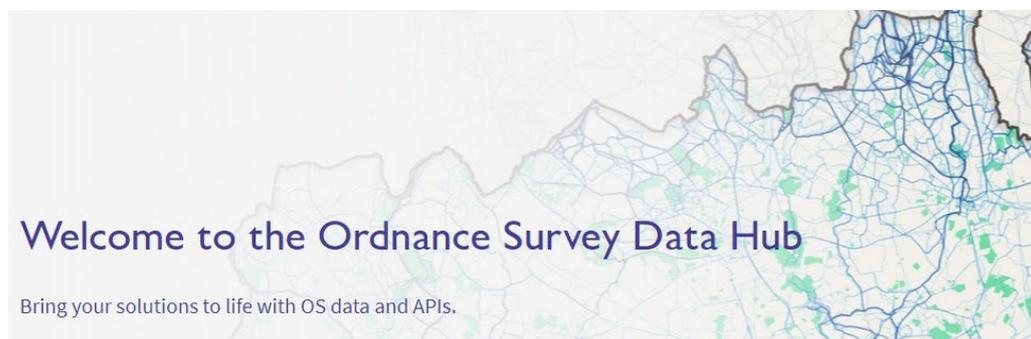


## OS Data Hub – OS Maps API

by David Crowther

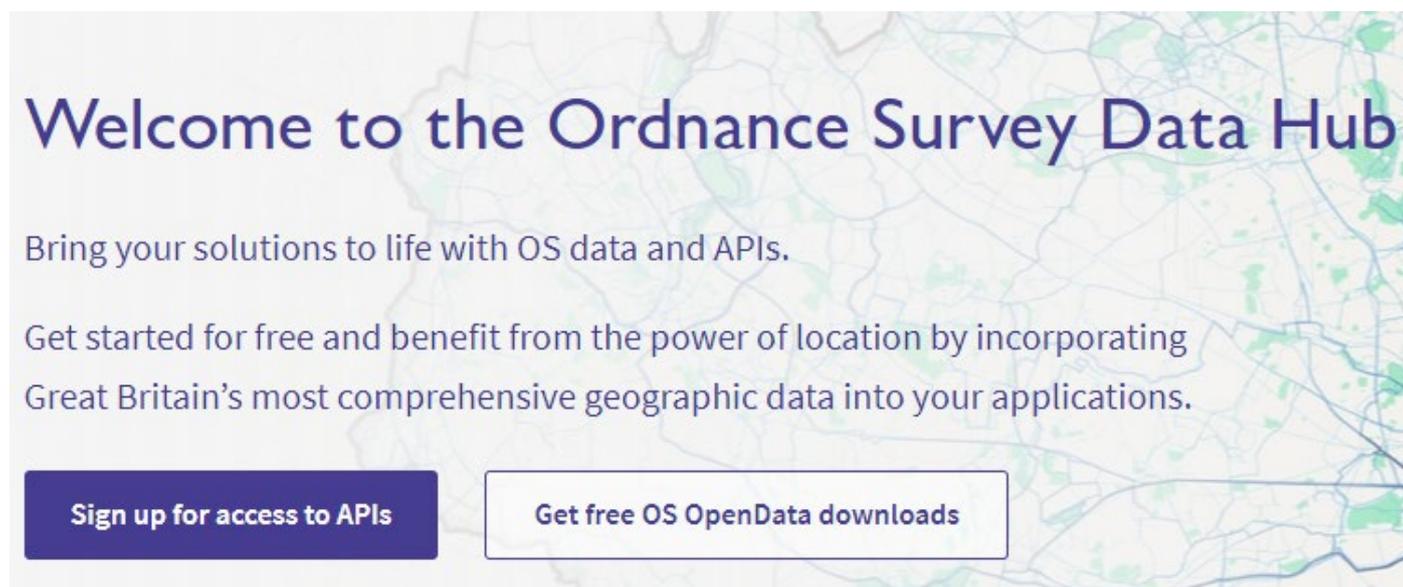


In late 2020, the Ordnance Survey launched its new Data Access Platform – **OS Data Hub** – which provides access to a suite of APIs for accessing datasets via web feeds.

<https://osdatahub.os.uk/>

The OS Data Hub provides access to two main options:

- Free OS OpenData **Downloads**
- **APIs** to access this data directly



## OS OpenData Downloads

Clicking on the **Get free OS OpenData Downloads** link will open the OS OpenData Downloads page - <https://osdatahub.os.uk/downloads/open> where you can access various raster and vector datasets to order and download for free.

### OS OpenData Downloads

Ordnance Survey OpenData can be downloaded for free (no registration required).

Search OS OpenData downloads

All data ▼



#### [1:250 000 Scale Colour Raster™](#)

Free OS OpenData

Get the regional view of towns and villages, roads and places of interest.

Coverage: All of GB  
Data structure: Raster  
Supply format: TIFF-LZW  
Version Date: 2020-06



#### [Boundary-Line™](#)

Free OS OpenData

From Euro constituencies to council wards, Boundary-Line™ maps every administrative boundary in detail for you.

Coverage: All of GB  
Data structure: Vector  
Supply format: ESRI® Shapefile, GML, GeoPackage, and MapInfo® TAB  
Version Date: 2020-10

These include **background mapping** such as 1:250K, MiniScale, OS Open, OS ZoomStack raster datasets. As well as **vector** (spatial) datasets such as BondaryLine, CodePoint, Greenspaces, Rivers etc.

To access and the download these datasets, simply choose a **Dataset** name e.g. **BoundaryLine** and then from the downloads page choose the Area that you require and the data format.

## Boundary-Line™ Free OS OpenData

From Euro constituencies to council wards, Boundary-Line™ maps every administrative boundary in detail for you.

Coverage: All of GB

Data structure: Vector

Supply format: ESRI® Shapefile, GML, GeoPackage, and MapInfo® TAB

Version Date: 2020-10

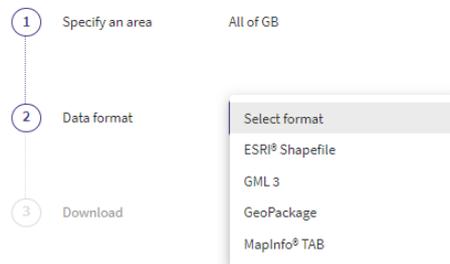
### Documentation

[Product information](#)



### Download Boundary-Line™

All OS OpenData can be freely downloaded under the [Open Government Licence](#).



You can then download the files for the data and open these in your chosen mapping application e.g., **QGIS**.

## OS Map APIs

Clicking on the **Sign up for access to APIs** link will allow you to view the API Plans & Pricing page.



## Up to £1,000 free data per month

Get up to £1,000 of our Premium GB mapping and feature data free each month.



## OS OpenData API access is free

Access our OS OpenData mapping and feature APIs for free, for any use.



## Mapping Great Britain

Every day we make 20,000 updates to our database which holds 500 million features on England, Scotland and Wales.

There are **three plans** to choose from and the pricing and data content are detailed below.

Free OS OpenData	Premium	Public Sector
<b>OS OpenData Plan</b> Free OS OpenData	<b>Premium Plan</b> OS OpenData and Premium data	<b>Public Sector Plan</b> OS OpenData and Premium data <a href="#">for PSGA members</a>
<ul style="list-style-type: none"><li>✓ OS OpenData APIs (unlimited access)<sup>1</sup></li><li>✗ Premium data APIs (paid-for data)</li><li>✗ Development mode</li><li>✓ Free for creating apps, products and services for 3rd parties including the public</li><li>✓ Free for internal business use</li></ul>	<ul style="list-style-type: none"><li>✓ OS OpenData APIs (unlimited access)<sup>1</sup></li><li>✓ Premium data APIs (paid-for data)<sup>1,2</sup></li><li>✓ Up to £1,000 of free premium data every month<sup>3</sup></li><li>✓ Unlimited free Premium data for projects in development mode<sup>4</sup></li><li>✓ For creating apps, products and services for 3rd parties including the public<sup>5</sup></li><li>✗ Internal business use<sup>5</sup></li></ul>	<ul style="list-style-type: none"><li>✓ OS OpenData APIs (unlimited access)<sup>1,8</sup></li><li>✓ Premium data APIs (unlimited access)<sup>1,7,8</sup></li><li>✓ Unlimited Premium data downloads (coming soon)</li><li>✓ Can be used for core business</li></ul>
<a href="#">Sign up</a>	<a href="#">Start for free</a>	<a href="#">Sign up</a>

In this Blog, we will sign up for the **OS OpenData Plan** to see what OS Data and APIs we have access to.

Choose **Sign Up** and you will be asked to Create an Account.

## Create an account

In order to verify your email address we need to send you a verification code. Please enter your email address and then click the button to get your code.

Email Address \*

Get verification code

Cancel

Next

Already have an account? [Sign in now](#)

You will need to enter your **email** address, then you will receive a **verification code** in your inbox, which you then enter to proceed to the **Next** stage of signup.

You will be asked to agree to the **terms and conditions** of using the data.

← → ↻ 🔒 https://osdatahub.os.uk/premiumSetup

 Data Hub

### Terms and conditions

You're nearly done. Please accept our terms and conditions.

---

#### Summary of the OS API Service Terms

This section summarises the OS API Service Terms, which are set out in full below this summary. Terms defined in the OS API Service Terms shall have the same meanings in this summary. Please note that this summary is not intended to confer legal rights or obligations and does not act as a substitute for the full OS API Service Terms (which we recommend you read before using any API Service).

The API Services enable access to OS OpenData under the terms of the Open Government Licence (via the Open API Services), paid-for premium OS data (via the Premium API Services) and OS data licensed to you under the PSGA Member Licence (via the Public Sector API Services).

#### What we ask you to do so that you can gain access to and use the API Services

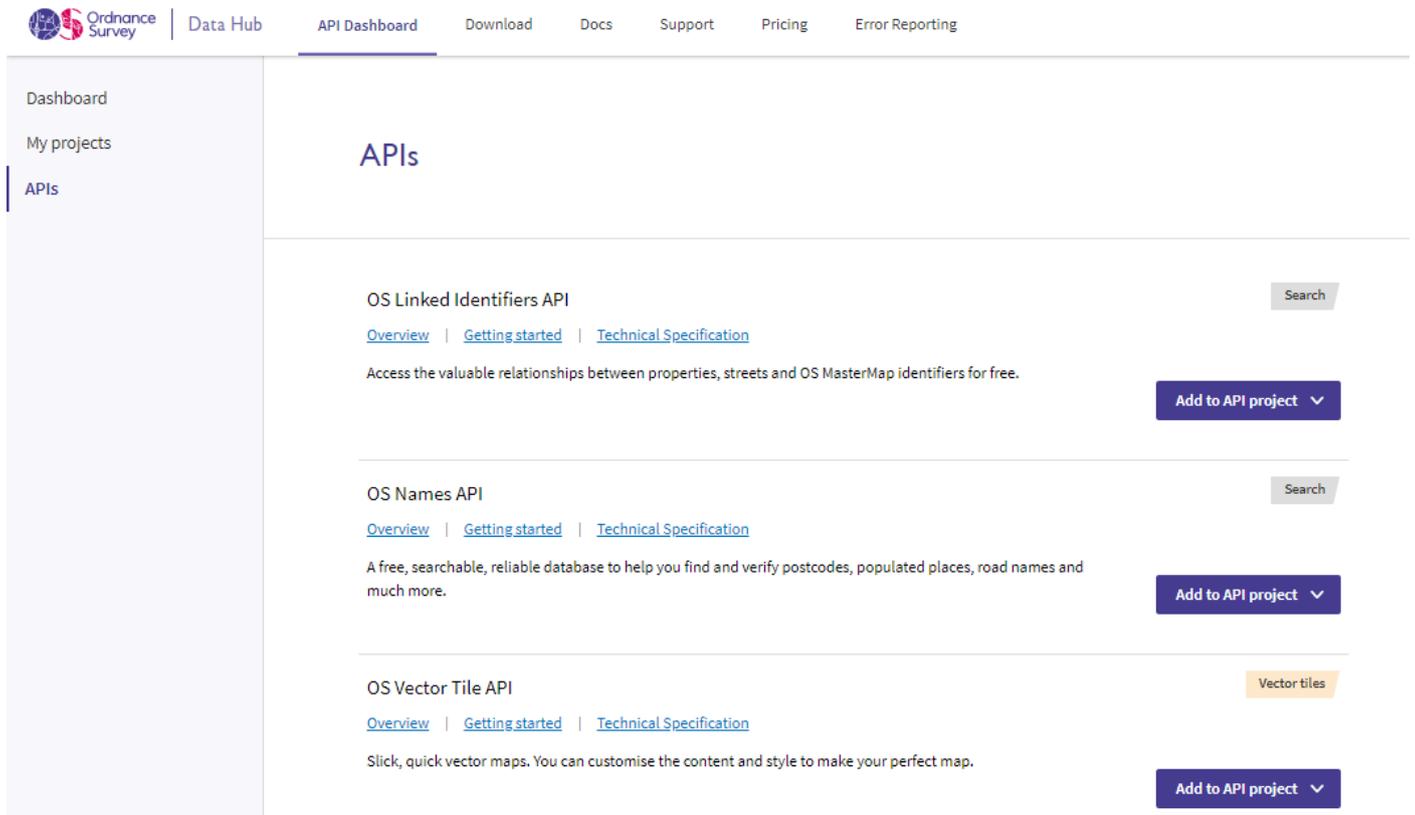
- Register for your API Plans and user accounts via the process available at the OS Data Hub.
- Agree and acknowledge that any claims you make or warranties you offer in connection with the Products and/or Services you develop using the API Services are solely at your risk.

#### What you can use the API Services for

- In the case of Open API Services, you can use the Open API Services for any purposes in accordance with the Open Government Licence.
- In the case of Premium API Services, you can use them to develop and provide Products and/or Services for supply to third parties, including desktop, web and mobile applications.
- In the case of Public Sector API Services, you can use them for the purposes referred to in your PSGA Member Licence.
- You can allow your Premium API Service End Users to do any of the following with regards to Premium API Data:
  - view Premium API Data;
  - temporarily cache Premium API Data for up to 24 hours;
  - print Premium API Data for their personal, non-commercial use (to be clear, printing for the purposes of planning applications is not permitted by the OS API Service Terms); and

[Decline \(and sign me out\)](#) [Accept and continue](#)

Once you have signed up and signed into your account, the OS Data Hub will list a series of **APIs** that you will now have access to.



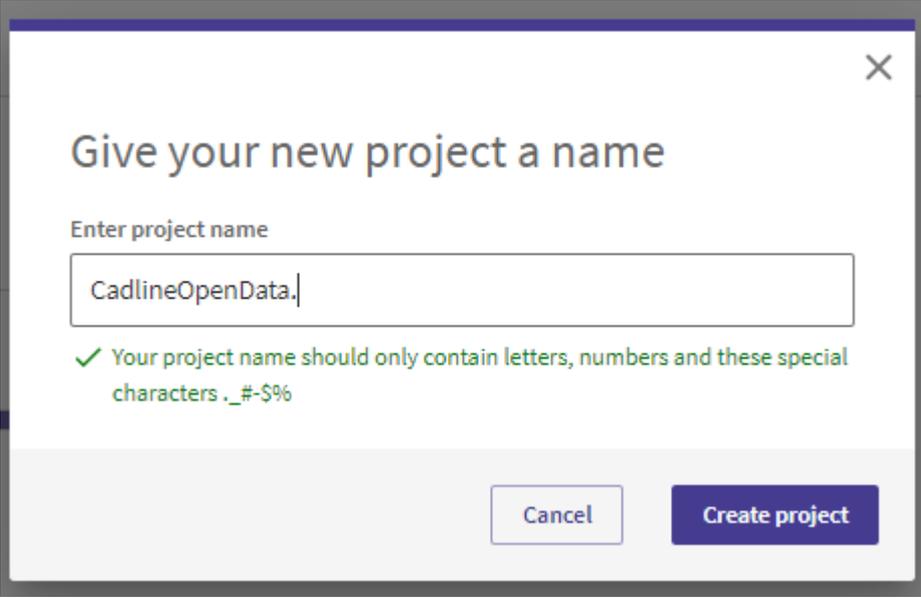
The screenshot shows the OS Data Hub API Dashboard. The top navigation bar includes the Ordnance Survey logo, 'Data Hub', and links for 'API Dashboard', 'Download', 'Docs', 'Support', 'Pricing', and 'Error Reporting'. A left sidebar contains 'Dashboard', 'My projects', and 'APIs'. The main content area is titled 'APIs' and lists three APIs:

- OS Linked Identifiers API**: Includes links for 'Overview', 'Getting started', and 'Technical Specification'. Description: 'Access the valuable relationships between properties, streets and OS MasterMap identifiers for free.' Includes a 'Search' button and an 'Add to API project' button.
- OS Names API**: Includes links for 'Overview', 'Getting started', and 'Technical Specification'. Description: 'A free, searchable, reliable database to help you find and verify postcodes, populated places, road names and much more.' Includes a 'Search' button and an 'Add to API project' button.
- OS Vector Tile API**: Includes links for 'Overview', 'Getting started', and 'Technical Specification'. Description: 'Slick, quick vector maps. You can customise the content and style to make your perfect map.' Includes a 'Vector tiles' label and an 'Add to API project' button.

Before you start to work with these APIs, you can Create a **Project** to store those APIs.



Give your Project a **Name** and choose **Create Project**.



Give your new project a name

Enter project name

CadlineOpenData.

✓ Your project name should only contain letters, numbers and these special characters . \_#-\$%

Cancel Create project

Once the Project is created it will be listed on your **Projects page**.

Search projects

Sort by

Date created ▾

[CadlineOpenData](#)

Created: 21 Jan 2021

Click on the Project name to open that Project and it will provide you with your **Project API Key** and list any **API's** that you have associated to your Project.

[← All projects](#)

## CadlineOpenData

Actions ▾

**+** Add API

(Statistics generated 7 minutes ago)

225 total transactions this month

■ OS OpenData

Project API Key

QwWJNmF4t8gE4Q300TEcisHq43rPT1AX

Project API Secret

KAoTeF33MLSvEaA2

If you have not chosen any yet, choose the **Add API** button in the top right corner of the page. This then lists the APIs that you have access to and by clicking **Add to Project** you can add as required.

### Add API to this project

Search API products

-  OS Linked Identifiers API Search  
[Overview](#) | [Getting started](#) | [Technical Specification](#)  
**Add to project**
-  OS Names API Search  
[Overview](#) | [Getting started](#) | [Technical Specification](#)  
**Add to project**
-  OS Vector Tile API Vector tiles  
[Overview](#) | [Getting started](#) | [Technical Specification](#)  
**Add to project**

In this example, I have added the **OS Maps API**, but there are others that you may wish to explore.

## OS Maps API

Raster tiles

[Overview](#) | [Getting started](#) | [Technical Specification](#)

Remove from project

225 total transactions this month

WMTS API Endpoint address

`https://api.os.uk/maps/raster/v1/wmts?key=QwWJNmF4t8gE4Q3O0TEcisHq43rPT1AX`

Copy

ZXY API Endpoint address

`https://api.os.uk/maps/raster/v1/zxy/Road_27700/{z}/{x}/{y}.png?key=QwWJNmF4t8gE4Q3O0TEcisHq43rPT1AX`

Copy

Select a Layer for ZXY Endpoint

Road 27700 ▾

Just below the API will be an **Overview**, **Getting Started** and **Technical Specification** link.

## OS Maps API

Raster tiles

[Overview](#) | [Getting started](#) | [Technical Specification](#)

Remove from project

The **Getting Started** is very useful as this will detail how you can use the API Endpoint within your chosen GIS – e.g., how to add this to **QGIS**.

## Instructions to Generate a Project API Key and URL

The following instructions describe how to obtain the API service URL and to generate an API key:

1. Click this link to open the [OS Data Hub](#) in a new tab.
2. Click "API Dashboard" in the main menu.
3. Click "APIs" in the left-hand menu.
4. Click "Add to API project" to the right of OS Maps API.
5. If you already have a project you may choose to add the OS Maps API into that project, or alternatively Select "Add to NEW PROJECT".

The next screen will contain the Project API Key and the API Endpoint address (API URL).

You can return to this screen by clicking "My projects" at any point in the future if you need to copy your API key or the API address, or if you need to regenerate your API Key.

6. Keep this page open as you'll need the URL and key when you apply the OS Maps API service in your GIS software application.

### QGIS

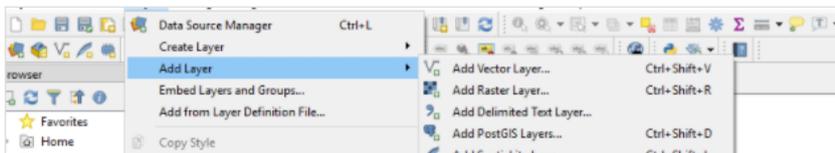
QGIS is an open GIS desktop application that allows you to display, interrogate, visualise and create geospatial information. It is also capable of interacting with geo-centric APIs (for example, a WMTS).

The instructions that follow demonstrate how to integrate the OS Maps API in order to produce a background map in QGIS.

For the purposes of this guide the version of QGIS used is 3.4.

### Integrating OS Maps API in QGIS

1. Open a blank document in QGIS.
2. Navigate to Layer → Add Layer → Add WMS/WMTS Layer...



## Adding to QGIS

From the **OS Maps API**, choose the **COPY** button from the **WMTS API Endpoint address**.

## OS Maps API

[Overview](#) | [Getting started](#) | [Technical Specification](#)

225 total transactions this month

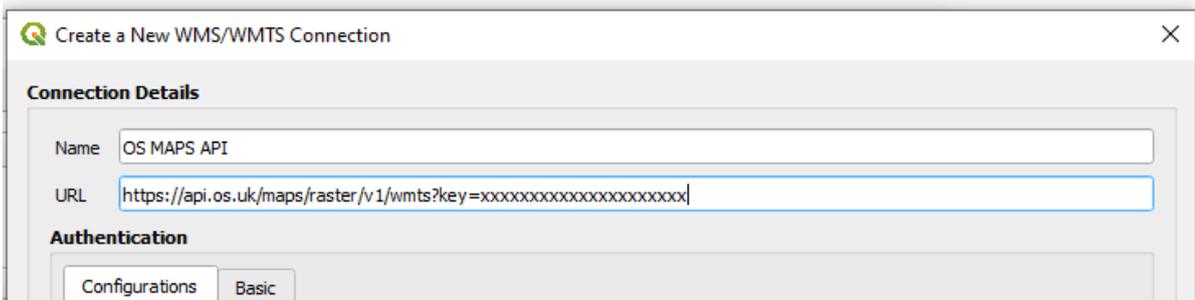
WMTS API Endpoint address

`https://api.os.uk/maps/raster/v1/wmts?key=QwWJNmF4t`

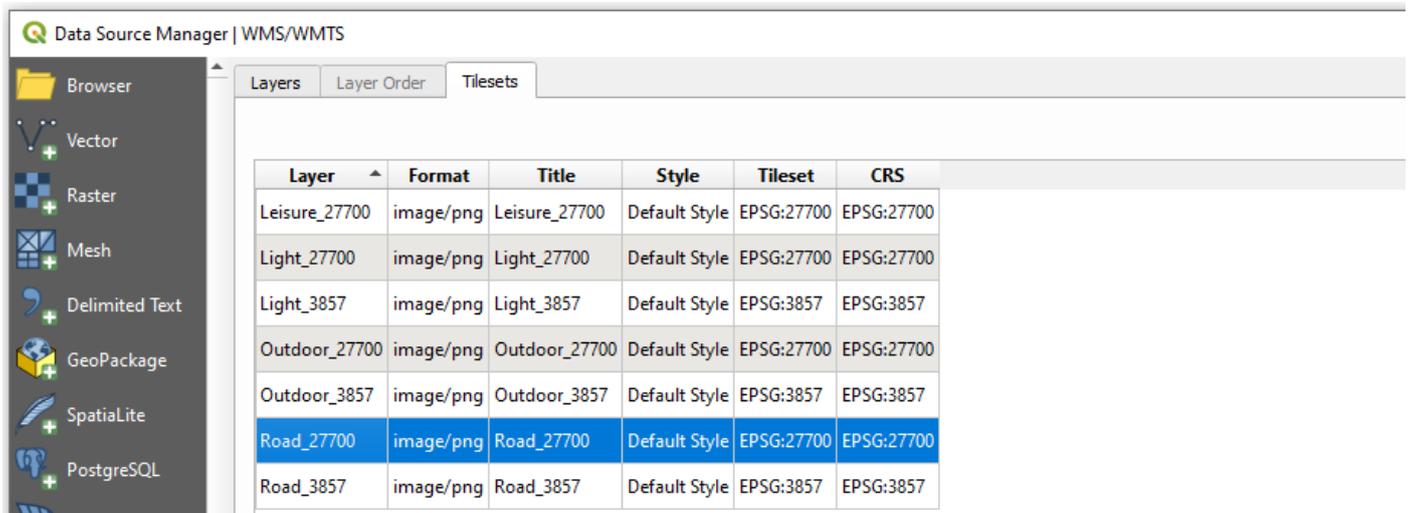
Copy



Then within **QGIS**, simply choose to Add a **WMS/WMTS** layer, choose **New**, give the connection a Name e.g. OS Maps API and then paste the **URL** into the Connection tab.



When you now choose **Connect**, QGIS will make a connection and list the services available.

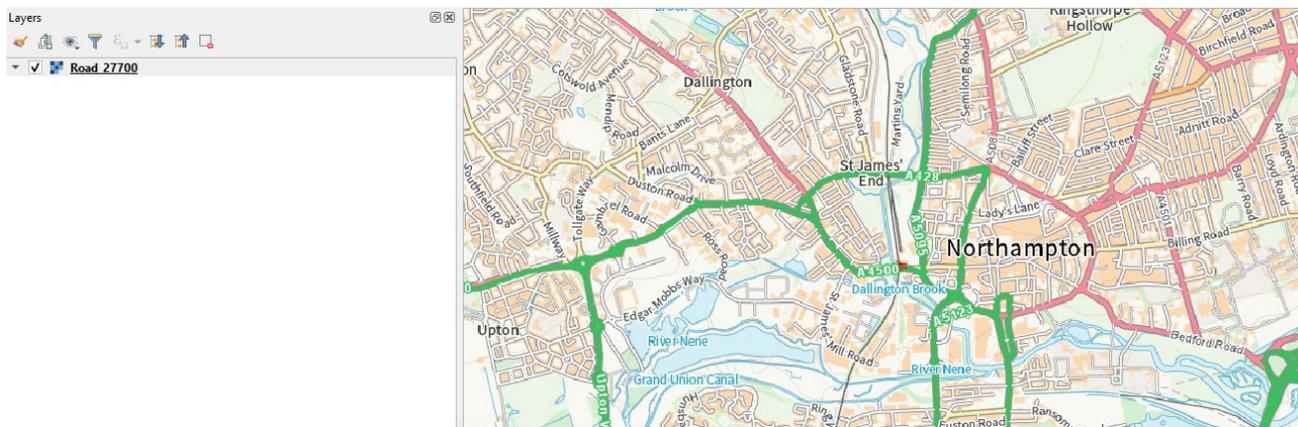
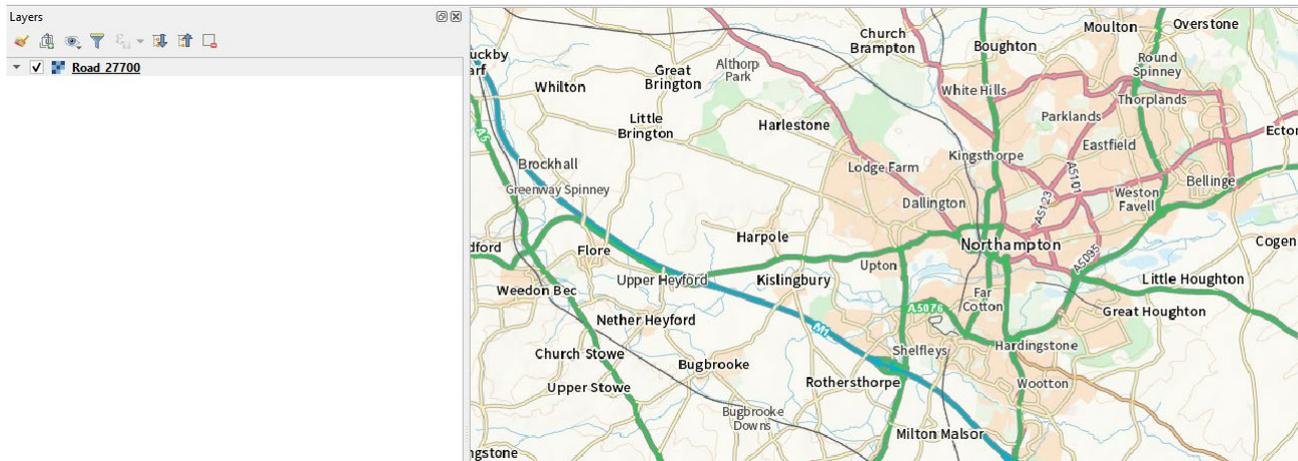


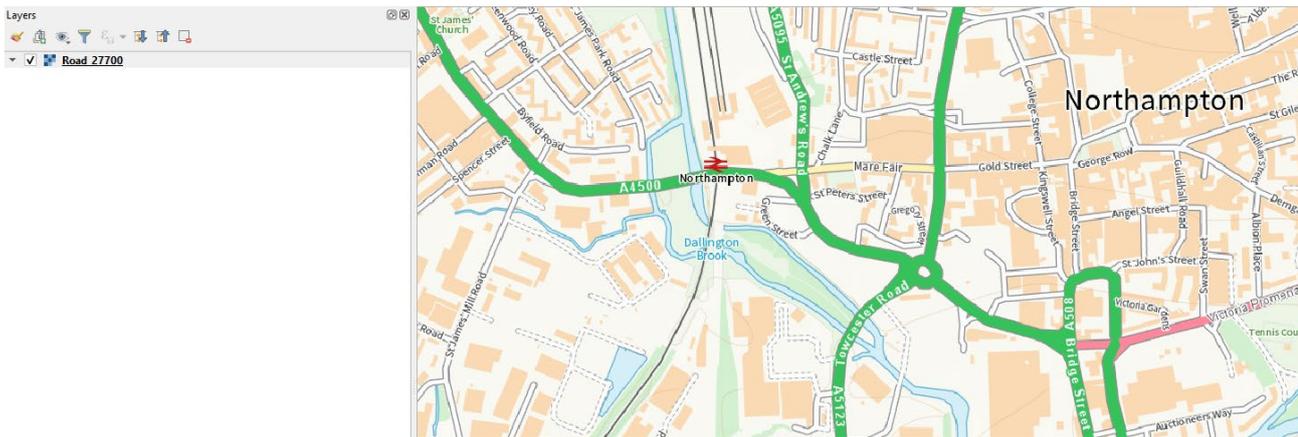
From the list, choose the WMTS layer you wish to view e.g. **Road\_27700** and **Add** that to the map.

In the QGIS Map window, it will add the new Layer – Road 27700 – and you will now have OS mapping for the UK.



Each time you zoom in, QGIS makes a connection to the OS servers and shows the mapping for that area and zoom level.





**Note** – as this is the OS OpenData WMTS, below a scale of about **1:4750**, the layer will go blank.

However, if you sign up to the OS **Premium Plan**, when you zoom to street level in QGIS, you will have access to OS MasterMap mapping.

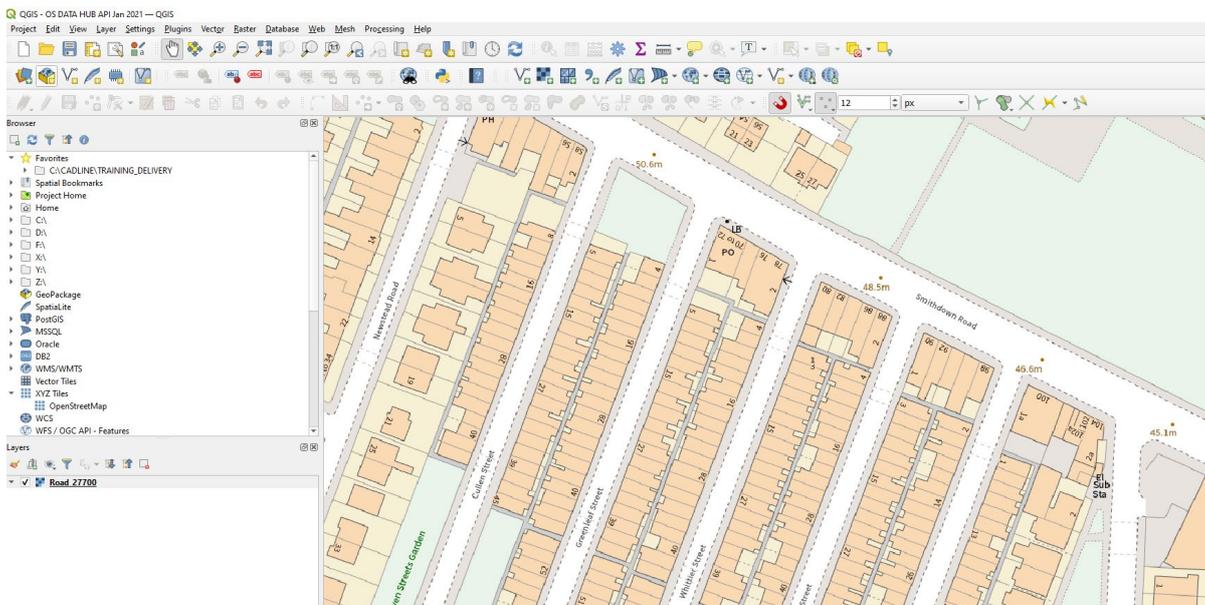
## Premium

### Premium Plan

OS OpenData and Premium data

- ✓ OS OpenData APIs (unlimited access)<sup>1</sup>
- ✓ Premium data APIs (paid-for data)<sup>1,2</sup>
- ✓ Up to £1,000 of free premium data every month<sup>3</sup>
- ✓ Unlimited free Premium data for projects in development mode<sup>4</sup>
- ✓ For creating apps, products and services for 3rd parties including the public<sup>5</sup>
- ✗ Internal business use<sup>5</sup>

[Upgrade to Premium](#)



## Adding as a Basemap in MapThat

The OS Maps API can also be used to provide basemapping in **webGIS** applications and it is compatible with Cadline's own webGIS – **MapThat**.

In your Project, find your API e.g., **OS Maps API** and this time copy the **ZXY API Endpoint Address**.

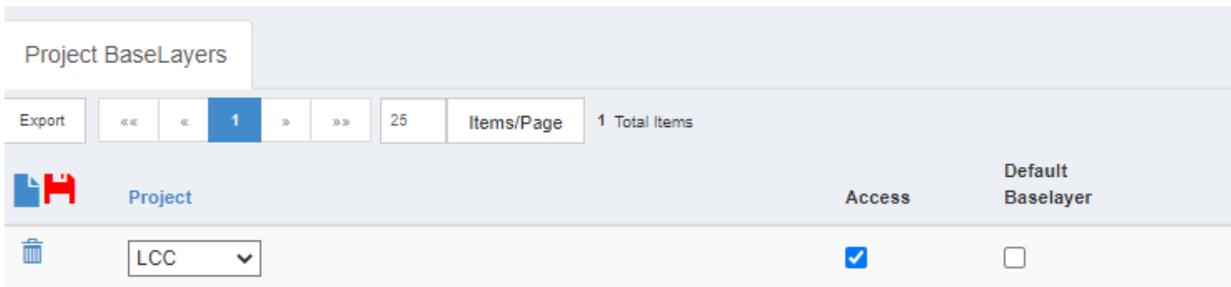
### ZXY API Endpoint address

```
https://api.os.uk/maps/raster/v1/zxy/Road_27700/{z}/{x}/{y}.png?key=QwWJNn
```

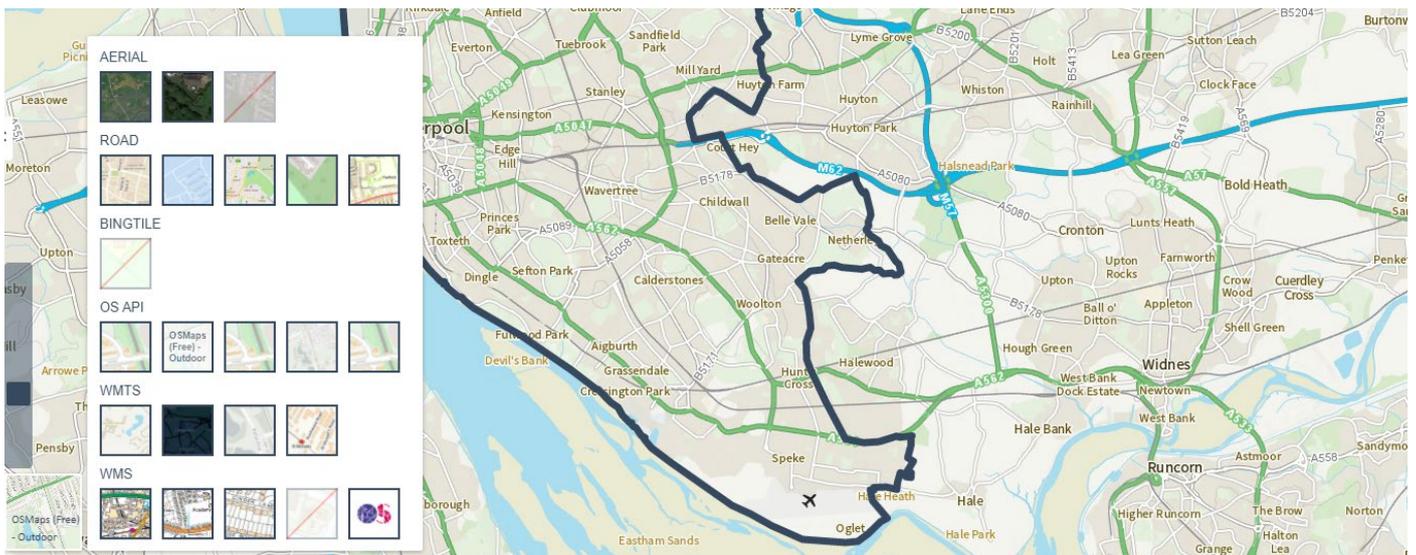
### Select a Layer for ZXY Endpoint

Road 27700 ▼





The next time that you login to MapThat, you will now have this new OS Maps API as a **basemap** to choose from.



The **OS OpenData** basemap (leisure) will provide UK Basemapping from Zoom **Level 7** down to zoom level 16.







## Dashboards

To keep a track of your API usage, the OS Data Hub provides an **API Dashboard** page.

[API Dashboard](#)

[Download](#)

[Docs](#)

[Support](#)

[Pricing](#)

[Error Reporting](#)

## Dashboard

Please use the left hand menu to setup API access.

This will detail all the APIs that you are using, as well as the number of **Transactions** (data usage) and **costs** associated. Viewing our Cadline **Premium Account**, I can therefore view the costs of any services that we are utilising.



[www.cadline.co.uk](http://www.cadline.co.uk)



01784 419 922



[sales@cadline.co.uk](mailto:sales@cadline.co.uk)

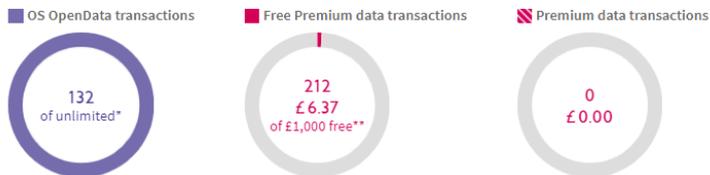
**cadline**

Live projects

Development projects

API usage for live projects this month (Statistics generated 6 minutes ago)

344 transactions



\*OS OpenData transactions are subject to our fair use policy.

\*\*Your free premium data allowance will renew at the start of each month. [More about free premium transactions.](#)

Map views this month

344

[What is a map view?](#)

As part of the Premium Plan, you can get access to **£1000** of OS premium data for **free each month**. So, depending on your usage/number of users, you may find that signing up to the premium plan will allow you to have UK mapping to street level, including OS MasterMap, but be careful to monitor this usage.