R vector and raster data cubes for openEO

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The recently funded H2020 project openEO (http://openeo.org/ ) will build an API between cloud-based Earth Observation data processing back-ends and clients using R, python or javascript. Regardless how data are stored on the back-end (tiles, granules, array files, array databases), end-users are mostly helped by a data cube view on the data, where filtering takes place on area, time period, and bands, and functions can be mapped to dimensions (space, time, spectral, . . . ). This paper will show some early results from openEO including client and back-end R implementations of first use cases, and also progress made in representing vector and raster data cubes in the R Consortium-funded project stars (https://r-spatial.github.io/stars/ ).