



Agrimetrics

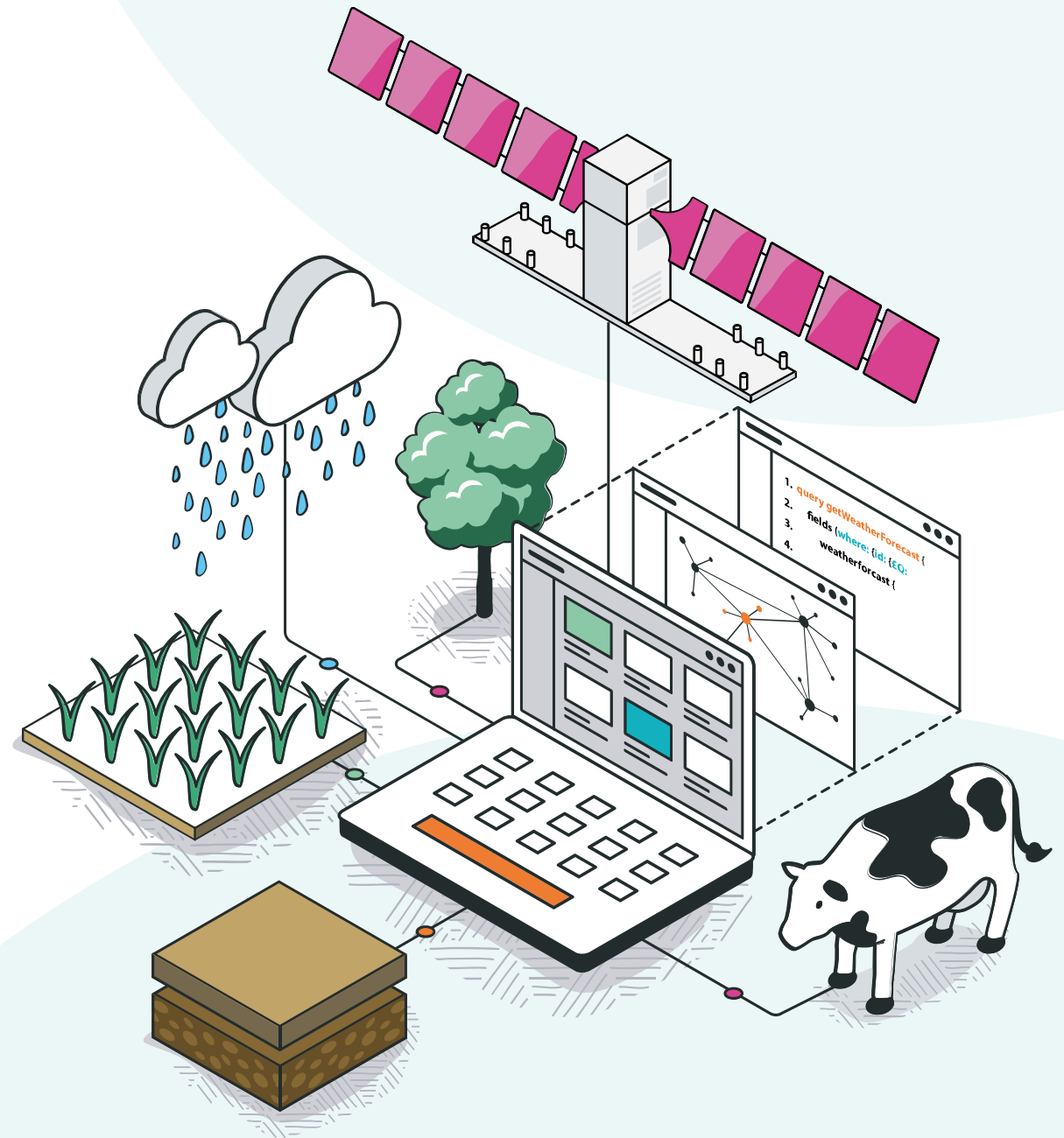
THE AGRIFOOD DATA MARKETPLACE

Agrimetrics



Richard Tiffin

Chief Scientific Officer



About us

A UK public and commercially funded organisation, founded to accelerate new innovations from agri-food and environmental data

We are the UK food and farming sector's Data Marketplace



The required data aren't available



Trapped in data silos



Low data interoperability



Data skills shortage

Products & Services



Our out of the box data exchange avoids businesses spending years of effort and millions of pounds creating their own from scratch



Open or Private Data Exchanges white-labelled, tailored and branded for each organisation and business



Marketplace for data cataloguing, consumption and data sales



Foundational Datasets including field boundaries, weather, water, soils, habitats

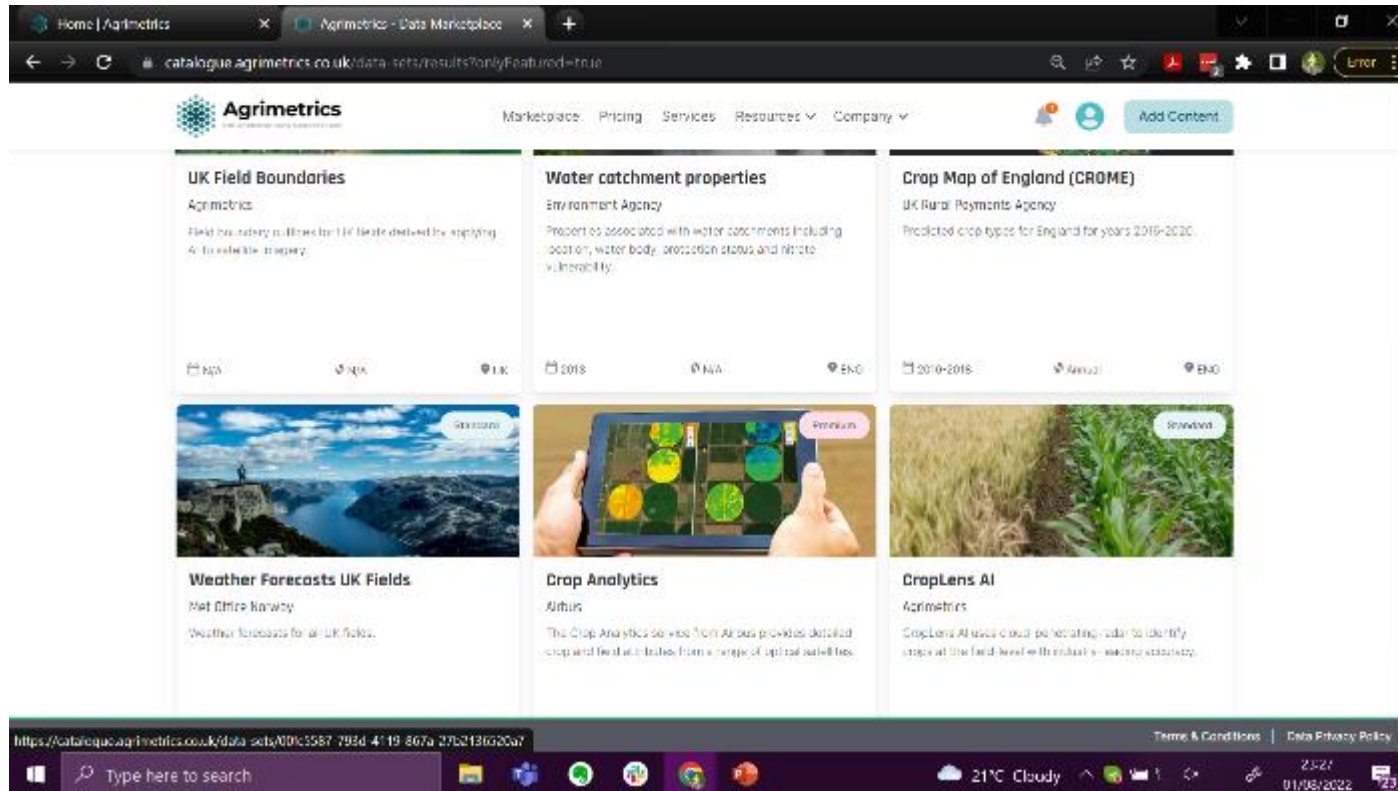


Analytics tools and Apps such as regenagri, wHen2gO and ForestMind



Professional services for implementing data exchanges, data cataloguing, data governance

Data Catalogue and Data Marketplace



Core data

- Field Explorer
- Soils
- Water
- Weather
- Field Boundaries

Open data

- Microsoft Fields of the World
- A selection of environmental data

Premium data

- Airbus Crop Analytics
- A range of Airbus data
- CEH pesticide and fertiliser data
- CHAP Crop Disease Models
- Monetise your data

Simple-to-use data catalogue
Filter by dataset properties
Add and share new datasets

Defra Data Services Platform

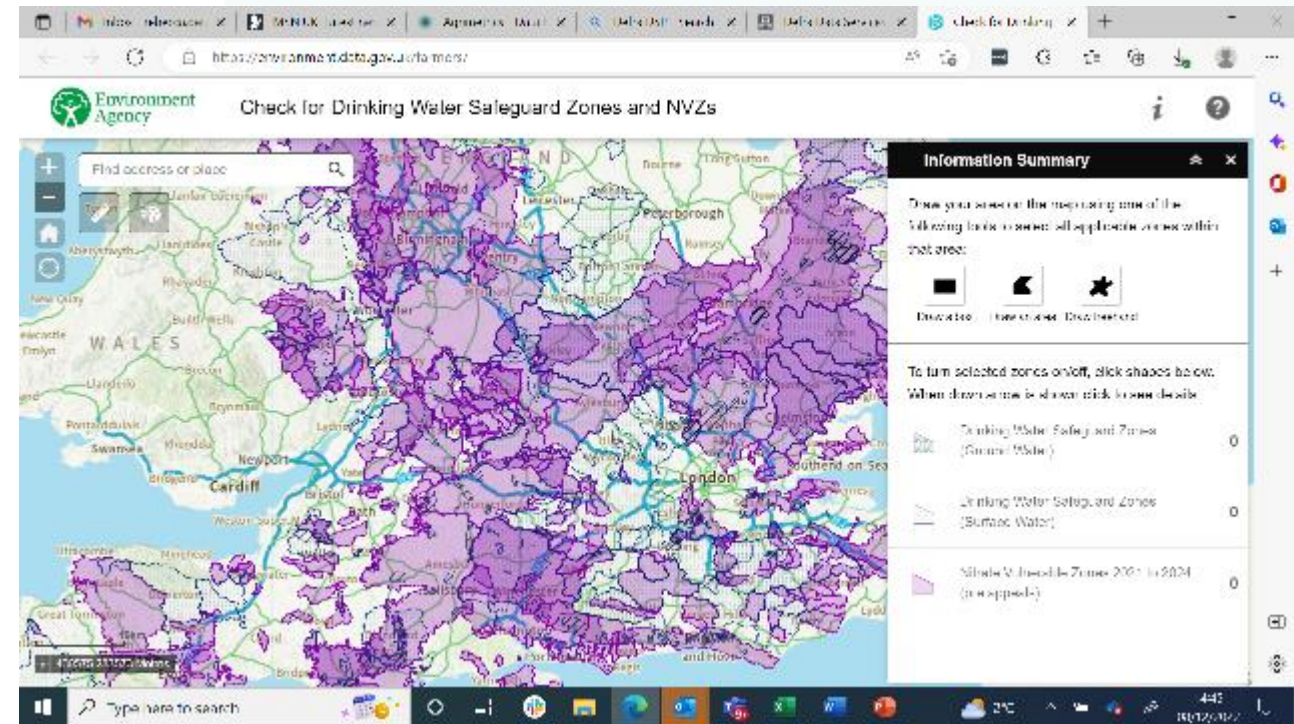


From end June 2023 Agrimetrics will host Defra Group's Environmental Data

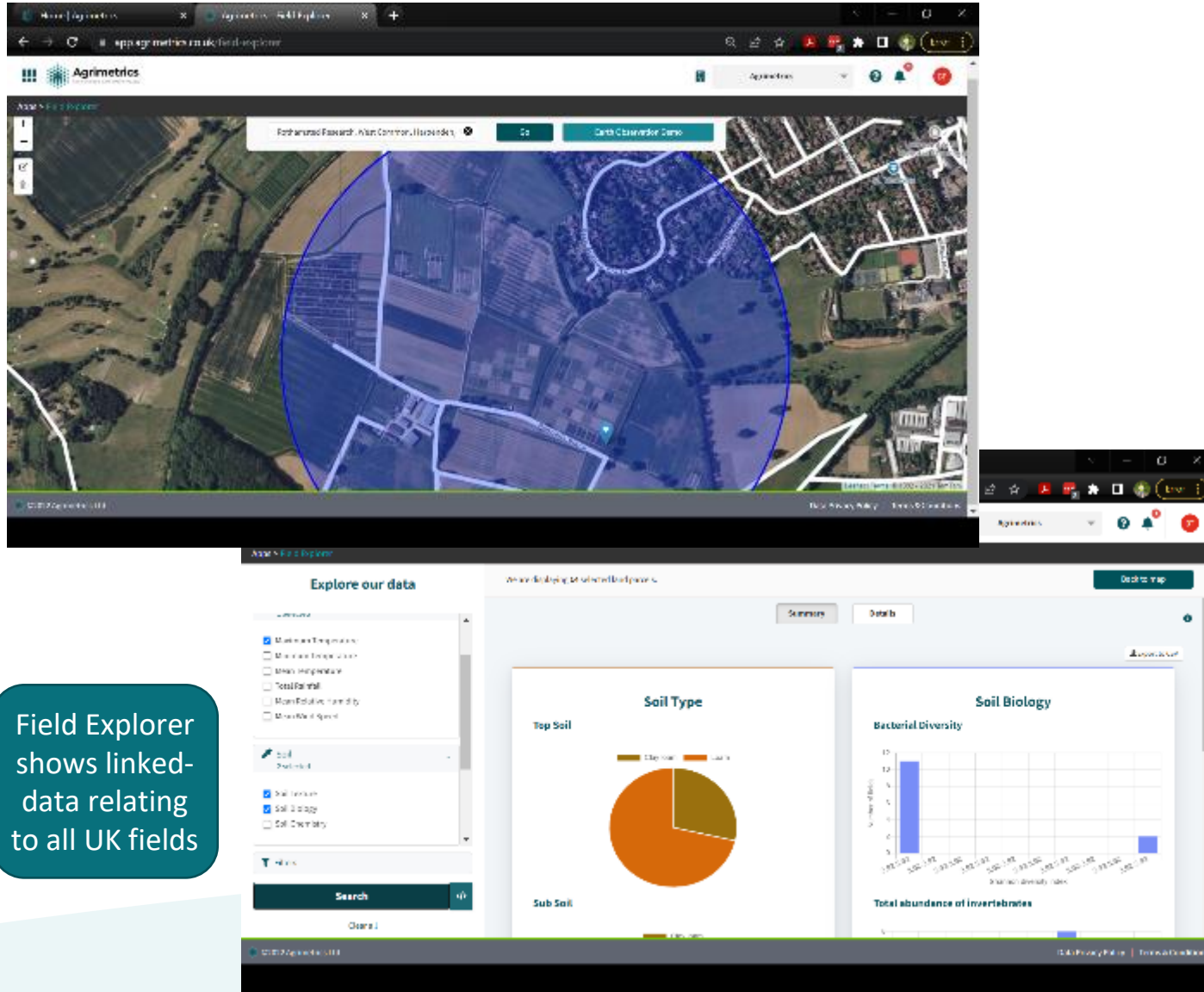
- 4,500 + datasets
- 30 applications
- 1.8 billion API calls
- 13,000 users

Nationally critical datasets

- Flooding, rainfall data, drinking water, bathing water plus many more



Field Explorer



Field Explorer shows linked-data relating to all UK fields

Field Explorer

- Geospatial data, attributed to each UK field
- Core data subscriptions

API



Application programmer interface.

REST (representational state transfer protocol) based on HTTP.

(Simple) Request comprises:

Endpoint:

<https://api.agrimetrics.co.uk/field-forecasts/v1/>

Path:

5S_oM05pMGH1iApKJXnYsA

Query:

We'll come back to that

APIS



Basic:

Supply field ID and get a range of info for those fields

5S_oM05pMGHliApKJXnYsA

Field facts

[Field forecasts](#)

Field trends.

Field search

Search for fields and return information

[Documentation.](#)

GraphQL

Alternative approach to searching.

Field Search



Allows user to find fields according to a range of criteria

[Documentation](#)

[Try it](#)

Filter:

```
geo.distance(Field/centroid, geography'SRID=4326;Point(-0.354829 51.809346)') lt 1500
```

```
Field/hasAltitude/value ge 150 and Field/hasAltitude/value le 250 and (Field/hasSownCrop/label eq 'Wheat' or  
Field/hasSownCrop/label eq 'Barley')
```

Select:

```
Field/hasMonthlyTotalRainfall
```

Postman

(The tool for exploring APIs)



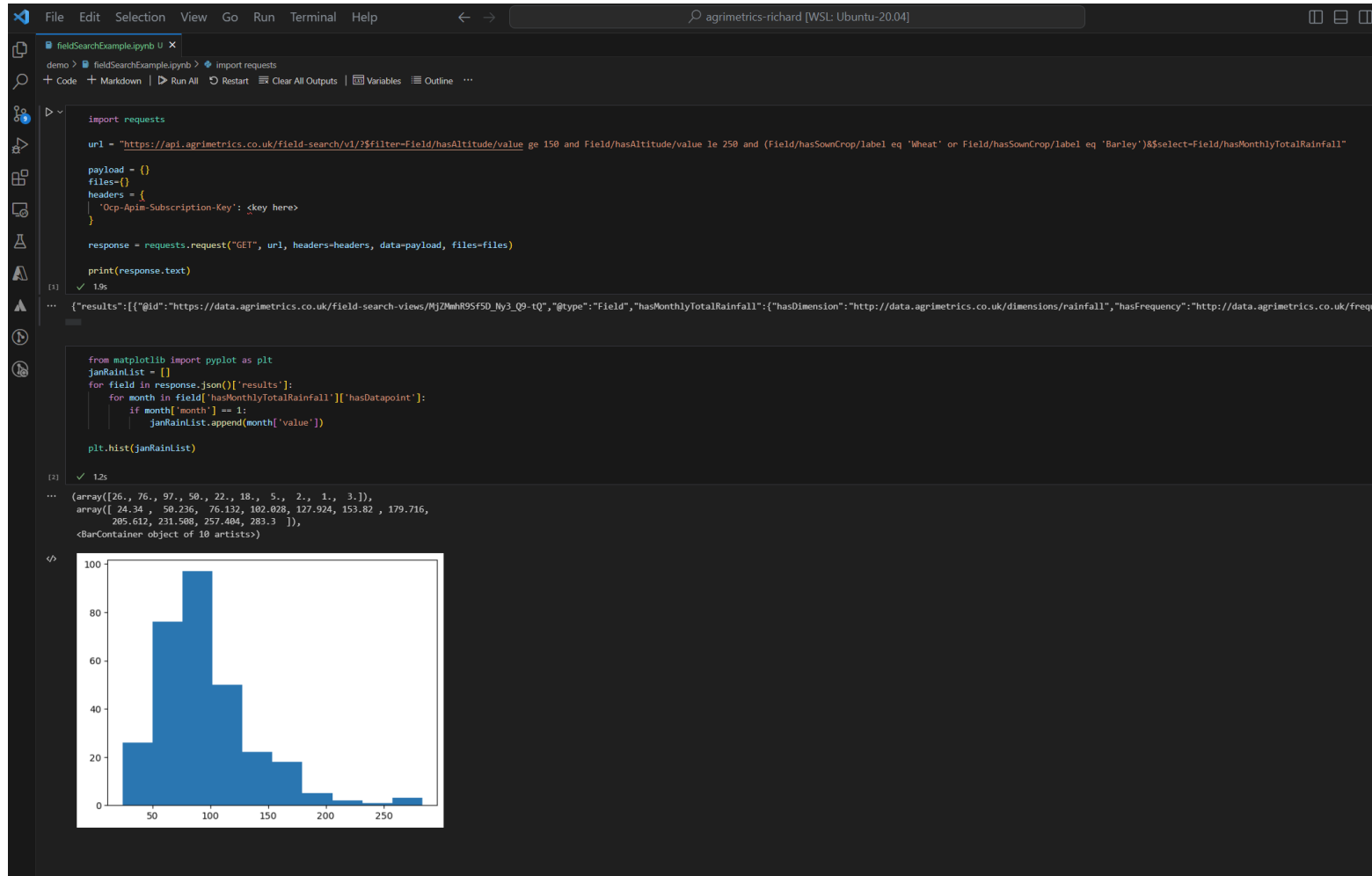
Overview GET https://api.agrimetrics.co.uk/field-search/v1/?\$filter=Field/hasAltitude/value ge 150 and Field/hasAltitude/value le 250 and (Field/hasSownCrop/label eq 'Wheat' or Field/hasSownCrop/label eq 'Barley')&\$select=Field/hasMonthlyTotalRainfall

Params • Authorization Headers (7) Body • Pre-request Script Tests Settings Cookies

Key	Value	Description	Bulk Edit
<input checked="" type="checkbox"/> \$filter	Field/hasAltitude/value ge 150 and Field/hasAltitude/v...		
<input checked="" type="checkbox"/> \$select	Field/hasMonthlyTotalRainfall		
<input type="checkbox"/> filter	Field/hasAltitude/value ge 150 and Field/hasAltitude/v...		
Key	Value	Description	

```
Python - Requests
1 import requests
2
3 url = "https://api.agrimetrics.co.uk/field-search/v1/?$filter=Field/hasAltitude/value ge 150 and Field/hasAltitude/value le 250 and (Field/hasSownCrop/label eq 'Wheat' or Field/hasSownCrop/label eq 'Barley')&$select=Field/hasMonthlyTotalRainfall"
4
5 payload = {}
6 files={}
7 headers = {
8     'Ocp-Apim-Subscription-Key':
9         '31294bdda35147029ff350d0ec0f5067'
10 }
11 response = requests.request("GET", url, headers=headers, data=payload, files=files)
12
13 print(response.text)
14
```

Python



```
import requests

url = "https://api.agrimetrics.co.uk/field-search/v1/?filter=Field/hasAltitude/value ge 150 and Field/hasAltitude/value le 250 and (Field/hasSownCrop/label eq 'Wheat' or Field/hasSownCrop/label eq 'Barley')&$select=Field/hasMonthlyTotalRainfall"

payload = {}
files = {}
headers = {
  'Ocp-Apim-Subscription-Key': '<key here>'
}

response = requests.request("GET", url, headers=headers, data=payload, files=files)

print(response.text)

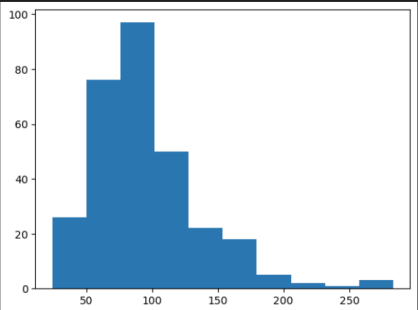
[1] ✓ 1.9s
... [{"@id": "https://data.agrimetrics.co.uk/field-search-views/MjZmMhR9Sf5D_Ny3_Q9-tQ", "@type": "Field", "hasMonthlyTotalRainfall": {"hasDimension": "http://data.agrimetrics.co.uk/dimensions/rainfall", "hasFrequency": "http://data.agrimetrics.co.uk/freque

from matplotlib import pyplot as plt
janRainList = []
for field in response.json()["results"]:
    for month in field["hasMonthlyTotalRainfall"]["hasDatapoint"]:
        if month["month"] == 1:
            janRainList.append(month["value"])

plt.hist(janRainList)

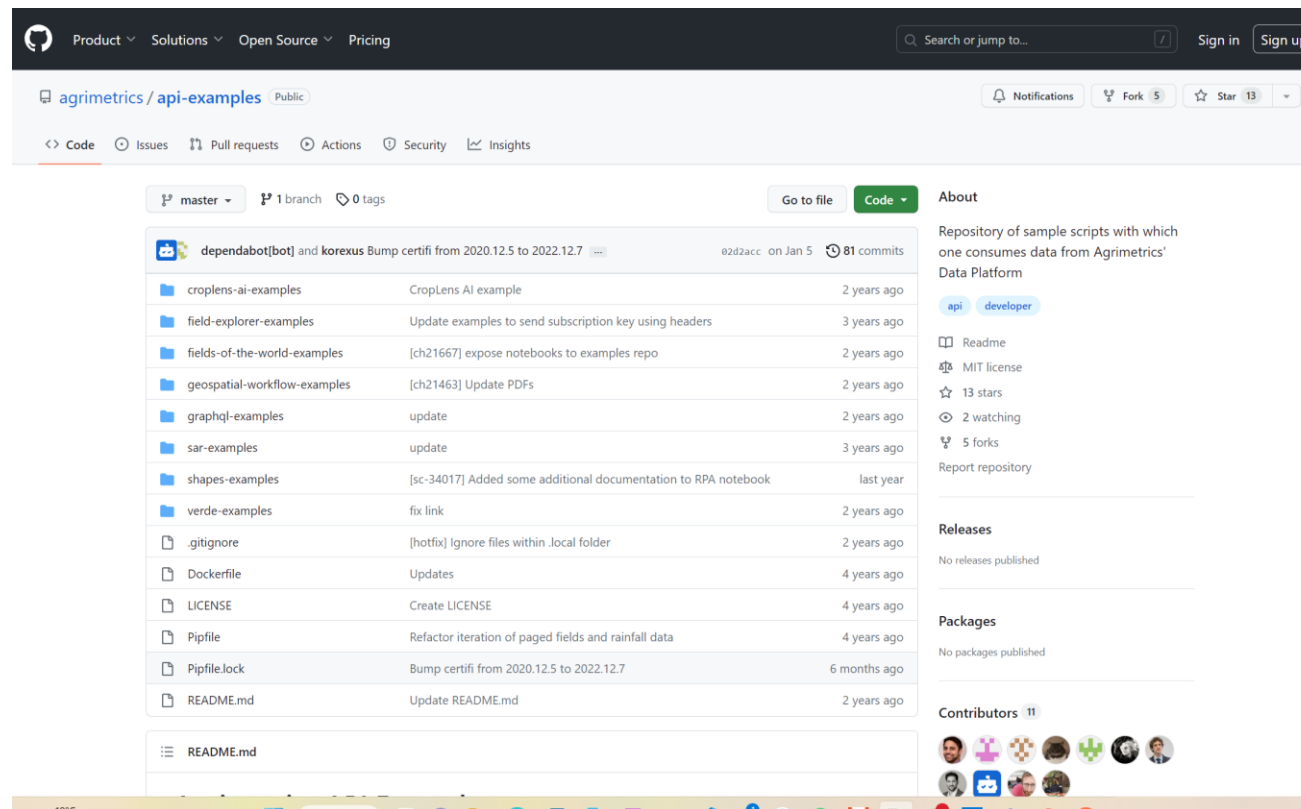
[2] ✓ 12s
... (array([26., 76., 97., 50., 22., 18., 5., 2., 1., 3.]),
array([ 24.34 ,  50.236,  76.132, 102.028, 127.924, 153.82 , 179.716,
        205.612, 231.508, 257.404, 283.3 ])),
<BarContainer object of 10 artists>

</>
```



Code samples

GitHub Repository



The screenshot shows the GitHub repository page for `agrimetrics/api-examples`. The repository is public and has 13 stars, 5 forks, and 0 tags. The main branch is `master`. The repository contains several subdirectories and files, including:

- `croplens-ai-examples`: CropLens AI example (2 years ago)
- `field-explorer-examples`: Update examples to send subscription key using headers (3 years ago)
- `fields-of-the-world-examples`: [ch21667] expose notebooks to examples repo (2 years ago)
- `geospatial-workflow-examples`: [ch21463] Update PDFs (2 years ago)
- `graphql-examples`: update (2 years ago)
- `sar-examples`: update (3 years ago)
- `shapes-examples`: [sc-34017] Added some additional documentation to RPA notebook (last year)
- `verde-examples`: fix link (2 years ago)
- `.gitignore`: [hotfix] Ignore files within .local folder (2 years ago)
- `Dockerfile`: Updates (4 years ago)
- `LICENSE`: Create LICENSE (4 years ago)
- `Pipfile`: Refactor iteration of paged fields and rainfall data (4 years ago)
- `Pipfile.lock`: Bump certifi from 2020.12.5 to 2022.12.7 (6 months ago)
- `README.md`: Update README.md (2 years ago)

The repository description is: "Repository of sample scripts with which one consumes data from Agrimetrics' Data Platform". It includes a README, MIT license, 13 stars, 2 watching, and 5 forks. There are no releases or packages published. The repository has 11 contributors.

Developer Documentation



[Developer portal](#)

[Getting started](#)

[API documentation](#)

[Code samples](#)