**Understanding**: The task is to create a program which can generate test data for a weather model.

**Input Parameters**: Current weather data (temperature, pressure and humidity) in timestamp at specific location, the program will first, predict what is current weather condition, and then generate a series of forecasting data for next 24 hours in a 1-hour interval.

**Design**: Built a model with the factors: Altitude, Topography, Geography & Oceanography. Correlation between temperature & pressure, and between temperature & humidity

I have chosen, different locations across Australia. Each location has a different climate which is caused by topography, geography and oceanography. This feature is considered as a seasonal factor, and represented as a possibility of weather changing in different season. Later, the system will generate a random number and compare with this possibility to decide whether to trigger a weather change or not. Temperature, as the main factor, in a sunny day will increase after sunrise and start decreasing after sunset. For different month, this increasing/decreasing slope will be different based on historical average MIN/MAX temperature record. For cloudy day, this process would be smoother, and for raining/snowing day, the temperature only decreases. After updating temperature, pressure and humidity will change accordingly.

**Assumptions:** Fixed time of sunrise and sunset for all the cities. Climate type has been introduced into the model as seasonal factors

**Accuracy:** To test the model I use the historical data. we did crawling from website to grab the historical data.