

47th SYMPOSIUM ON SAFETY, QUALITY AND KNOWLEDGE MANAGEMENT IN SPACE
ACTIVITIES (D5)

Knowledge Management and Collaboration in Space Activities (2)

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CREATING NATIONAL SCIENCE COMMUNITIES AROUND OPEN DATA

Abstract

The U.S. government's open data site, Data.gov, has blazed a trail for openness, transparency, and innovation in the scientific community and with the public. With more than 400,000 data resources from 175 agencies and many U.S. cities and states, the U.S. open data platform provides a wealth of information for scientists, citizens, researchers, and entrepreneurs. Much of this data is geospatial, satellite imagery, and deriving from Earth- and spaceborne sensors.

At the heart of Data.gov is a blend of data, information, and knowledge management principles and practices that provides a platform for innovation. The expression of this is the Data.gov communities—20 topical areas focused around national priorities like climate, science, research, geospatial, weather, and ocean. These communities (like Research.Data.gov) allow collaboration amongst citizens, developers, analysts, data journalists, government officials, and business owners to get data into the hands of citizens to make better-informed decisions.

Additionally, the role of the citizen scientist has emerged in understanding how to gather and share knowledge. Citizen scientists serve as a distributed community of remote participants that help gather information about asteroids, wildlife, and other activities and provide that into a shared repository. This combines both subject matter expertise and citizen-generated data for a richer, more affordable approach to science.

Sharing such data allows us to make rich comparisons that could never be made before and helps us to better understand the data and support decision-making. The adoption of vocabularies and ontologies, knowledge management practices, the emerging role of the citizen scientist, and open linked data is helping to drive Data.gov forward. This paper highlights specific data and knowledge sharing examples of solving mission problems from NASA, the White House, and many other government agencies and citizen innovators.