Consolidated Environmental Resources Database Information Process (CERDIP) Demonstration and Validation (Task N.0817)

Government POC
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Status
Complete

Statement of Need

There is currently no systematic process for identifying and communicating important cultural, historic and natural (CHN) sites to military planners and operators. Pursuant to international agreements, applicable United States (U.S.) law, and Department of Defense (DoD) guidance as concerns the law of armed conflict, U.S. Warfighters have a legal obligation to avoid undertaking planned actions which may result in unnecessary damage to CHN properties to the extent practical and consistent with mission necessity. DoD also submitted a report to Congress on its policies, directives, and regulations for the protection of cultural property in the event of armed conflict, in accordance with the National Defense Authorization Act of 2015. Challenges with regards to the protection of CHN properties are currently being addressed on a case-by-case basis. The Consolidated Environmental Resource Data Information Process (CERDIP) was developed to improve the situational awareness of military commanders , operational planners, and trainers by providing a standardized process of identifying, geolocating, archiving, and generating mapping products to reduce risk posed by DoD activities to these sites.

Technical Approach

The technical approach comprised three components; the first a Baseline Assessment to identify current requirements and documented processes under which CHN resource data could be acquired and used by DoD. During this initial phase of the task, a repeatable, linear process of obtaining, converting and displaying information on CHN properties of significance called the CERDIP was developed. The CERDIP established protocols for the collection and assessment of CHN location data and guidance for its operation and maintenance. The process was developed to be unclassified and formatted to ensure it was compliant with standards for seamless insertion into DoD and intelligence mapping platforms. The CERDIP was further refined during the Demonstration and Validation and Transition and Outreach task components.

The second component of the task was to implement the Government-approved demonstration and validation plan for the proposed CERDIP such that it could be easily adopted and used across DoD to increase awareness of CHN significant properties. This phase consisted of building a CHN geospatial dataset for five representative countries nominated by US. Army Africa (USARAF) and U.S. Africa Command (AFRICOM). An initial country was selected to test the process, collect lessons learned, and make further refinements prior to executing the demonstration and validation for the four remaining countries. A prototype database was populated with CHN properties and used to generate geospatial products that leveraged a secure visualization platform operated by the Pacific Disaster Center (PDC). This was a critical step that allowed this information to be easily viewed and downloaded to demonstrate interoperability and integration into existing DoD geospatial systems. The final CERDIP data schema was appended to the *Transition and Outreach Plan*.

Results and Benefits

The demonstration and validation of CERDIP confirmed the need for a standardized process for collecting, visualizing and downloading geospatial data for significant CHN sites to support DoD operations. CERDIP was shown to provide geospatial data of value to USARAF and AFRICOM military planners that can be easily replicated in other regions. The resulting standardized CERDIP geospatial data schema and the leveraged PDC visualization platform were shown to be valuable for use in operational planning, e.g., the siting of contingency bases and logistic hubs; and for military training and engagement activities with partner militaries. Monetary and diplomatic risk is reduced if the Warfighter is provided better situational awareness of recognized nationally and internationally sensitive protected sites, allowing for less disruptive, and alternative movement and concentration of forces where possible. The CERDIP data schema also heavily influenced the final template for a No Strike List (NSL) under development by the U.S. Committee for the Blue Shield.

Technology Transfer and Outreach

Extensive outreach activities - involving meetings, teleconferences, and participation in technical forums - were conducted throughout the task, which resulted in the establishment of a comprehensive foundation of stakeholders of Subject Matter Experts from across DoD, intelligence mapping agencies, non-government organizations, and academia. This foundation of stakeholders was instrumental in helping to develop the five-step CERDIP process and final geospatial data template. Continued outreach is recommended to further identify interested stakeholders, to investigate and coordinate with other geospatial technology efforts, and to promote standardization and operational interoperability with other allied militaries.

The challenges for implementing CERDIP were found to be more organizational in nature than technical. The technical components of CERDIP are fully within the existing capabilities of DoD and non-DoD organizations. A Transition and Outreach Plan was developed that outlines next steps to transition CERDIP to the DoD-wide user community. The most cost-effective option for the transition of CERDIP was found to be a globally-centric approach employing a non-DoD entity as the digital repository for CHN geospatial data storage and maintenance. Immediate next steps include designating a DoD lead organization responsible for implementation, and establishing a doctrinal requirement for inclusion of CHN data in military operational planning in accordance with the Joint Capabilities Integration and Development System (JCIDS).