To: NH GIS Committee   October 4, 2018

Improving field data collection using new ESRI Collector app

Agencies in New Hampshire could improve field data collection capabilities through enhancement of ArcGIS Online (AGOL) organizational accounts and mobile apps by following the successful approach used by the NH SADES model (Statewide Asset Data Exchange System). A Launch Kit from ESRI Professional services is the project being submitted for consideration under the DoIT capital budget for Enterprise GIS. It aligns with Objectives within Strategy #3 of the GIS Committee's Action Plan, and meets DoIT capital budget governance (see figures below). Products developed through the Launch Kit will adhere to and enhance best practices for online map content prepared through the Agency Map Viewers Pilot Project (led by NH Department of Transportation, NH Department of Environmental Services, and UNH GRANIT). This proposal differs from the map viewer pilot project in its focus on developing AGOL content and interface specifically for mobile applications and field data collection, both by agency staff and citizen participation.

Fig. 1. NH State GIS Committee Action Plan Strategy #3   Fig. 2. DOIT Capital Budget governance

STRATEGY #3

Promote efficiencies in the use of GIS technologies in New Hampshire and the larger New England region

Objectives

A. Develop best practice guidelines for data collection, storage, and management
B. Identify software licensing and managerial solutions to support agency workflows
C. Consider existing industry standards and apply when appropriate

Capital Budget Item

• Enterprise GIS Alignment: $725K
  • Standardization and the sharing of all data sets
  • Quality control of collected data across agencies
  • Economies of scale on product licensing
  • Governance structure definitions and clarification for roles and responsibilities of future GIS management strategy

Background

Agency staff currently use a variety of hardware/software tools for field data collection, many of which are approaching end-of-life-cycle. For example, at NHFG and DNCR, current data collection is done via ArcPad software on Trimble GPS devices and staff are asking to update this workflow. Several agencies are partners in the NH Stream Crossing Initiative, which involves field data collection on mobile devices using ESRI Collector app software. The data are stored online in the Statewide Asset Data Exchange System (SADES) database that is displayed as a web map service. New workflows could follow the SADES model created by NHDOT, NHDES and partners, by leveraging and enhancing web GIS (AGOL organizational accounts).

<u>Project Approach</u>

A Launch Kit from ESRI will provide a solid foundation of best practices and governance for ArcGIS Online and mobile applications deployment. Launch kits are a technical service package offered by ESRI and are defined as: collaborative engagements to empower you with the knowledge and workflows to manage your organizational account, build high quality content, and create focused maps and apps. All web products and workflows would be compatible with the forthcoming release of the new Collector app developed through ESRI's Aurora project.

<u>Project Activities</u>

The ESRI Professional Services consultant will work with the state agency(s) and start with a resource assessment to determine available GIS content, capabilities and information product needs. During the process of configuring maps and apps, the ESRI consultant will help configure ArcGIS organizational settings, populate the account with content, and provide best practices on leveraging web GIS for data collection. The Launch Kit includes knowledge transfer on: authoring, registering and sharing content, creating web maps, management and administrative tools, using web GIS in workflows, and securing content and governance. Process and results will be documented by the pilot agency(s).

Specific products:
1.) Collector app(s) for field data collection for State lands infrastructure
2.) public Web map with data form for collecting citizen science information

Establish recommended standards for:
- Adhere to standards established by the Agency Map Viewers Project (map publishing, including map content, data layer naming, and metadata, as well as stylistic elements)
- Settings in ArcGIS Online and Collector to meet minimum data quality/accuracy requirements

Establish governance structure and documents to address:
- User management (names, roles, credentials) and sharing content between agencies
- Software management (deploy new release of Collector)
- Site publication environment (development and testing via collaboration between agencies)

<u>Future direction</u>
This project introduces the data collection phase to the Agency Map Viewers Pilot Project; and it will demonstrate the transferability of the NH SADES model to natural resource agencies.

<u>Funding Requirements</u>
Cost: Launch Kit through the NH Master Pricing Agreement (MPA) with ESRI is: **$14,000**.

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