Title: Energy and Water Use in Forest Service Facilities

Office: USDA Forest Service, Washington Office--Engineering
POC: David Wiley, davidrwiley@fs.fed.us

Description of the Challenge:
Develop methods to present and compare performance on energy and water use in Forest Service facilities. Using existing data from several sources, integrate the data and perform analysis to present absolute and relative performance in an easy-to-understand fashion, allowing "apples-to-apples" comparisons.

Data from several sources can be integrated and analyzed, including: monthly utility bill data (account-level); annual totals for large facilities (building-level); Energy Star Portfolio Manager data; Dept. of Energy Compliance Tracking System data; Forest Service boundaries; climate zone designations from the International Energy Conservation Code (IECC) and the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), and other data. (Some data gaps exist, including in water data due to the use of unmetered well water.)

Outcome Sought:
A prototype of a tool that displays, in table and map form, performance on energy and water use, allowing meaningful comparisons of facilities and organizational units that have similar characteristics. Also, a way for regional staff to make corrections to data and quickly update the analysis. E.g., the tool would show the energy used per square foot for Ranger Districts, or selected large facilities, within each IECC/ASHRAE climate zone. Or it would compare water use per full-time equivalent employee at large facilities/sites to maps of existing and anticipated drought conditions.

USDA Forest Service will provide sample data on energy and water use, facilities, occupancy, and organizational units, and links to other data sources. No mobile functionality is sought at this time.

Skills Needed:
Coding/development experience, GIS, and familiarity with facilities, engineering, or sustainability.

Data: EnviroAtlas 1 meter resolution Urban Land Cover data