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Frost

A REST API for point observations

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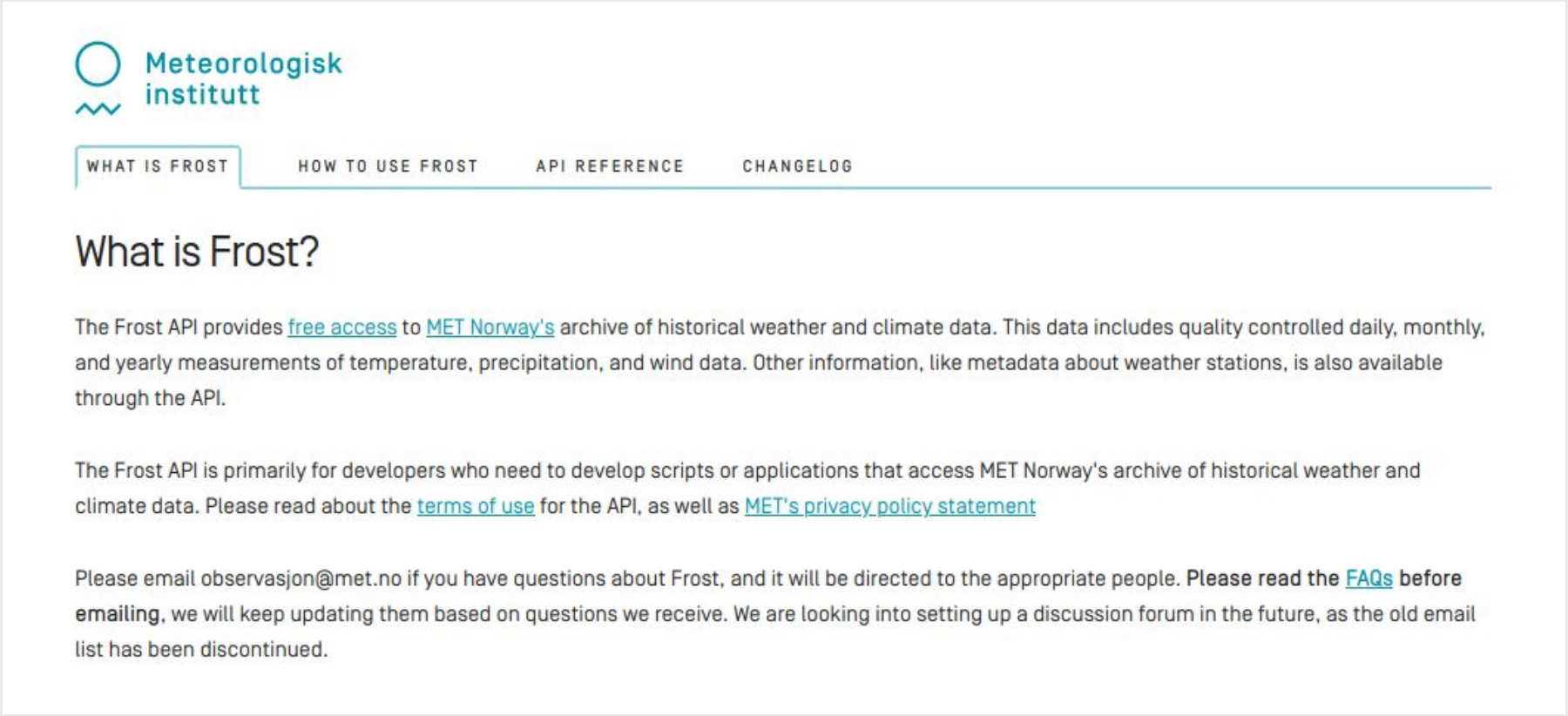
frost.met.no



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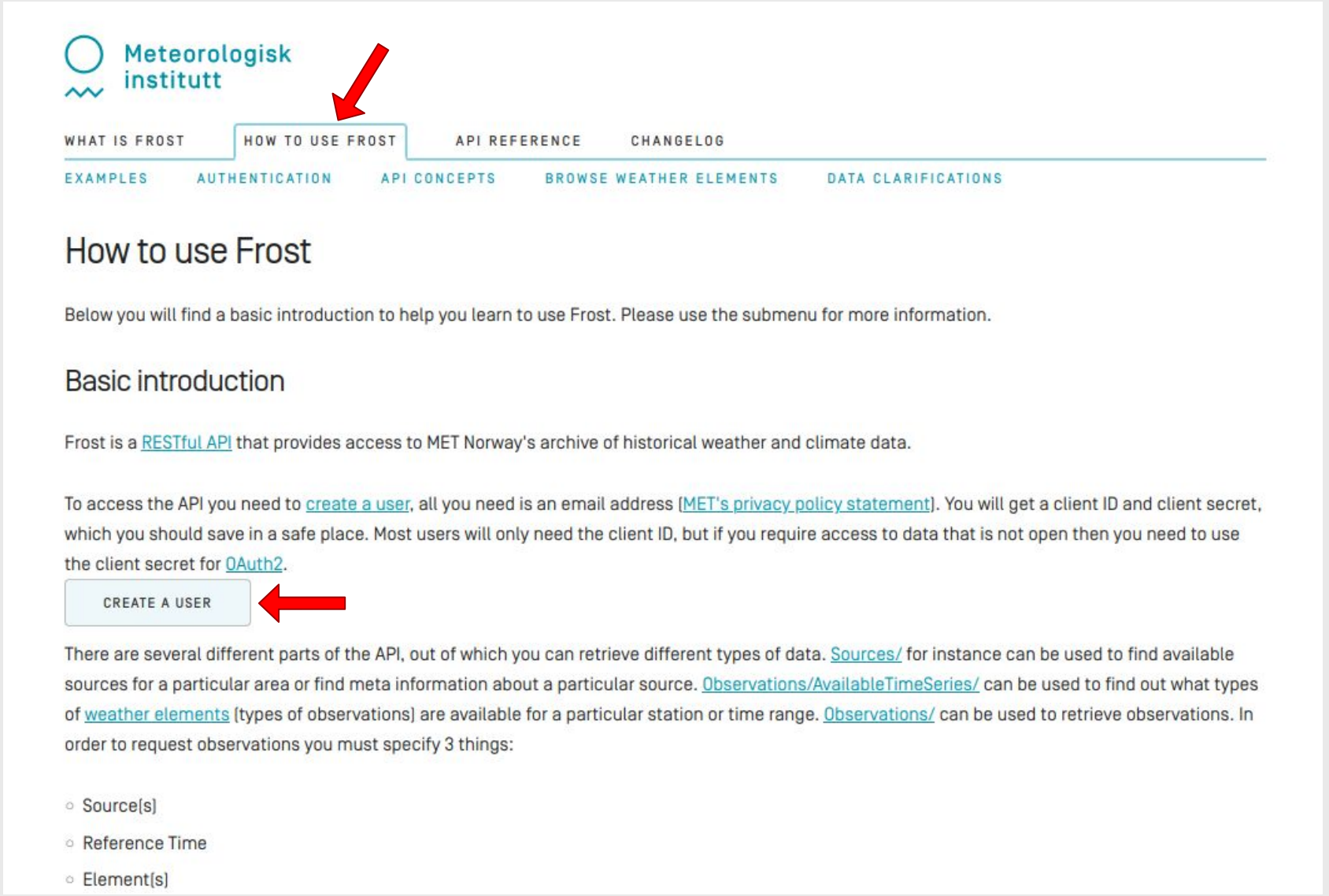
Create a client ID



Get latest observations from Blindern

URL:

```
https://frost.met.no/observations/v0.jsonld?sources=SN18700&referencetime=latest&elements=air_temperature
```

Terminal/cURL:

```
curl --user 0aa125e4-e2d1-478d-bc17-248a720261a4: "https://frost.met.no/observations/v0.jsonld?sources=SN18700&referencetime=latest&elements=air_temperature"
```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Python:

```
import requests # See https://requests.readthedocs.io/en/latest/
import json
import sys

url = 'https://frost.met.no/observations/v0.jsonld'

query_params = {
     'sources': 'SN18700',
     'referencetime': 'latest',
     'elements': 'air_temperature',
}

client_id = '0aa125e4-e2d1-478d-bc17-248a720261a4'

response = requests.get(url, query_params, auth=(client_id, ''))

if response.status_code == 200:
     print(json.dumps(response.json(), indent=4))
else:
     print('error:')
     print(f'\tstatus code: {response.status_code}')
     print(f'\tcontent: {response.text}')
     sys.exit(1)
```

Response body


```
{
. . .
     "data": [
     {
          "sourceId": "SN18700:0",
          "referenceTime": "2025-02-26T07:17:00.000Z",
          "observations": [
               {
                    "elementId": "air_temperature",
                    "value": 0.9,
                    "unit": "degC",
                    "level": {
                         "levelType": "height_above_ground",
                         "unit": "m",
                         "value": 10
                    },
                    "timeOffset": "PT0H",
                    "timeResolution": "PT10M",
                    "timeSeriesId": 0,
                    "performanceCategory": "C",
                    "exposureCategory": "1",
                    "qualityCode": 2
               },
. . .
```


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Parsing response body in Python

```
. . .
import dateutil.parser  # <---

query_params = {
     'sources': 'SN18700',
     'referencetime': '2025-02-26T00/2025-02-26T06:00',  # <---
     'elements': 'air_temperature',
}

. . .

if response.status_code == 200:
    for item in response.json()['data']:
        iso8701 = item['referenceTime']  # obs time in ISO 8601 format
        dt = dateutil.parser.isoparse(iso8601)
        tstamp = int(dt.timestamp())  # obs time as secs since 1970-01-01T00:00:00Z
        val = item['observations'][0]['value']  # obs value
        sys.stdout.write('{} {} {}\n'.format(iso8601, tstamp, val))
else:
    . . .
```

result 

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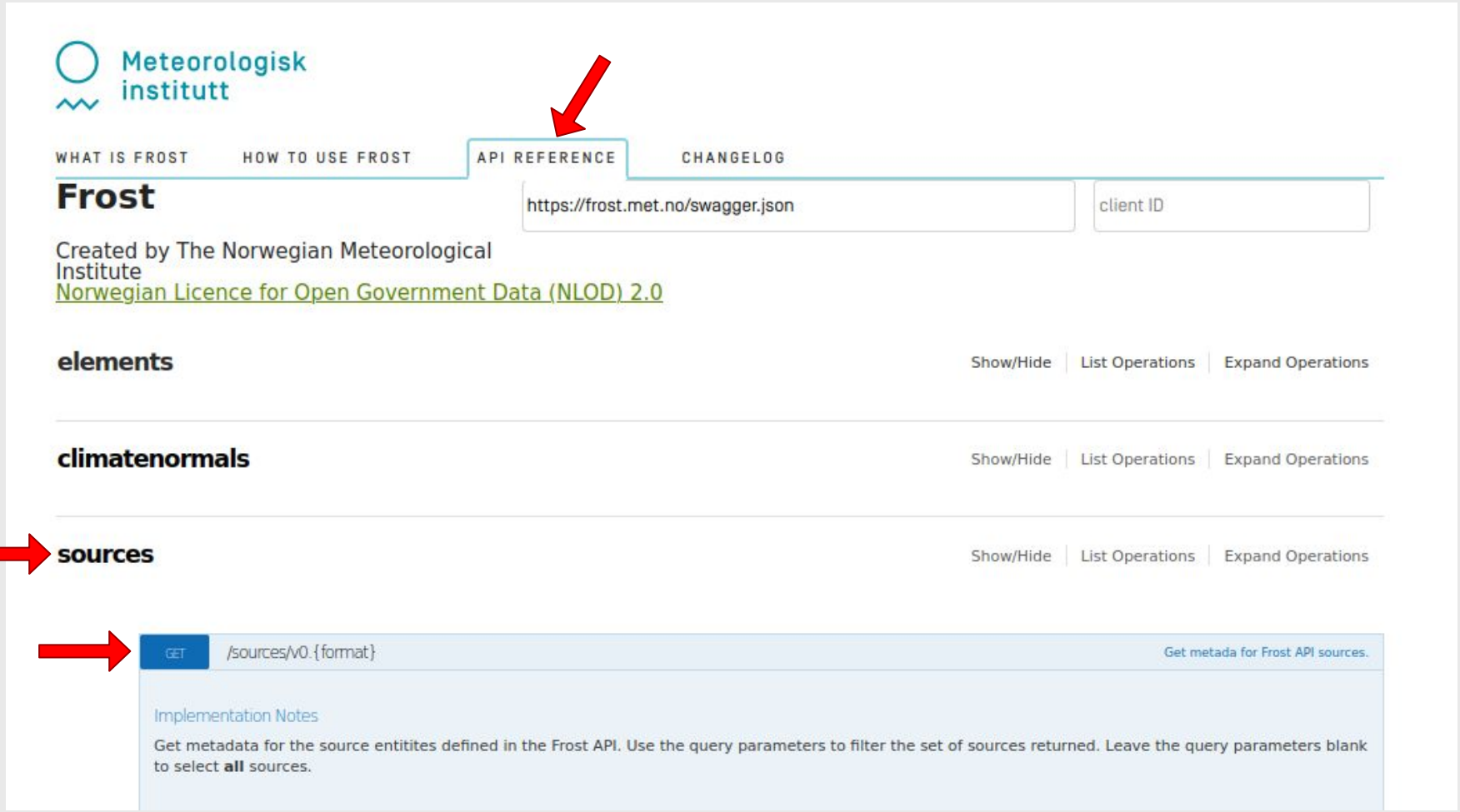
```
2025-02-26T00:00:00.000Z 1740528000 2.6
2025-02-26T00:01:00.000Z 1740528060 2.6
2025-02-26T00:02:00.000Z 1740528120 2.6
2025-02-26T00:03:00.000Z 1740528180 2.6
2025-02-26T00:04:00.000Z 1740528240 2.6
2025-02-26T00:05:00.000Z 1740528300 2.6
2025-02-26T00:06:00.000Z 1740528360 2.5
2025-02-26T00:07:00.000Z 1740528420 2.5
2025-02-26T00:08:00.000Z 1740528480 2.6
2025-02-26T00:09:00.000Z 1740528540 2.5
2025-02-26T00:10:00.000Z 1740528600 2.5
2025-02-26T00:11:00.000Z 1740528660 2.5
2025-02-26T00:12:00.000Z 1740528720 2.5
2025-02-26T00:13:00.000Z 1740528780 2.5
2025-02-26T00:14:00.000Z 1740528840 2.5
2025-02-26T00:15:00.000Z 1740528900 2.5
2025-02-26T00:16:00.000Z 1740528960 2.5
. . .
```

Finding relevant sources
(typically weather stations)



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Parameters

Parameter	Value	Description	Parameter Type	Data Type
ids		The Frost API source ID(s) that you want metadata for. Enter a comma-separated list to select multiple sources. For sources of type SensorSystem or RegionDataset, the source ID must be of the form <prefix><int> where <prefix> is SN for SensorSystem and TR, NR, GR, or GF for RegionDataset. The integer following the prefix may contain wildcards, e.g. SN18*7* matches both SN18700 and SN18007.	query	string
types		The type of Frost API source that you want metadata for.	query	string
elements		If specified, only sources for which observations are available for all of these elements may be included in the result. Enter a comma-separated list of search filters.	query	string
geometry		Get Frost API sources defined by a specified geometry. Geometries are specified as either nearest(POINT(...)) or POLYGON(...) using WKT; see the reference section on the Geometry Specification for documentation and examples. If the nearest() function is specified, the output will include the distance in kilometers from the reference point.	query	string
nearestmaxcount		The maximum number of sources returned when using nearest(POINT(...)) for geometry. The default value is 1.	query	string

validtime		If specified, only sources that have been, or still are, valid/applicable during some part of this interval may be included in the result. Specify <date>/<date>, <date>/now, <date>, or now, where <date> is of the form YYYY-MM-DD, e.g. 2017-03-06. The default is 'now', i.e. only currently valid/ applicable sources are included.	query	string
name		If specified, only sources whose 'name' attribute matches this search filter may be included in the result.	query	string
country		If specified, only sources whose 'country' or 'countryCode' attribute matches this search filter may be included in the result.	query	string
county		If specified, only sources whose 'county' or 'countyId' attribute matches this search filter may be included in the result.	query	string
municipality		If specified, only sources whose 'municipality' or 'municipalityId' attribute matches this search filter may be included in the result.	query	string
wmoid		If specified, only sources whose 'wmoId' attribute matches this search filter may be included in the result.	query	string
stationholder		If specified, only sources whose 'stationHolders' attribute contains at least one name that matches this search filter may be included in the result.	query	string

Finding relevant elements
(a.k.a. weather- and climate *parameters*)

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Weather and Climate Elements

(NOTE: The input for the table below is the response from this request.)

English

Show 10 entries

Search: max(air_temp

id	oldElementCodes	category	name	description	unit	sensorLevels	status
best_estimate_max(air_temperature P1D)	TAX	Temperature	Homogenised maximum air temperature (24 h)	Homogenised daily temperature maximum.	degC	type: height_above_ground, unit: m, default: 2, values: 2	CF-name
max(air_temperature P1D)	TAX, TAXD, TAX_24, X1TAX	Temperature	Maximum air temperature (24 h)	Highest recorded air temperature per 24 hours	degC	type: height_above_ground, unit: m, default: 2, values: 2	CF-name
max(air_temperature P1M)	TAX	Temperature	Maximum air temperature (month)	Highest recorded air temperature per month	degC	type: height_above_ground, unit: m, default: 2, values: 2	CF-name
max(air_temperature P1Y)	TAX	Temperature	Maximum air temperature (year)	Highest recorded air temperature per year	degC	type: height_above_ground, unit: m, default: 2, values: 2	CF-name

values to use in the Frost *elements* query parameter

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