

Shadow simulation API

This document the endpoints provided for shadow simulation. The base url for this service is

- Stage: <https://europe-west3-sunmeasure-183711.cloudfunctions.net/>
- Prod: TBD

Order simulations

POST /order_simulation?lat=[lat]&lon=[lon]&simulation_id=[id]

Parameter	Description	Type
lat	Latitude in degrees of simulation	Float
lon	Longitude in degrees of simulation	Float
simulation_id	Custom id field for which is used to acquire simulation	String
api_key	API key provided by Rapidolabs	String

This endpoint is used for order new simulations for any given location defined by the `lat` and `lon` parameters. The `simulation_id` can be any arbitrary string and is used to download the simulation. The endpoint is idempotent meaning that the same `simulation_id` can be submitted multiple times but the simulation will only be done once. This also implies that a `simulation_id` can not change location.

Download simulation

GET /fetch_simulation?simulation_id=[id]&simulation_date=[date]

Parameter	Description	Type
simulation_id	Custom id choosed when order of simulation	String
simulation_date	Date of simulation	String

The endpoint is used to download simulations for to be shown to the user. If the `simulations_id` has not yet been submitted or is not yet finished the endpoint will return 404.

`simulation_date` The simulation can be repeated for different days a year. The available dates can be seen with the `fetch_simulation_info` endpoint

The Following is an example of a simulation response:

```
{
  "center_lat": 55.467343631598354,
  "center_lon": 8.465511654053937,
  "date": "2020-03-21",
  "height_m": 100,
  "width_m": 100,
  "height_px": 250,
  "width_px": 250,
  "center_utm_x": 466208.2875990995,
  "center_utm_y": 6146928.804422904,
  "boundaries": {
    "top_left": [55.46778944316816, 8.464714748888921],
    "top_right": [55.46779634864011, 8.466296404117069],
    "bottom_right": [55.466897814771414, 8.466308541236588],
    "bottom_left": [55.466890909529994, 8.464726921973172]}
  }
  "data": [
    {
      "timestamp": "2020-09-21T07:08:56.170216+02:00",
      "data": "iVBORw0KGg..."
    }, {
      "timestamp": "2020-09-21T07:39:34.468088+02:00",
      "data": "iVBORw0KGg..."
    },
    ...
    {
      "timestamp": "2020-09-21T18:53:37.021285+02:00",
      "data": "iVBORw0KGg..."
    }
  ]
}
```

The simulation consist of a number of frames with a corresponding timestamp of simulation. The image data show a image of where shadows fall at the given time. Images is a black and white PNG image encoded as Base64. The black pixels are shadow and all other pixels are transparent.

Fetch simulation information

GET /fetch_simulation_info?simulation_id=[id]

Parameter	Description	Type
simulation_id	Custom id choosed when order of simulation	String

This endpoint is used to see information on any given simulation. I.e which status the simulation have or when it was created