

Development and Implementation of ISO Compliant Metadata for the SMAP Mission

The Soil Moisture Active Passive (SMAP) Mission was the first NASA mission required to implement ISO 19115 metadata in standard data products. SMAP launched on January 31, 2015. Early data products generated by the mission contain metadata that complies with the ISO 19115-2 model. Furthermore, the metadata are represented in compliance with the ISO 19139 standard.

The page currently references a set of presentations that address various efforts put forward by the SMAP team to design and implement ISO metadata into data products. We encourage developers and designers who are embarking on the use of ISO metadata to review these materials.

Three of the presentations deal with the challenge of automating ISO design into the ISO 19139 serialization.

[A Practical Application Using ISO Metadata - SMAP.pptx](#) is the earliest of these presentations. This one provides the theory and the proposed approach that SMAP chose to implement in late 2012.

[SMAP - ISO Metadata Automation.pptx](#) documents the initial implementation of ISO automation.

[SMAP - Automated Generation of ISO Metadata.pptx](#) documents further development of the automation effort. At this stage, SMAP employed two distinct methods to automate the generation of ISO metadata. This slide presentation compares the methods and provides some feedback to new users about which method might be better for their efforts.

A fourth slide presentation deals with the challenge of using ISO metadata in ISO 19139 compliant format in the early stage of use. As ISO is developed, we expect that purveyors of science software analysis tools will produce tools that read and interpret ISO metadata. Those tools are not yet on the market. The slide presentation below discusses what SMAP did to circumvent this issue.

[SMAP - ISO Metadata and HDF5.pptx](#) discusses the SMAP effort to represent ISO metadata in an alternative format that is conducive to HDF5 design and easy to access for users who do not have or want to use tools that interpret XML.