



# **OS-Climate Data Exchange**

**A Marketplace for the World's Climate Data**  
**Making Climate Data Easy to Find, Consume, Trust, and Share**

**Screen Shots (Preliminary, Draft)**

**Eric Broda**

**May 9, 2023**

The Marketplace provides a one-stop shop to find climate data

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Featured Data Products

S

sample.climate-mobilization.dataproduct  
sample.climate-mobilization.dataproduct

DESCRIPTION  
OS Climate - Mobilization Data Product

OWNER  
user:eric.broda

SYSTEM  
climate-data-mgmt

LIFECYCLE  
experimental

TAGS  
greenhouse ghg climate

CHOOSE

S

sample.physical-vulnerability.dataproduct  
sample.physical-vulnerability.dataproduct

DESCRIPTION  
OS Climate - Physical Vulnerability Data Product

OWNER  
user:eric.broda

SYSTEM  
climate-data-mgmt

LIFECYCLE  
experimental

TAGS  
greenhouse ghg climate

CHOOSE

S

sample.physical-vulnerability.dataproduct  
sample.physical-vulnerability.dataproduct

DESCRIPTION  
OS Climate - Physical Vulnerability Data Product

OWNER  
user:eric.broda

SYSTEM  
climate-data-mgmt

LIFECYCLE  
experimental

TAGS  
greenhouse ghg climate

CHOOSE

Data Products

b

brodagroupsoftware.dataproduct.001  
A collection of key metrics for US utilities

DESCRIPTION  
The RMI Utility Transition Hub Data Download is a collection of publicly available data, organized and used to calculate key metrics that describe the US utility transition

OWNER  
user:eric.broda

SYSTEM  
emissions-data-mgmt

LIFECYCLE  
experimental

TAGS  
utilities emissions

CHOOSE

S

sample.asset-managers.dataproduct  
sample.asset-managers.dataproduct

DESCRIPTION  
OS Climate - Asset Managers Data Product

OWNER  
user:eric.broda

SYSTEM  
stakeholder-data-mgmt

LIFECYCLE  
experimental

TAGS  
greenhouse ghg climate

CHOOSE

S

sample.biophysical-impact.dataproduct  
sample.biophysical-impact.dataproduct

DESCRIPTION  
"A Biophysical Impact Assessment (sometimes called a Biological or Ecological Impact Assessment: BIA or EIA) is an assessment and evaluation of the impact of a proposed project on identified environmentally significant areas, natural parks and natural areas."

OWNER  
user:eric.broda

SYSTEM  
biophysical-impact-data-mgmt

LIFECYCLE  
experimental

TAGS  
naturalparks esa

CHOOSE

S

sample.central-banks.dataproduct  
sample.central-banks.dataproduct

DESCRIPTION  
OS Climate - Central Banks Data Product

OWNER  
user:eric.broda

SYSTEM  
stakeholder-data-mgmt

LIFECYCLE  
experimental

TAGS  
biological biophysical climate

CHOOSE

S

sample.climate-accounting.dataproduct  
sample.climate-accounting.dataproduct

DESCRIPTION  
Accounting methodology and techniques used to measure and monitor climate related data

OWNER  
user:eric.broda

SYSTEM  
accounting-data-mgmt

LIFECYCLE  
experimental

TAGS  
biological esa

CHOOSE

S

sample.climate-alignment.dataproduct  
sample.climate-alignment.dataproduct

DESCRIPTION  
OS Climate - Alignment Data Product

OWNER  
user:eric.broda

SYSTEM  
climate-data-mgmt

LIFECYCLE  
experimental

TAGS  
greenhouse ghg climate

CHOOSE

# [Data Product Search]

A user may search the marketplace using a query term or phrase – data products that match the search criteria are listed with highlighted terms (note: we use a “fuzzy search” algorithm, and soon OpenAI natural language for search)

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E

Search

greenhouse

SAMPLE.CLIMATE-EMISSIONS.DATAPRODUCT (SCORE: 3.588)

DESCRIPTION

Substances that are radiatively active (e.g., greenhouse gases (GHGs), aerosols)

TAGS

["greenhouse","ghg"]

SAMPLE.PCAF-SOVERIGN-DEBT-CALCULATION.DATAPRODUCT (SCORE: 2.660)

DESCRIPTION

PCAF enables financial institutions to assess and disclose greenhouse gas emissions associated with financial activities. PCAF provides the starting point for financial institutions to manage risk, identify opportunities associated with greenhouse gas emissions and begin the journey towards decarbonization. The PCAF organization is an industry-led partnership to facilitate transparency and accountability of the financial industry to the Paris Agreement. Banks represent most of the available capital globally and since the Paris Climate Agreement the largest banks have still invested more than \$4.6 trillion into the fossil fuel sector. This is equivalent to \$1.8 billion for every day since the end of 2015, with no downward trend and no assessment of the carbon impact of that finance. Given the scale of the climate challenge and the crucial role of the financial industry in facilitating the net zero carbon transition, the Partnership for Carbon Accounting Financials was created.

TAGS

["greenhouse","ghg","emissions"]

SAMPLE.MACRO-ECONOMIC-MODELING.DATAPRODUCT (SCORE: 1.179)

TAGS

["greenhouse","ghg","climate"]

SAMPLE.COMBINED-METRICS.DATAPRODUCT (SCORE: 1.179)

TAGS

["greenhouse","ghg","climate"]

SAMPLE.ASSET-MANAGERS.DATAPRODUCT (SCORE: 1.179)

TAGS

["greenhouse","ghg","climate"]

SAMPLE.CLIMATE-FOOTPRINTS.DATAPRODUCT (SCORE: 1.179)

TAGS

["greenhouse","ghg","climate"]

SAMPLE.CLIMATE-MOBILIZATION.DATAPRODUCT (SCORE: 1.179)

TAGS

["greenhouse","ghg","climate"]

SAMPLE.RMI-UTILITIES.DATAPRODUCT (SCORE: 1.179)

TAGS

["greenhouse","ghg","emissions"]

SAMPLE.OTHER-BUY-SIDE-ENTITIES.DATAPRODUCT (SCORE: 1.179)

TAGS

["greenhouse","ghg","climate"]

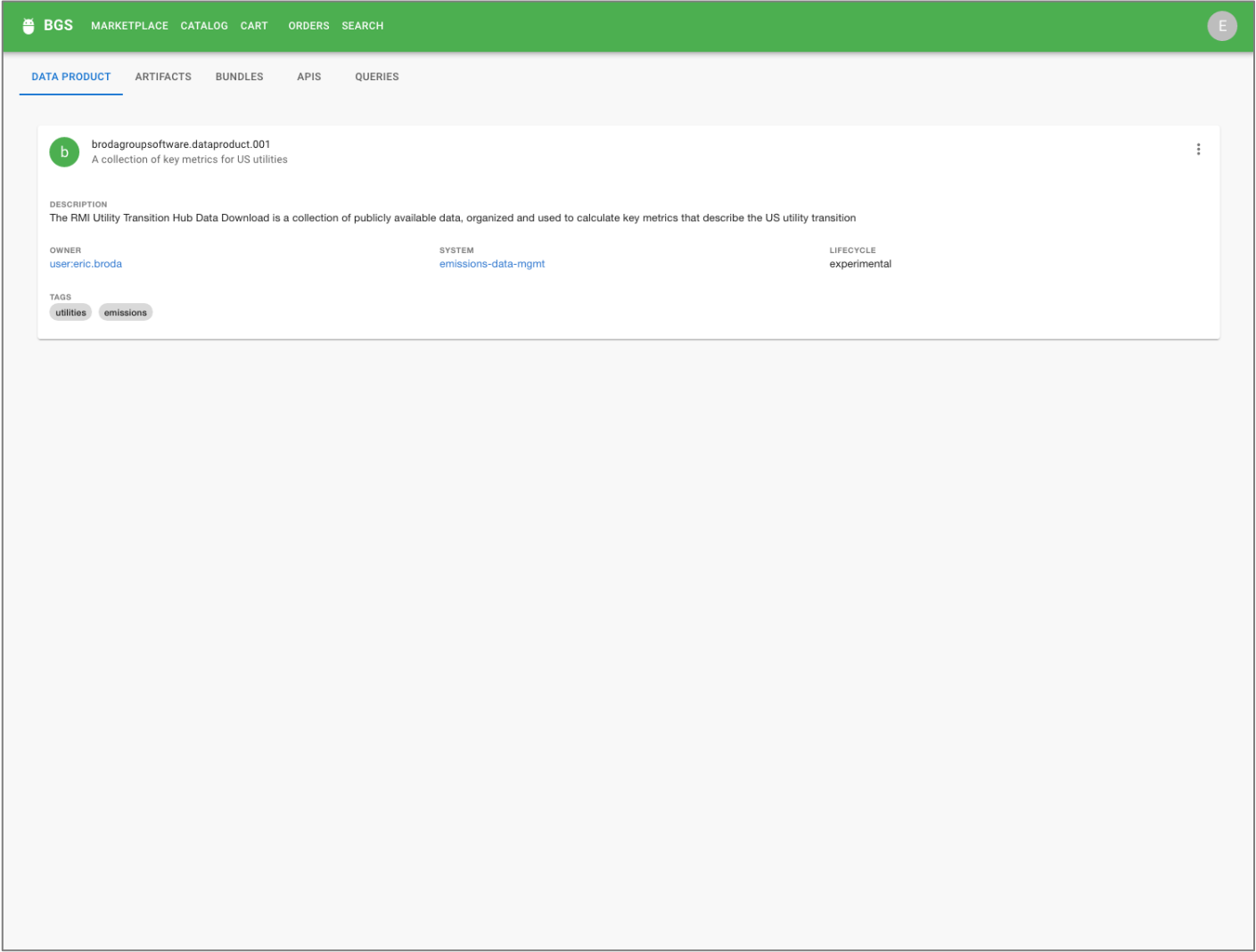
SAMPLE.ECONOMIC-GROWTH-ANALYSIS.DATAPRODUCT (SCORE: 1.179)

TAGS

["greenhouse","ghg","climate"]

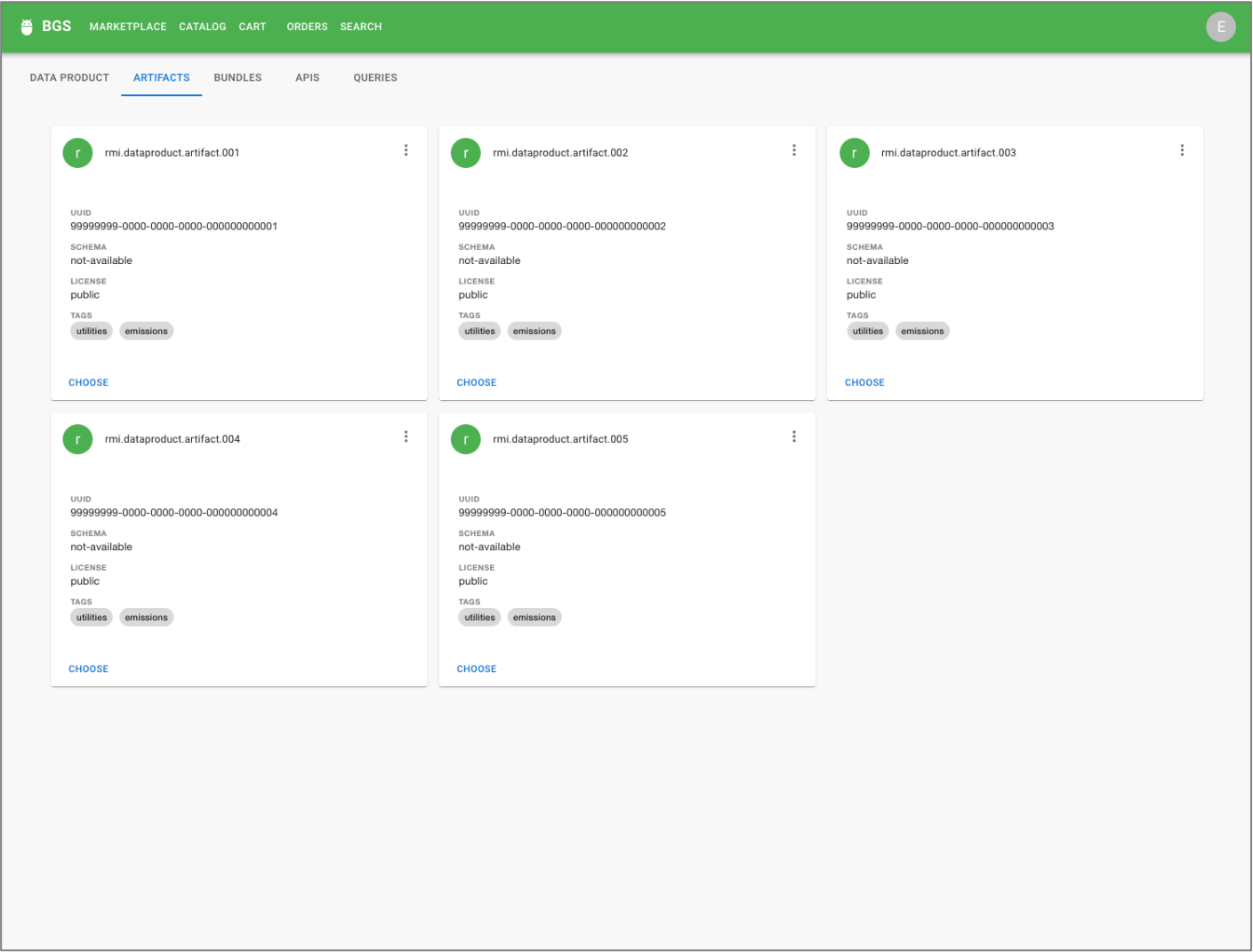
# [Data Product View]

Once a data product is found and selected, a Data Product View provides a summary of a climate data product, while offering new tabs to further examine a data product




# [Data Product Artifacts View]

The Data Product Artifacts view lists all artifacts available by this data product – note that an artifact can be a file, data set, database, or program, AI model (literally, anything the data product owner wishes to publish)



[Data Artifact View]

The Data Artifact View provides the detailed information for a specific artifact while allowing the user to “purchase” (ie. request) the artifact

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rmi.dataproduct.artifact.002

ARTIFACT DESCRIPTION

Utility identifiers such as name, ID numbers from various sources, and utility type. Includes connections from operating companies to parent companies

brodagroupsoftware.dataproduct.001

DATA PRODUCT DESCRIPTION

The RMI Utility Transition Hub Data Download is a collection of publicly available data, organized and used to calculate key metrics that describe the US utility transition

[VIEW SAMPLE DATA](#) | [VIEW LINEAGE](#) | [VIEW TERMS](#)

ADD TO CART

ARTIFACT TAGS

utilitiesemissions

DATA PRODUCT TAGS

utilitiesemissions

OWNER

user:eric.broda

SYSTEM

emissions-data-mgmt

LIFECYCLE

experimental

UUID

99999999-0000-0000-0000-000000000002

SCHEMA TYPE

not-available

SCHEMA URL

not-available

DATA TYPE

text/csv

DATA URL

http://data-mesh-fileserver:8888/files/rmi/utility\_information.csv

LICENSE

public

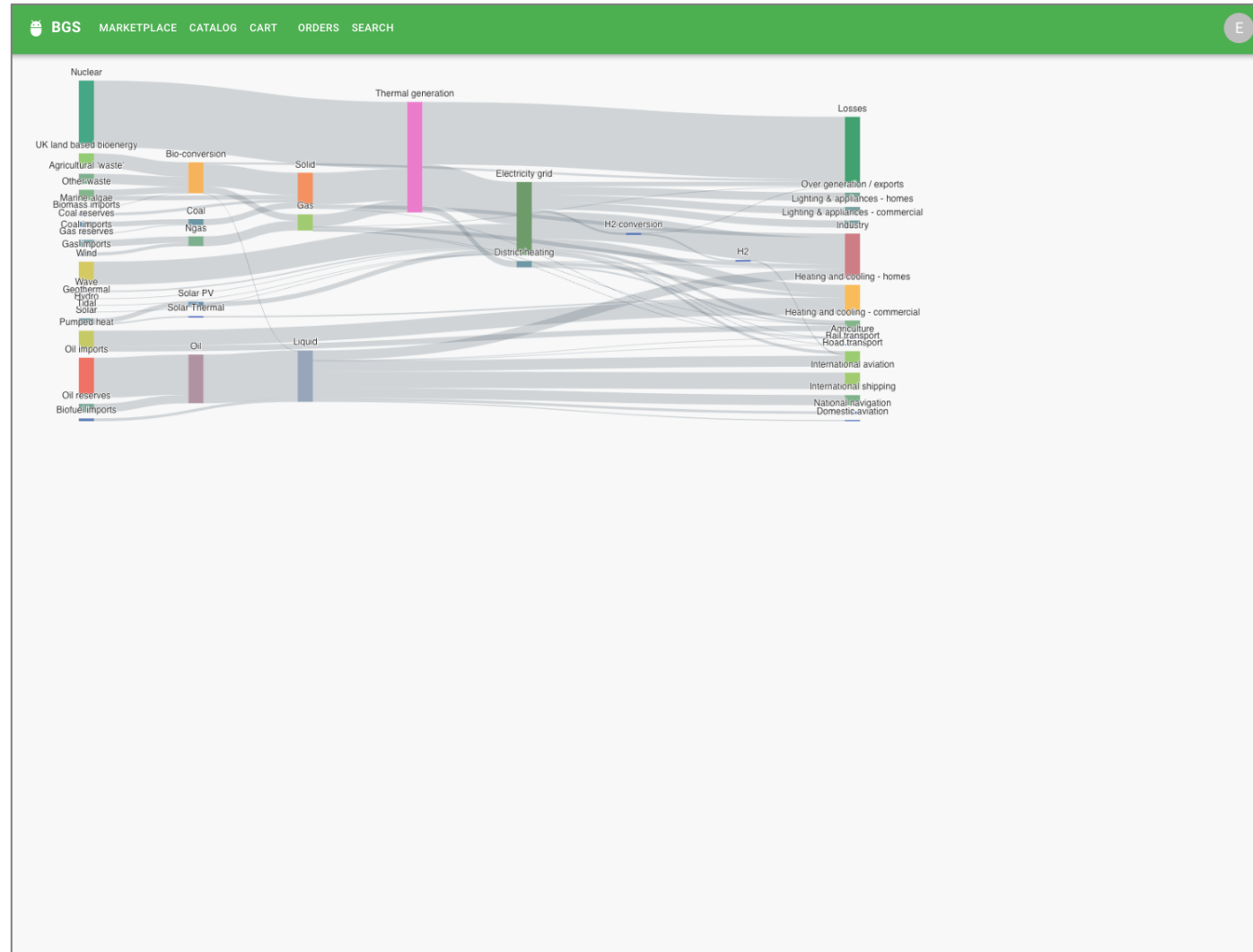
SECURITY ROLE

public

**Each data product provides supplementary data including sample data**

## [Data Product Provenance View]

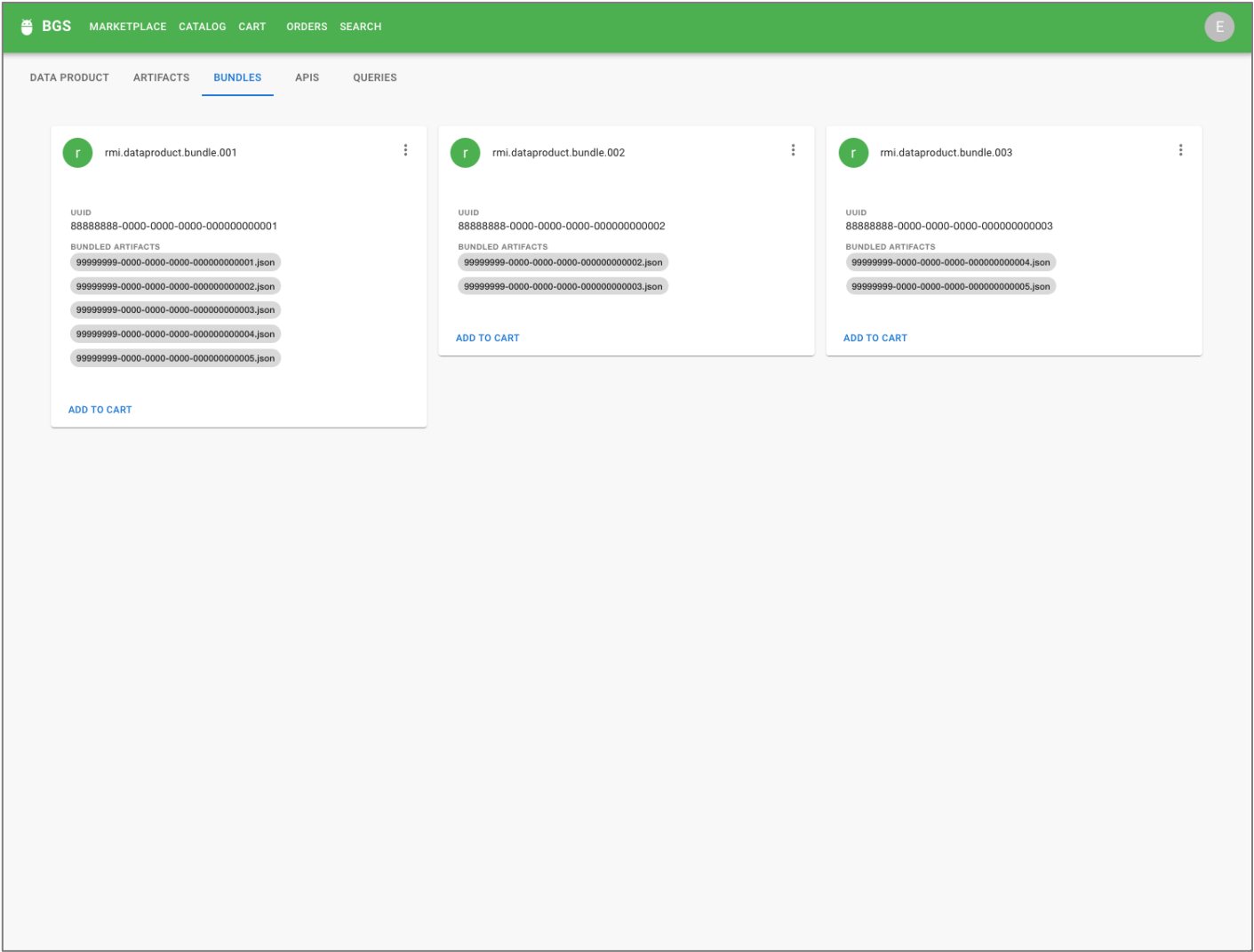
**Data Products interact in a global ecosystem of climate data – in the Data Exchange, each data product tracks lineage which, when combined, provide a broad set of provenance data required to provide trust in climate data**





[Data Bundles View]

A data product owner can group related artifacts, or those that work together (several data sets plus a Jupyter Notebook to process them) into bundles – a bundle can be “purchased” as a group



# [Data Product API View]

Each data product can be accessed view the Data Exchange UX as well as from a set of published APIs – these APIs allow consumers and publishers to consume/use data products programatically

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DATA PRODUCT

ARTIFACTS

BUNDLES

APIs

QUERIES

Data Product API

v0.0.1

OAS3

Data Product API

Contact eric.broda

Servers

http://brodagroupsoftware/v1

discover

GET /discover

Returns data product's public OpenAPI spec showing all endpoints available for consumption

config

GET /config

Returns config about this data product

summary

GET /artifacts

Returns a list of all artifacts

artifacts

GET /artifacts/{ArtifactId}

Returns metadata about a specific artifact identified by the ArtifactId

GET /artifacts/{ArtifactId}/contents

Returns contents for a specific artifact identified by the ArtifactId

GET /artifacts/{ArtifactId}/sample

Returns samples for a specific artifact identified by the ArtifactId

bundles

GET /bundles

Returns a list of all bundles

# [Data Product Query View]

Some data products may be accessible via federated queries (for example, via Trino) – curated queries can also be made available in a climate data product

