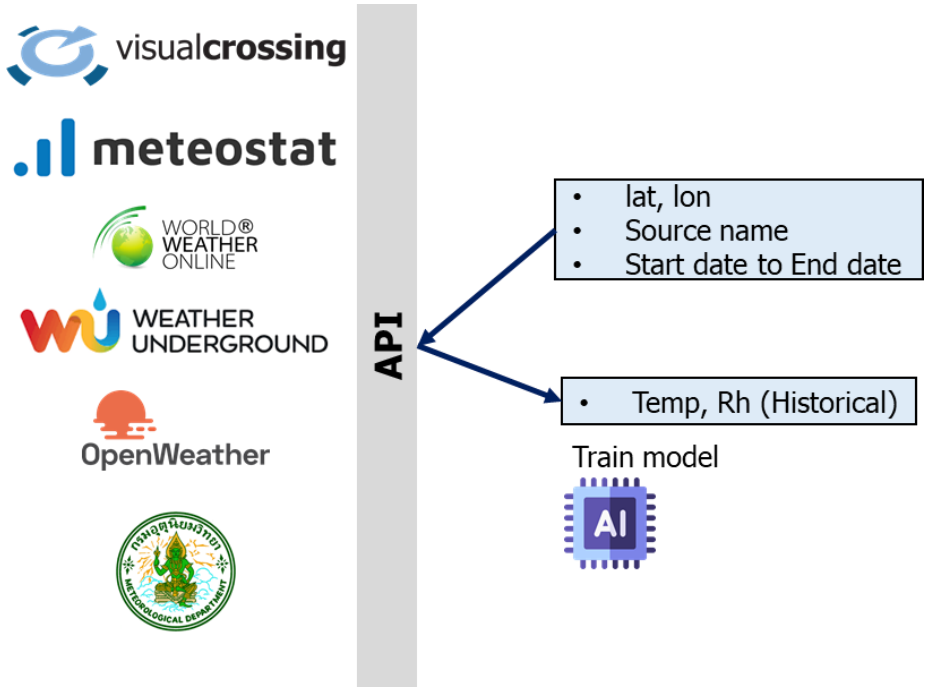
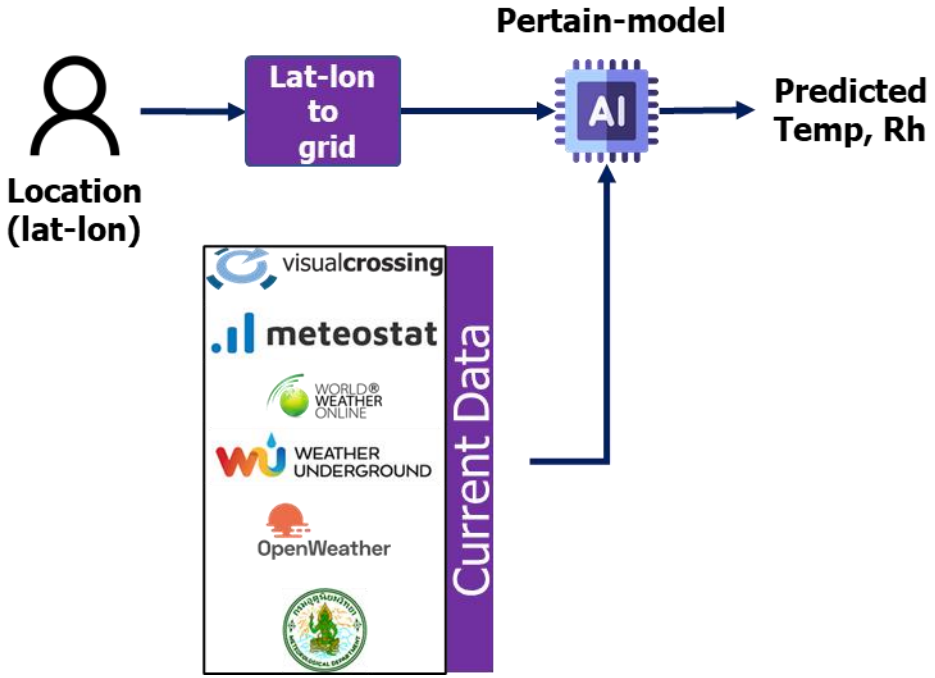
Training model

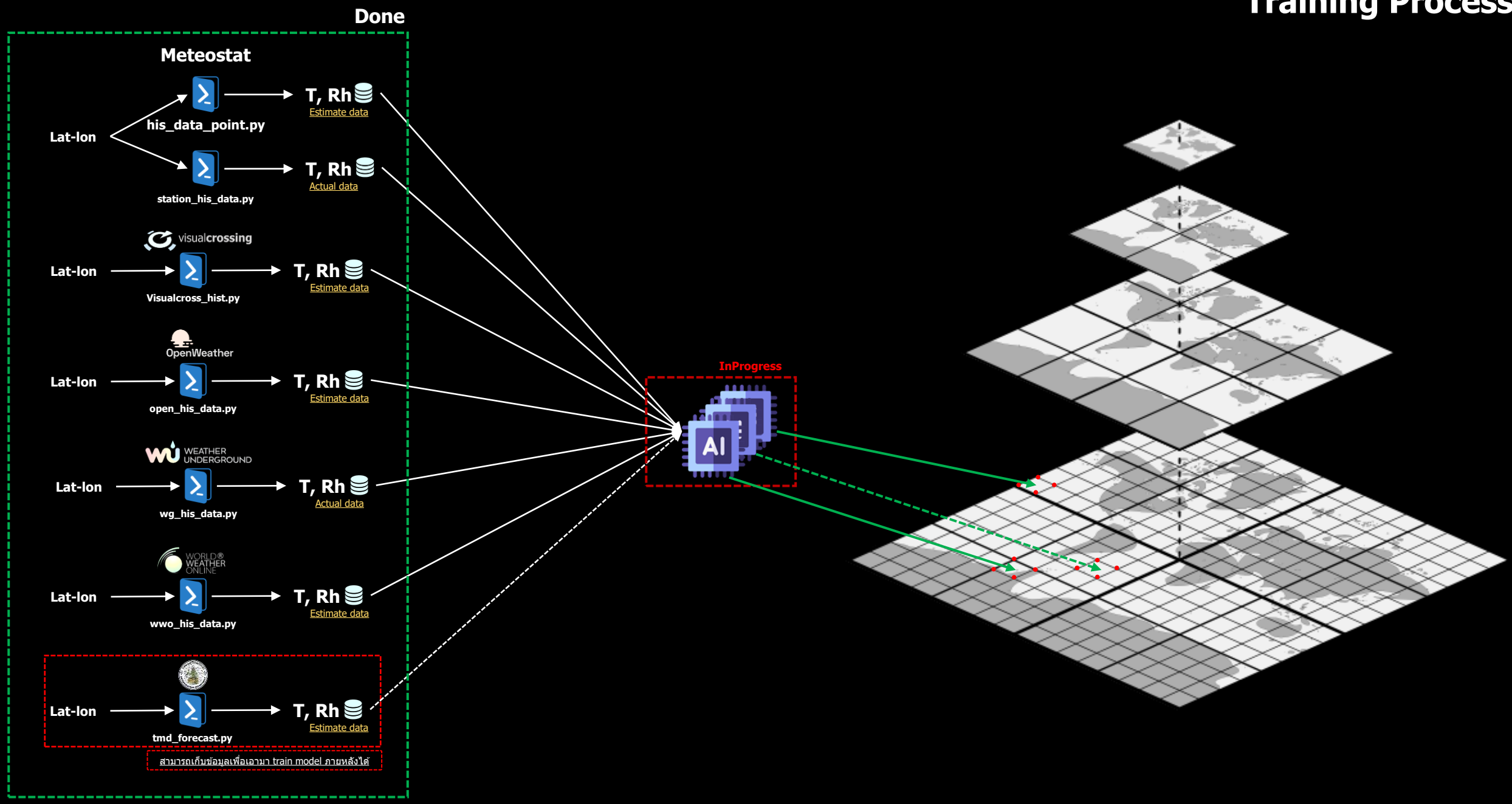


Real-time Prediction



GitHub: https://github.com/SukritJaAIproject/weather_api
Google Colab: https://colab.research.google.com/drive/1jN9PQjwhKO2xiZcnYNwovau26v-ojEyg?usp=sharing
Dataset: https://drive.google.com/drive/folders/1IK36-94dYoYeX2K1xfx1qqHDFZ_o3yKU?usp=sharing

Training Process



Level 1
Level 2
Level 3
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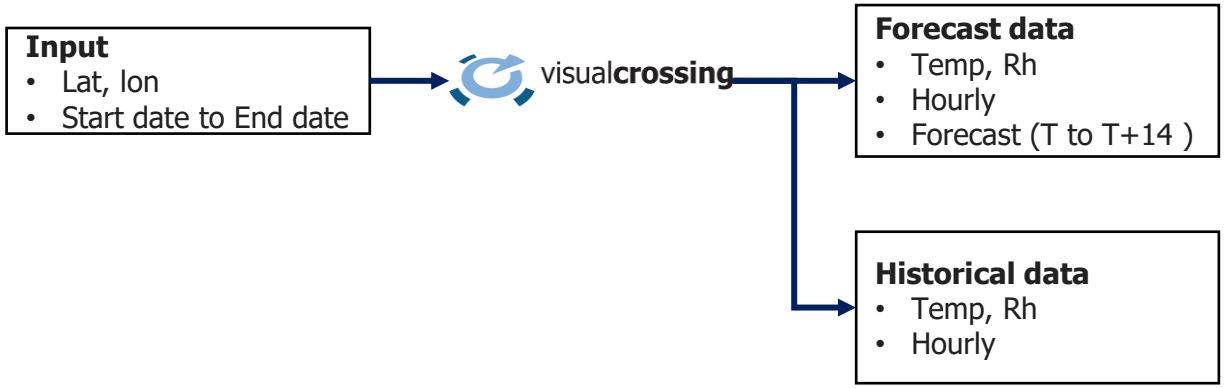
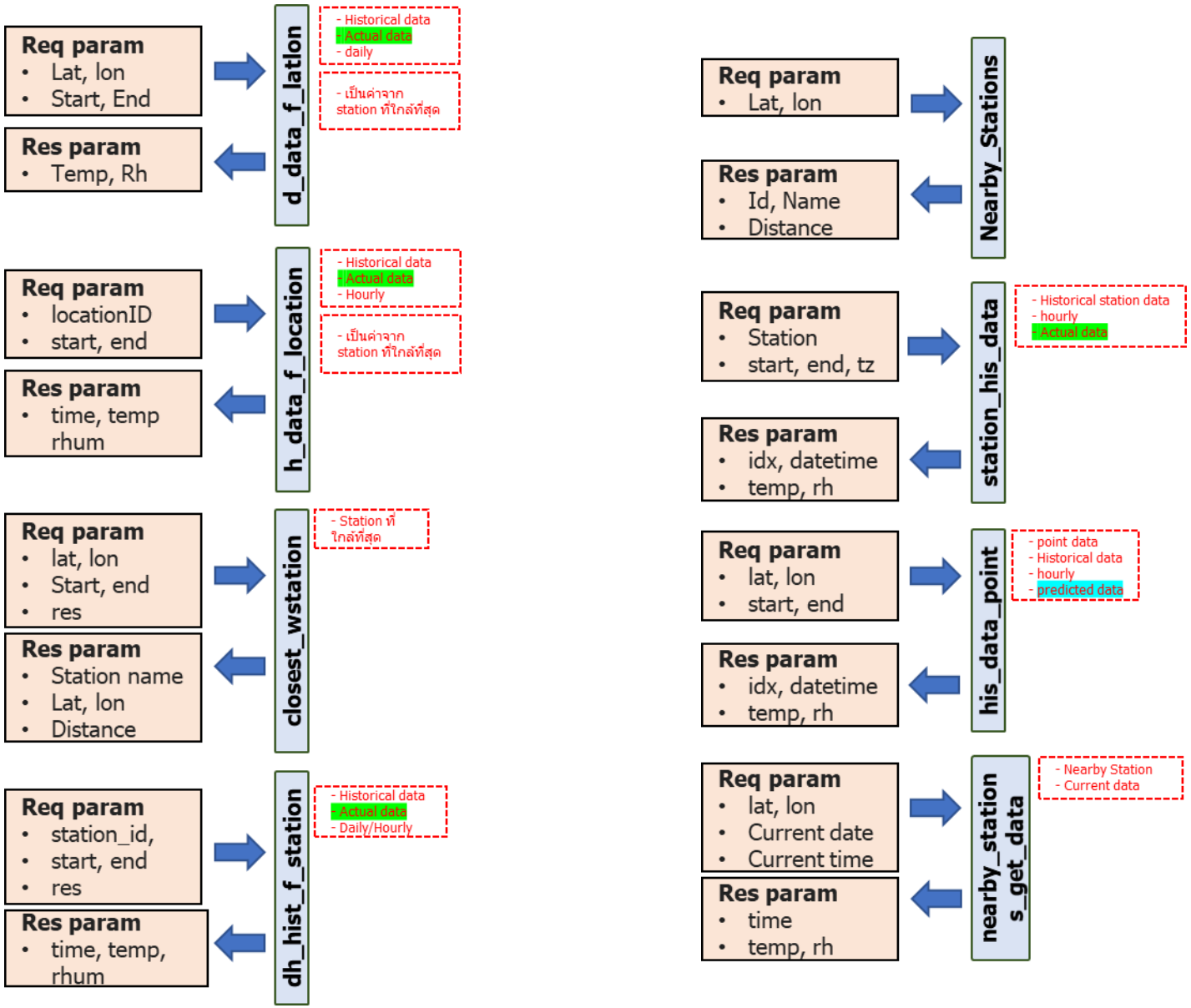
API	Forecast Data	Historical Data	Current/Real-Time Weather	Pricing	Number of Free Requests
OpenWeatherMap	Yes	No	Yes	Free	Unlimited
Weatherbit	Yes	No	Yes	Freemium	150 per day
AccuWeather	Yes	No	Yes	Free Trial	50 per day
Dark Sky	Yes	Yes	No	Freemium	100 per month
Weather2020	Yes	No	No	Freemium	1000/day
Tomorrow.io (formerly ClimaCell)	Yes	No	Yes	Freemium	100/day
Visual Crossing	Yes	Yes	Yes	Freemium	500/month
AerisWeather	Yes	Yes	Yes	Freemium	100/day

Weather by Latitude and Longitude

- OpenWeatherMap
- Weatherbit
- Dark Sky


Input
• Lat, lon
• Start date to End date
visualcrossing
Forecast data
• Temp, Rh
• Hourly
• Forecast (T to T+14)
Historical data
• Temp, Rh
• Hourly


Req param
• Lat, lon
• Start, End
Res param
• Temp, Rh
d_data_f_latlon
- Historical data
- Actual data
- daily
- เป็นค่าจาก station ที่ใกล้ที่สุด
Req param
• locationID
• start, end
Res param
• time, temp rhum
h_data_f_location
- Historical data
- Actual data
- Hourly
- เป็นค่าจาก station ที่ใกล้ที่สุด
Req param
• lat, lon
• Start, end
• res
Res param
• Station name
• Lat, lon
• Distance
closest_wstation
- Station ที่ใกล้ที่สุด
Req param
• station_id,
• start, end
• res
Res param
• time, temp, rhum
dh_hist_f_station
- Historical data
- Actual data
- Daily/Hourly
Req param
• Lat, lon
Res param
• Id, Name
• Distance
Nearby_Stations
Req param
• Station
• start, end, tz
Res param
• idx, datetime
• temp, rh
station_his_data
- Historical station data
- hourly
- Actual data
Req param
• lat, lon
• start, end
Res param
• idx, datetime
• temp, rh
his_data_point
- point data
- Historical data
- hourly
- predicted data
Req param
• lat, lon
• Current date
• Current time
Res param
• time
• temp, rh
nearby_stations_get_data
- Nearby Station
- Current data

Meteostat

meteostat

Script	Function name	Req param	Res. param	Desc.
helper_func	h_data_f_location (historical data from location)	• locationID • start, end	• time, temp, dwpt, rhum, prcp, wdir, wspd, pres, coco	• Historical data, • Hourly • Get data from locationID • Actual data
	d_data_f_latlon (daily data from lat-lon)	• lat, lon • start, end	• date, tavg, tmin, tmax, prcp, wdir, wspd, pres	• Historical data • daily • Get data from lat-lon • Actual data
	closest_wstation (closest weather station)	• lat, lon • start_date, end_date • res	• station name • Lat-lon • Distance	• closest weather station • daily, hourly
	dh_hist_f_station (daily/hourly from station)	• station_id, • start, end • res	• time, temp, rhum	• Historical data • Daily/Hourly • Get data from station_id • Actual data
nearby_station	Nearby_Stations (nearby stations)	• lat, lon	• Id, Name • Distance	• 10 nearby Stations
station_his_data	station_his_data (historical station data)	• Station • start, end • tz	• idx, datetime • temp, rh	• Historical station hourly data • Get data from station • Actual data
his_data_point	his_data_point (historical data point)	• lat, lon • start, end • api_key	• idx, datetime • temp, rh	• point data, • Historical hourly data • predicted data
nearby_stations_get_data	nearby_stations_get_data (nearby stations to get data)	• lat, lon • apikey, • current_date, • current_time	• time • temp, rh	• Nearby Station • Current data • Actual data

Input
• Lat, lon
• Date
WORLD®
WEATHER
ONLINE
Historical data
• Temp, Rh
• Hourly

WEATHER UNDERGROUND

Input
- Lat, lon

near Location

- stationName
- stationId
- obsType
- Lat, lon
- distanceKm

	stationName	stationId	obsType	lat	lon	distanceKm
0	VTBD	VTBD	METAR	13.917	100.600	8.19
1	48419	48419	SYNOPTIC	14.100	100.617	12.34

Input
- Lat, lon

location_point

- Lat, lon
- City
- locId
- pwsId

Error

	lat	lon	city	pwsId
0	13.92	100.60	Bangkok	IBANGKOK239
1	14.07	100.60	Khlong Luang	IKHLON1
2	13.74	100.56	Bangkok	IBANGK74
3	13.64	100.59	Phra Pradaeng	IMUEAN142
4	13.67	100.63	Bangkok	IBANGK103
5	13.69	100.75	Bang Phli	IBANGK115
6	13.55	100.62	Mueang Samut Prakan	IMUEAN213
7	14.56	100.72	Tha Ruea	ITHARU1
8	0.00	0.00	None	None
9	14.02	99.98	Kamphaeng Saen	IKAMPHAE2

Input
- pwsId
- Date

Get value

actual data
- Temp, Rh
- Hourly

{'observations': [{'stationID': 'IBANGK74', 'tz': 'Asia/Bangkok', 'obsTimeUtc': '2020-12-3
13.743185 100.561906
(24, 4)

	obsTimeUtc	obsTimeLocal	tempAvg	humidityAvg
0	2020-12-31T17:58:04Z	2021-01-01 00:58:04	24	63
1	2020-12-31T18:58:15Z	2021-01-01 01:58:15	24	62
2	2020-12-31T19:58:12Z	2021-01-01 02:58:12	23	63
3	2020-12-31T20:58:09Z	2021-01-01 03:58:09	23	64
4	2020-12-31T21:58:07Z	2021-01-01 04:58:07	23	64

Current weather data

Access current weather data for any location on Earth including over 200,000 cities! We collect and process weather data from different sources such as global and local weather models, satellites, radars and a vast network of weather stations. Data is available in JSON, XML, or HTML format.

Historical weather data

To learn about how get access to historical weather data for the **previous 5 days**, please use this section of the documentation.

Input
- None

Current data
*actual data from stations
- Temp, Rh
- 3 Hourly

	datetime	sname_en	sname_th	Lat	Lon	temp	rh
0	31/3/2022 16:54:44	แม่ฮ่องสอน	MAE HONG SON	19.2990	97.9758	25.0	76.0
1	31/3/2022 16:54:44	แม่สะเรียง	MAE SARIANG	18.1667	97.9333	23.0	87.0
2	31/3/2022 16:54:44	เชียงราย	CHIANG RAI	19.9614	99.8814	23.3	95.0
3	31/3/2022 16:54:44	เชียงราย สกษ.	CHAING RAI AGROMET.	19.8708	99.7828	22.8	95.0
4	31/3/2022 16:54:44	พะเยา	PHAYAO	19.1333	99.9000	23.5	96.0
...	...	...	...	...	...	...	...
123	31/3/2022 16:54:44	หาดใหญ่	HAT YAI AIRPORT	6.9167	100.4333	25.2	97.0
124	31/3/2022 16:54:44	สตูล	SATUN	6.6500	100.0833	24.7	97.0
125	31/3/2022 16:54:44	ปัตตานี	PATTANI AIRPORT	6.7833	101.1500	25.1	92.0
126	31/3/2022 16:54:44	ยะลา สกษ.	YALA AGROMET.	6.5167	101.2833	24.9	97.0
127	31/3/2022 16:54:44	นราธิวาส	NARATHIWAT	6.4167	101.8167	25.5	88.0

128 rows × 7 columns

Test site