# SRF Meteo API

## Summary

The SRF Meteo API provides weather forecasts (point forecasts) for over 100'000 locations in Switzerland.

The API offers the following resources:
- /geolocations: geo-points for which weather forecasts are available.
- /geolocationNames: names of the corresponding geo-points, partly multilingual
- /forecast: The forecast data
- /colors: Auxiliary entity for graphical representation of temperature values

All responses are returned in json format.

Geolocations can be queried by name search or by radius search to given coordinates. Forecast is always queried for an associated geolocation. A geolocation has one or more GeolocationNames.

# Forecast

/forecast/{geolocationId}

*Example*: /forecast/46.9471,7.4441
- Forecast always includes the forecast data for the current day and the complete following 7 days.
- Forecast response contains the geolocation and the actual forecast data.
- Forecast is divided into three time intervals
  - **days**: forecast data for a whole day
  - **three_hours**: forecast data for a time window of 3 hours (`date_time` describes the end of the interval)
  - **hours**: forecast data for time window of 60 minutes (`date_time` describes the end of the interval)

## Forecast "days"

| Field | Example | Description |
|---|---|---|
| date_time | 2021-03-05T04:00:00+01:00 | Date for validity of record, end of interval for forecast of type "three_hours" or "hours" |
| TX_C | 11 | Maximum temperature |
| TN_C | 6 | Lowest temperature |
| PROBPCP_PERCENT | 42 | Probability of precipitation in % |
| RRR_MM | 1.2 | Precipitation total |
| FF_KMH | 16 | Wind speed in km/h |
| FX_KMH | 31 | Peak wind speed in km/h |
| DD_DEG | 45 | Wind direction in angular degrees: 0 = North wind |
| SUNSET | 1816 | Time sunset |
| SUNRISE | 656 | Time sunrise |
| SUN_H | 5 | Sun hours |
| UVI | 5 | UV index |
| min_color | | Mapping temperature / color value |
| max_color | | Mapping temperature / color value |
| cur_color | | Mapping temperature / color value |
| symbol_code | 10 | Mapping to weather icon |
| symbol_code_24 | 10 | Mapping to weather icon set 24 |

## Forecast "three_hours" / "hours"

| Field | Example | Description |
|---|---|---|
| date_time | 2021-03-05T04:00:00+01:00 | Date for validity of record, end of interval for forecast of type "three_hours" or "hours" |
| TTT_C | 7 | Current temperature in °C |
| TTL_C | 6.5 | Error range lower limit |
| TTH_C | 7.5 | Error range upper limit |
| PROBPCP_PERCENT | 42 | Probability of precipitation in % |
| RRR_MM | 1.2 | Precipitation total |
| FF_KMH | 16 | Wind speed in km/h |
| FX_KMH | 31 | Peak wind speed in km/h |
| DD_DEG | 45 | Wind direction in angular degrees: 0 = North wind |
| SUN_MIN | 33 | Sun minutes |
| DEWPOINT_C | 11.5 | Dewpoint in °C |

| RELHUM_PERCENT | 66 | Relative air humidity in % |
|---|---|---|
| FRESHSNOW_CM | 12 | Fresh snow in cm |
| PRESSURE_HPA | 1013 | Barometric pressure in HPA |
| IRRADIANCE_WM2 | 156 | Global irradiance in W/m2 |
| TTTFEEL_C | 6 | Perceived temperature in °C |
| min_color | | Mapping temperature / color value |
| max_color | | Mapping temperature / color value |
| cur_color | | Mapping temperature / color value |
| symbol_code | 10 | Mapping to weather icon |
| symbol_code_24 | 10 | Mapping to weather icon set 24 |

Furthermore, the field "geolocation" contains the respective geolocation together with geolocationNames (see below).

# GeolocationNames

/geolocationNames/{geolocationNameId}

*Example*: /geolocationNames?name=Ber
Returns an array of names starting with {name} (default: 10 names). Each name contains the geolocation object and some information about the name. The geolocation id should be used to make further queries (e.g. forecast/{geolocationId}

Name fields (Abstract):

| Field | Example | Description | type |
|---|---|---|---|
| id | c4ca4238a0b923820dcc509a6f75849b | Hash value | Internal use.. |
| location_id (deprecated) | 417186701 | Internal field; the API should always be addressed with the geolocation identifier <lat>.<long>. | Deprecated. Use geolocation.id instead. |
| province | Zürich | | |
| district | Zürich | | |
| inhabitants | | | |
| type | city | City or POI (Point of Interest) | |
| geolocation | Geolocation Objekt | | |

# Geolocation

/geolocations/{geolocationId}

*Example*: /geolocations/46.9471,7.4441
Returns information about the point.

/geolocations?latitude={latitude}&longitude={longitude}

*Example*: /geolocations?latitude=46.947&longitude=7.444
Perimeter search in a radius of 10km for geolocations. Returns an array of geolocation objects

Fields (abstract)

| Field | Example | Description | type |
|---|---|---|---|
| id | 47.4549,7.9973 | Readable identifier: Composed of <lat>,<lon> rounded to 4 digits. | Used to access e.g. forecast/ information. |
| lat | 47.4549 | latitude | |
| lon | 7.9973 | longitude | |
| timezone | Europe/Zurich | Internal use | |
| station_id | S11737 | Internal use | |
| default_name | Geerehof | One of the names of the point | If possible, one of the names should be displayed in the geolocationNames |

## Colors

/colors

To display the color values seasonally in GUIs correctly, a mapping table is available, which provides the correct background and foreground color:
This table can be cached very well, it is updated sporadically.

| Field | Example | Description |
|---|---|---|
| temperature | 15 | Temperature value |
| background_color | #f4e50b | Hex color value |
| Text_color | #000000 | Hex color value |

The individual values in the table cannot be further filtered or restricted. The temperature values cover the range -60 to 60 °C.

## SRF Weather API Icons

A zip file containing weather icons is provided in the links in the section- "What is it?".
Below table outlines the name of png file with their respective description:

| PNG File Name | Description |
|---|---|
| 1 | sonnig |
| 10 | ziemlich sonnig |
| 3 | teils sonnig |
| 19 | bedeckt |
| 20 | regnerisch |
| 22 | Schneeregen |
| 21 | Schneefall |
| 4 | Regenschauer |
| 6 | Schneeschauer |
| 8 | Schneeregenschauer |
| 2 | Nebelbänke |
| 17 | Nebel |
| 20 | bewölkt: etwas Regen |
| 5 | Regenegenschauer mit Gewitter |
| 25 | Regenschauer |
| 3 | Wolken: Sandsturm |
| -1 | klar |
| -10 | klare Abschnitte |
| -3 | Wolken: Sandsturm |
| -19 | bedeckt |
| -20 | regnerisch |
| -22 | Schneeregen |
| -21 | Schneefall |
| -4 | Regenschauer |
| -6 | Schneeschauer |
| -8 | Schneeregenschauer |
| -2 | Nebelbänke |

| -17 | Nebel |
|---|---|
| -20 | bewölkt: etwas Regen |
| -5 | Regenschauer mit Gewitter |
| -25 | Regenschauer |
| -3 | Wolken: Sandsturm |