

## Harnessing NASA Goddard's Grey Literature: The Power of a Repository Framework

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### **Abstract**

*The NASA Goddard Library collaborated with several projects on-Center to create a framework for the development of web-accessible repositories of grey literature. Tools and methods for collaboration were developed through a series of prototypes with a variety of Goddard projects based on the Library's Digital Asset System (DAS), a repository to describe and provide access to project information including images, videos, web sites, and technical reports.*

*Metadata is a key component of this framework. The Goddard Core Metadata Element Set, an extension of the Dublin Core, is used to describe these resources. Additional elements include project name, project code and instrument name. A taxonomy of controlled subject terms has been developed which can also be extended and tailored for each project. This provides consistent searching across the DAS, while at the same time enhancing the search precision for each project collection when it is accessed as a separate collection in the DAS or through its own web site.*

*To-date, the Library has used the framework with a number of different projects. A commemorative CD with key documents, web sites and oral histories by the project managers was developed for the Hitchhiker Project as it was being disbanded. Metadata from the Swift project library was transformed and made more accessible with pointers to documents in the Swift project library. The Landsat Legacy Project, a joint project with the Landsat Program Science Office, the US Geological Survey, and the NASA History Office, is creating an archive of essential technical-, policy-, and science-related documentation. To gather significant documentation from the over 35-year-multi-agency history of Landsat, the Library added components for external submission of documents for potential inclusion in the new repository and for scanning paper documents. In addition, video histories are being captured from Landsat veterans.*

*Through these projects, the NASA Goddard Library has developed a methodology for collaborating with different kinds of projects. It involves procedures for analyzing the needs of a project and determining how the metadata, taxonomy, and interface might need to change, while remaining consistent with the DAS framework for cross-repository access.*

*Ultimately, the Library plans to extend the effort to other projects. (At any given point in time, Goddard has more than 30 projects in various stages of completion.) As part of Goddard's knowledge management activities, the DAS provides a framework for sharing grey literature that would otherwise be scattered across independent project libraries. Benefits include the ability to more quickly find and reuse information to decrease project costs, enhance safety and promote innovation.*

### **Developing the Framework:**

In 2001, the NASA Goddard Library began its efforts to develop a center-wide metadata repository of technical and scientific information related to the mission of the NASA Goddard Space Flight Center (GSFC). Through those efforts the Library has examined various approaches to making information accessible and available for re-use. An in-house prototype infrastructure for creating a combined metadata repository to describe and provide access to project information including images, videos, web sites, and technical reports was developed and called the Digital Asset System (DAS). The DAS was developed against the Goddard Core Metadata Element Set, based on qualified Dublin Core [1] with extensions. The Goddard Core Metadata Set was specifically developed to provide better discovery and evaluation in the Goddard context of project management [2], i.e., helping the user find the document, evaluate its usefulness and locate it whether in paper or in digital form. The Goddard Core was developed through the work of the Goddard Metadata Review Group (MRG), which consist of internal and external metadata experts with the primary focus on metadata for project documentation and related objects. The MRG supports the development of a metadata framework for digital archiving, preservation, and access across objects and subjects to advance knowledge management efforts [3].

To expand the elements of findability, the Goddard Library incorporated the NASA Taxonomy and EOS (Earth Observatory System) Taxonomy as controlled discipline terminologies for the subject element of the Goddard Core. The NASA Taxonomy was developed through a NASA Headquarters contract to the Jet Propulsion Laboratory (JPL), another NASA center located in California, in an effort to provide a strategic search mechanism across the NASA centers, thereby building a knowledge base to assist in browsing and navigation through large collections of disparate information objects [4]. The EOS Taxonomy was