

This Document serves as an overview of possible weather APIs that we may want to use for our project. In my opinion, the best option looks like it might be Visual Crossing due to its cheap price when compared to our other options.

MeteoMatics

- Multiple different Output formats (JSON, CSV, XML, HTML...)
- Historical data from 1979 (Business API package only)
- 1800 different weather parameters
- Current weather and Forecast data 46 days in the future
- Extensive documentation on their website
- Individual historical data sets are also available for direct purchase
 - For instance we can request data from one location from certain point in time till today for a specific price
 - I tested it for 20 years of data just at Washington D.C and the price was \$346
- Pricing:
 - No price listing, you have to request a quote (If they aren't listing a price, that might mean this one is expensive)
 - Free version does not provide enough for our project needs

Weatherbit

- Hourly historical data (Up to 20 years back)
- Sub hourly historical weather - 15 minute intervals (not sure how far this sub hourly api goes back)
- Multiple different weather fields (Provides wind, temperature, and precipitation along with many others)
- Current Weather and Forecast data (10 or 16 days in advance)
- Returns in JSON format
- Pricing:
 - Free or starter versions will not satisfy our needs
 - Either Pro or Business, however pro will not provide us with enough historical data (only 3 years of historical data with the pro option)
 - Business plan is \$475 per month - I highly doubt they will pay for all of this but I guess we can still ask.
- <https://www.weatherbit.io/>

Weatherstack

- Real time, historical, and forecast data
- Returns in JSON format
- Many different weather parameters
- Historical data only back to July 2008 (Can be hourly)

- Might not be the best option due to lack of historical data
- 7 day forecast data
- Pricing:
 - Most likely we would use the professional option
 - \$49.99 per month
- <https://weatherstack.com/>

Open Weather Map

- Historical data for more than 40 years back (Can be hourly)
- JSON Format
- Also provides forecast and current data
- Very similar to other options
- Pricing:
 - Most relevant to us: Developer or Professional
 - Developer: \$180 per month
 - Professional: \$470 per month
- Also offer a one time export of historical weather data for any location
 - 40+ years back
 - Only \$10 per location
 - 15 different weather parameters
- <https://openweathermap.org/api>

Tomorrow.io

- Very similar to other options
- However provides historical data only 7 years in the past
 - Most likely not a good option
- <https://www.tomorrow.io/weather-api/historical-weather-api/>

Visual Crossing API

- Sub hourly, hourly, or daily data
- 50+ years of historical weather data
- Results in CSV or JSON
- Documentation isn't as in depth as others, however this one should still be easy to use
- Pricing:
 - Free version provides all of our needs with a restriction on 1000 records per day
 - Profession version (\$35) provides 10,000,000 records per month + HTTPS encryption
- <https://www.visualcrossing.com/weather-api>