter Working Groups that identified prospective "Data Stewards" within the Civil Engineer work elements. The second step was to educate and inform them of the importance of data stewardship and the significance of their input. The third step was to train data stewards in data collection, data conversion, Global Positioning System (GPS) capabilities, and the workflow enhancements they would benefit from.

Data collection is accomplished with Trimble GeoXT mobile GPS units. A data dictionary is preloaded into the GPS unit to facilitate entering Spatial Data Standard for Facilities, Infrastructure, and Environment (SDSFIE) compliant attribute values during spatial data collection. Data stewards can then edit features or attributes utilizing ArcPad software loaded on a personal computer. The Mission Data Collection Manager then ensures the Data Steward carries out quality control processes to ensure data integrity. After completion of these processes, the data is loaded into the GeoBase enterprise geodatabase.

Conclusion

Traditional information collection and transfer methods required intensive labor. Steadily decreasing manpower caused a backlog of as-built data. The GeoBase program's goal of widespread involvement by Data Stewards to interact with their data provided increased efficiency and unparalleled data integrity. The Data Steward Plan defines new business processes that focus on communication, standardization, and utilization of geospatial information. The Data Steward can be a predominant player in the maintenance of legacy data as well as the collection of current data. The Data Steward mentality has allowed us to reach out beyond customary data management procedures. The GeoBase Mission-"One installation, one map" has allowed shared data across our organization, reduced duplication of effort, and improved data accuracy and integrity.