



STAC + CEOS-ARD

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The Past: STAC CARD4L Extension

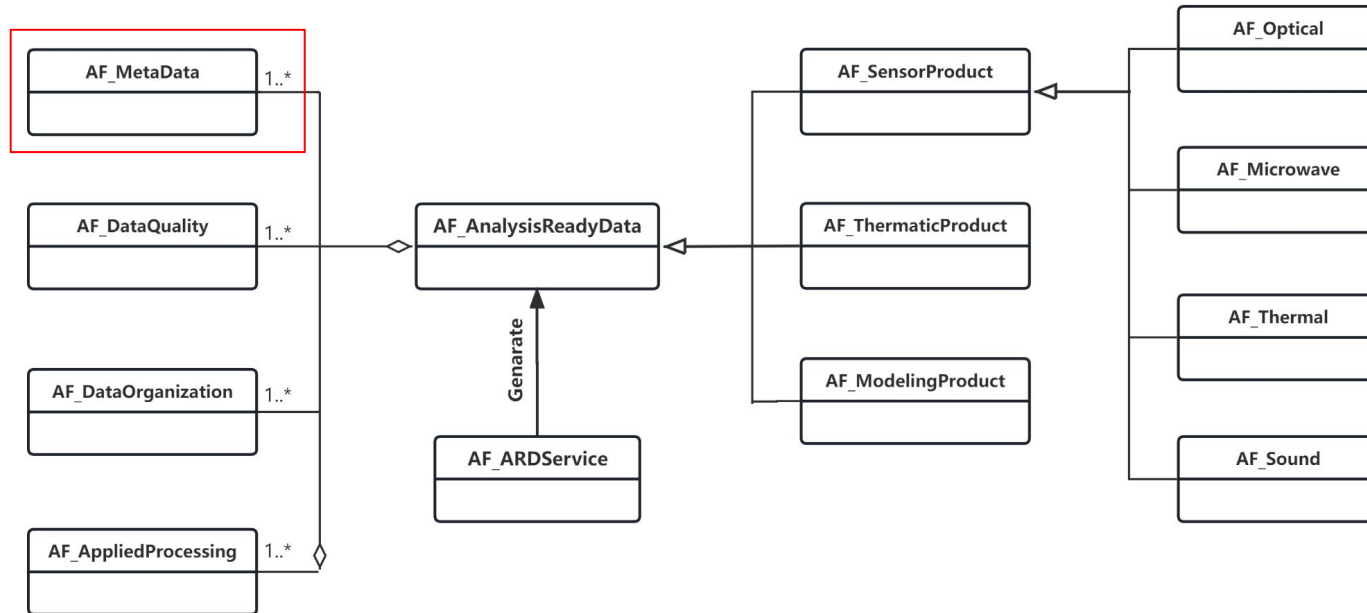
- Complex
- Only SR, ST, NRB, POL
- Many card4l: fields that should live in separate STAC extensions
- Outdated name

Tasks

- Create new CEOS-ARD STAC extension
- Create specific STAC extensions for missing fields
- Work with CEOS on
 - Clarifications
 - Single template (see Radar)
 - “Profiles”
- Make (example) data available
- Deprecate STAC CARD4L extension
- Align with ISO/OGC work?

OGC/ISO ARD \leftrightarrow STAC CEOS-ARD

- Check how this relates to and can benefit the ISO/OGC ARD work
 - Ideally the ISO/OGC building blocks are somewhat aligned with the STAC extensions
 - STAC extensions as specific encodings for ISO/OGC building blocks?



CEOS-ARD STAC Extension

- Simplify (may not include all optional requirements)
- Create “profiles” for Optical and Radar
- Extend to cater for (1) AR, NLSR and (2) ORB, GLSC
- Update naming scheme
- Create JSON Schema
- Create examples

Field Name	Data Type	Description
ceosard:type	string	REQUIRED. The CEOS-ARD (sensor) type implemented, one of <code>optical</code> or <code>radar</code> .
ceosard:specification	string	REQUIRED. The CEOS-ARD product family specification implemented.
ceosard:specification_version	string	REQUIRED. The CEOS-ARD product family specification version implemented.

The following combinations of values are supported for the fields above:

PFS	ceosard:type	ceosard:specification	ceosard:specification_version	STAC Status
Surface Reflectance	<code>optical</code>	SR	5.0 / 5.0.1	Proposal
Surface Temperature	<code>optical</code>	ST	5.0	Proposal
Aquatic Reflectance	<code>optical</code>	AR	1.0	Proposal
Nighttime Lights Surface Radiance	<code>optical</code>	NLSR	1.0	Proposal

Optical

- Draft is available
- Waiting for a couple of clarifications
- May need updates if Optical PFS get merged
- Wish for a review by CEOS
- Example dataset will be created

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- [STAC Collections](#)
 - [STAC Items](#)
 - [Common Metadata](#)
 - [Accuracy](#)
 - [EO \(Electro-Optical\)](#)
 - [Processing](#)
 - [Projection](#)
 - [View](#)
 - [Assets](#)
 - [Data](#)
 - [Per-Pixel Metadata](#)
 - [Bands](#)
 - [Links](#)

Radar

- planned for 2024
- needs a lot of discussions for new STAC extensions (~ 30 fields)
- Help wanted - I have no clue about SAR!

Building Blocks / Profiles

- Similar to STAC extensions
=> work on small groups of related information
- Seems to be foreseen in ISO/OGC (see UML diagram)
- Potentially helpful for CEOS-ARD

Q&A

Related links:

- [STAC CEOS-ARD Extension](#)
 - [Old STAC CARD4L Extension](#)
- [CEOS-ARD](#)
- [Open issues for CEOS-ARD](#)
- [Missing fields in Sentinel-2 L2A generation in stactools](#)

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