

Titiler.xarray Opener/Reader Refactor discussion

Participants

Agenda

- Julius:
 - Supporting Icechunk: titiler.xarray or titiler-multidim?
 - Relevant xarray/zarr developments:
 - <https://github.com/zarr-developers/zarr-python/pull/3369>
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- Goal of titiler.xarray is just to support GeoZarr, in the long term
- There's no single titiler-xarray application because of the pain of large dependencies
 - Already deal with that with GDAL in titiler.core, cannot do the same with titiler.xarray because Xarray, h5netcdf, etc. are very large
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- Can we define what the role of rio-tiler, titiler and its sub-libraries (rasterio, xarray) is for opening (authn/z, obstore, fsspec), reading (zarr/xarray, COG/rasterio) vs the application (titiler-multidim, -cmr)?
 - What also might help is a clarifying diagram on titiler Readers and Multi*Readers and inheriting applications
 - Rio-tiler's SRP is x (input → output), etc (see also https://github.com/cogeotiff/rio-tiler/blob/main/rio_tiler/experimental/zarr.py)
- Also want to support opening a full datatree at some point
 - Might remove opener concept and just have reader deal with Zarr hierarchy
- All comes down to rio-tiler - experiment Zarr module with overlap with titiler.xarray
 - Next version will open a datatree (how it's done in titiler.eopf)
- We need a protocol for titiler openers
 - Downstream applications should have a simple way to define their own opener
 - Could all openers move outside titiler.xarray? Would that help?
 - Vincent shouldn't be limited by needing to maintain old openers
- Max: right now we have one endpoint per library (gdal vs xarray), but one endpoint per file format could make sense, definitely not one endpoint per dataset (like xpublish)
- Suggestion by Max:
 - Monorepo for all NASA titiler apps to facilitate reuse of code between e.g. titiler-cmr and titiler-multidim.
 - Only Titiler-multidim-specific code is the redis cache
 - Only logic that might be shared is the requester-pays buckets and EDL-based access options
- Obstore migration?

- Vincent is working on this