

WorldDEM™ Portal & API Solution

User Guide for OneAtlas

Version 1.2

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1 WorldDEM Portal & API description

The WorldDEM Portal & API solution grants fast and easy access to all our WorldDEM off-the-shelf products via a portal or API. Both solutions provide global* access to WorldDEM™Neo, WorldDEM™, WorldDEM4Ortho, WorldDEM DTM_{LITE} and WorldDEM 30.

The API for WorldDEM is provided upon the receipt of order, which allows direct access to the product. The consumption can be monitored and tracked online. Even very small Areas of Interest (AOI) may be downloaded, allowing you to exactly define individual AOIs.

*On demand release request for sensitive countries

1.1 What is WorldDEM™ Neo?

WorldDEM Neo is our new Digital Surface Model (DSM), globally available with 5m pixel spacing and fresh data acquisitions (data currency from 2017-2021) with unprecedented quality and accuracy. WorldDEM Neo provides a high resolution and precise reference layer to enhance a wide range of applications.

1.2 What is WorldDEM™?

WorldDEM is a Digital Surface Model (DSM) with 12m pixel spacing and unprecedented quality, accuracy and worldwide coverage. WorldDEM provides a reliable and precise reference layer to enhance a wide range of applications.

1.3 What is WorldDEM4Ortho?

WorldDEM4Ortho is an elevation information layer optimised for the orthorectification of high-resolution (HR) and very high resolution (VHR) optical satellite data. WorldDEM4Ortho is the most consistent, homogenous and accurate elevation model for high-quality image orthorectification on a global scale.

1.4 What is WorldDEM DTM_{LITE}?

WorldDEM DTM_{LITE} is an automatically generated global digital terrain model (DTM) derived from the WorldDEM™ product.

1.5 What is WorldDEM 30?

WorldDEM 30 is a global Digital Surface Model (DSM) with 30m resolution automatically generated and derived from the WorldDEM™ product.

1.6 Characteristics

Table 1-1: WorldDEM Portal Product Characteristics

WorldDEM Portal Products	
WorldDEM™ Neo	A new Digital Surface Model (DSM), globally available with 5m pixel spacing and fresh data acquisitions (data currency from 2017-2021) in unprecedented quality and accuracy. WorldDEM Neo provides a high resolution and precise reference layer.
WorldDEM™	A Digital Surface Model (DSM) with unprecedented quality, accuracy and worldwide coverage with 12m resolution. WorldDEM provides a reliable and precise reference layer to enhance a wide range of applications.
WorldDEM4Ortho	A global elevation information layer (24m posting) optimised for the orthorectification of high-resolution (HR) and very high resolution (VHR) optical satellite imagery.
WorldDEM DTM _{LITE}	Automatically generated global Digital Terrain Model (DTM) derived from the WorldDEM™ product in 24m resolution.
WorldDEM 30	Digital Surface Model (DSM) automatically generated and derived from the WorldDEM™ product with 30m pixel spacing worldwide available.
Format	GeoTIFF (32 Bit Floating point)
Min. AOI size	1 km ²
Max. AOI size per request	1 million km ²
Product Specification	Please retrieve from: WorldDEM (airbus.com)

1.7 Contact

Request your WorldDEM subscription directly through [OneAtlas](#). For further information please contact our Customer Service: intelligence-customer-service-germany@airbus.com.

2 WorldDEM Portal & API: How to access?

The WorldDEM portal & API solution provides two possible ways to access and download WorldDEM data: using a web portal or via an API.

2.1 WorldDEM Portal

The web portal provides a convenient overview about your placed orders and consumptions. Ordering WorldDEM data is possible in 3 easy steps:

1. Draw or upload your AOI
2. Confirm your order
3. Download your data

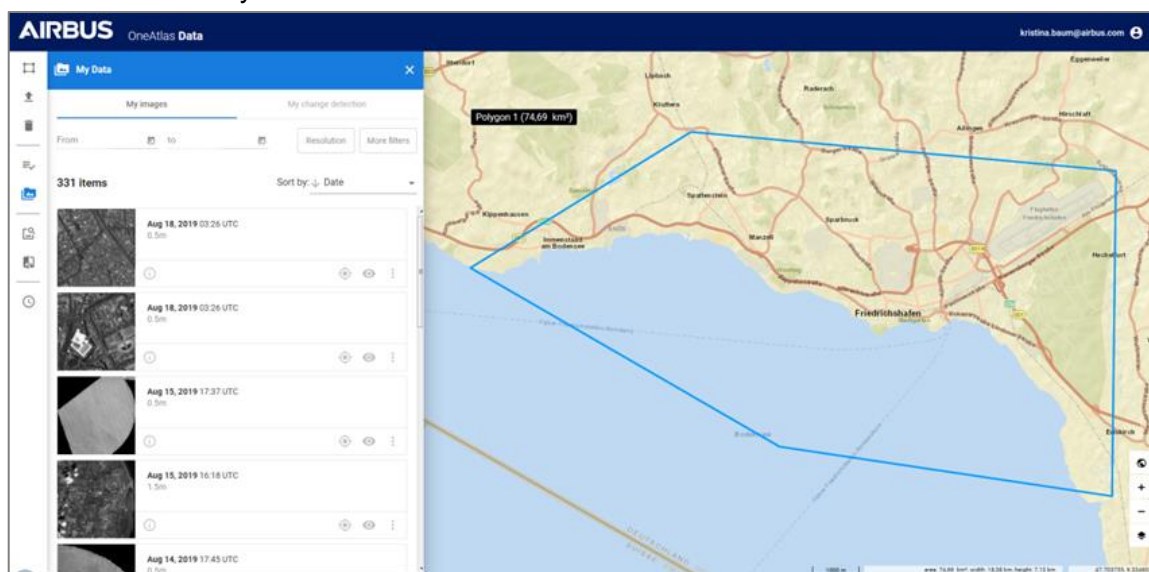


Figure 2-1: WorldDEM Portal

2.2 WorldDEM API

The API enables the download of WorldDEM data in 3 easy steps. The API is provided as HTTP REST API and is using GeoJSON.

1. Request a price (optional)
 - a. send order description to API /price/ endpoint
 - b. response contains price information about the requested data
2. Place an order
 - a. send order description to API /orders/ endpoint
 - b. send fixed price information or price limits along with the request (optional)
 - c. response contains confirmation and download link
3. Download the data

2.2.1 API-Parameters

1. Request a price (optional)

POST /price/ get the price of elevation item/download request

Request:

	Parameter	Description	Mandatory
Price	Kind	Describes the order format	Yes
	Items	Object containing one or multiple orders	Yes
	Items.itemType	Describes the source of the data (e.g. WorldDEM or WorldDEM4Ortho)	Yes
	Items.aoi	Contains the AOI the price is requested for	Yes

Response:

	Parameter	Description
Price	Price	The price calculated when requesting a price
	areaKm2	The area calculated when requesting a price

2. Place an order

POST /orders/ create new order

Request:

	Parameter	Description	Mandatory	
Order	Kind	Describes the order format	Yes	
	Items	Object containing one or multiple orders	Yes	
	Items.itemType	Describes the source of the data	Yes	
	Items.aoi	Contains the AOI to be ordered	Yes	
	fixed price	Price	The price calculated when requesting a price	No
		areaKm2	The area calculated when requesting a price	No
		minArea	The order will not be placed if the aoi is smaller	No
	order limits	maxArea	The order will not be placed if the aoi is bigger	No
		maxPrice	The order will not be placed if the price is higher	No

Response: The {orderId} of the request, containing the {itemId} to request the download link.

3. Download the data

Request:

GET

/orders/{orderId}/items/{itemId}/download download the specified item

Response:

GeoTIFF File: {itemId}.tiff

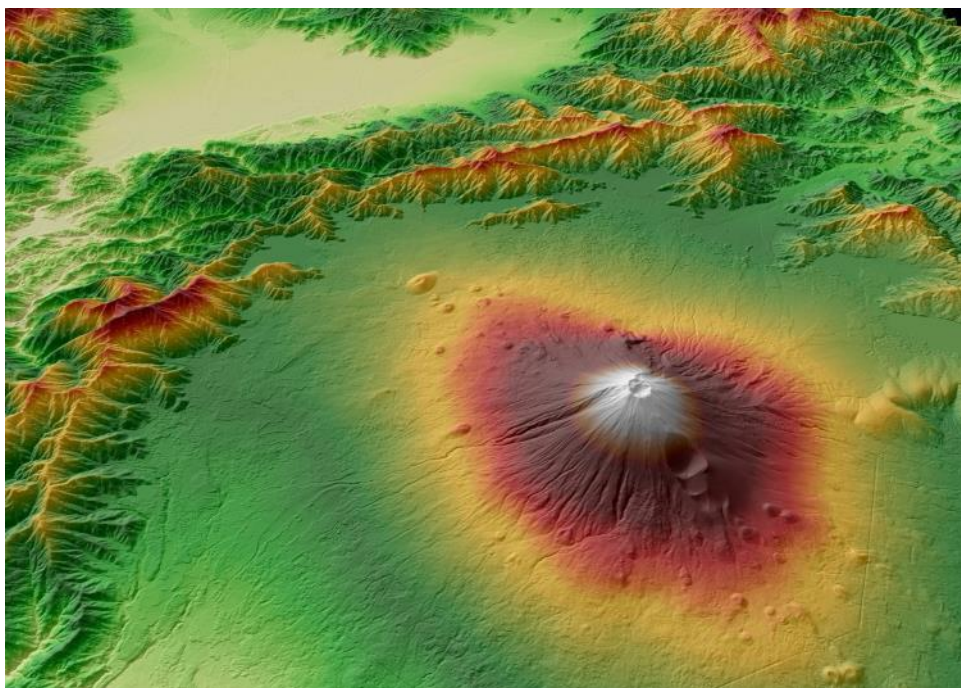


Figure 2-2 - example for visualized WorldDEM data showing Mount Fuji

2.2.2 Orders and Accounting

Path	Description
GET accounting/balance	returns the account balance
GET accounting/transactions	list of all transactions
GET accounting/transactions/{itemId}	detailed information of one specific transaction
GET elevation/orders	list all orders
GET elevation/orders/{orderId}/items	list all items of one specific order
GET elevation/orders/{orderId}/items/{itemId}/download	download the data of one specific item

2.2.3 Using the API

The URL to reach the API – Endpoints is:

<https://sar.api.oneatlas.airbus.com/v1>

The according endpoints are:

<https://sar.api.oneatlas.airbus.com/v1/accounting/balance>

<https://sar.api.oneatlas.airbus.com/v1/accounting/transactions>

<https://sar.api.oneatlas.airbus.com/v1/elevation/price>

<https://sar.api.oneatlas.airbus.com/v1/elevation/orders>

You can find a complete API – Definition here:

<https://api.oneatlas.airbus.com/guides/worlddem/g-wd-api/>

The WorldDEM Portal can be accessed via the “[My Services](#)” section on OneAtlas.

Direct link:

<https://worlddemportal.sarapi.intelligence-airbusds.com>

A guide for Authentication you can find [here](#).