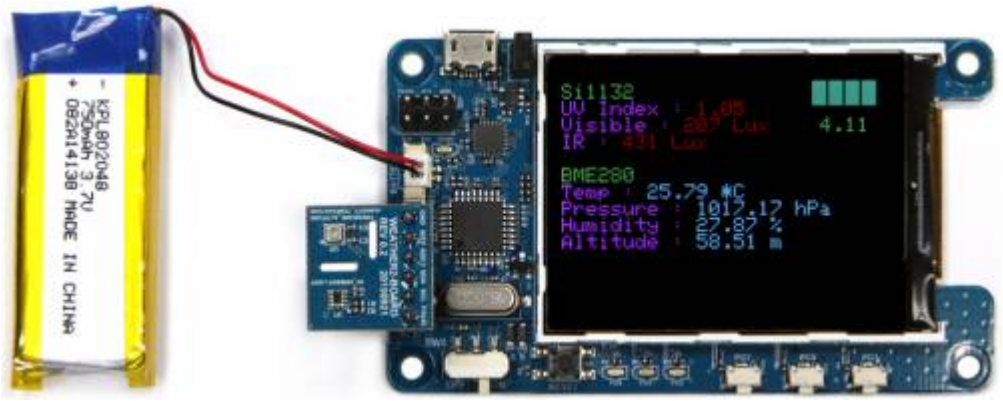
WEATHER-BOARD on ODROID-SHOW



The Weather board is an easy to use ODROID-SHOW Add-on that grants you access to UV Index, barometric pressure, altitude, relative humidity, illumination and temperature. Each board comes with a 6-pin connector for ODROID-SHOW connection. All the sensor data go though I2C communication between sensor ICs and ATMEGA328P MCU on the ODROID-SHOW.

With a lithium polymer battery, you can make a portable outdoor weather data capture system.

To use Weather board in ODROID-SHOW, you need to write a WEATHER-BOARD firmware.

Writing firmware the WEATHER-BOARD on Ubuntu

> This guide is tested on Ubuntu 16.04(ARM and x86)

Settings Arduino IDE

Install the Arduino IDE

```
$ sudo apt-get install arduino
```

Download the WEATHER-BOARD source code

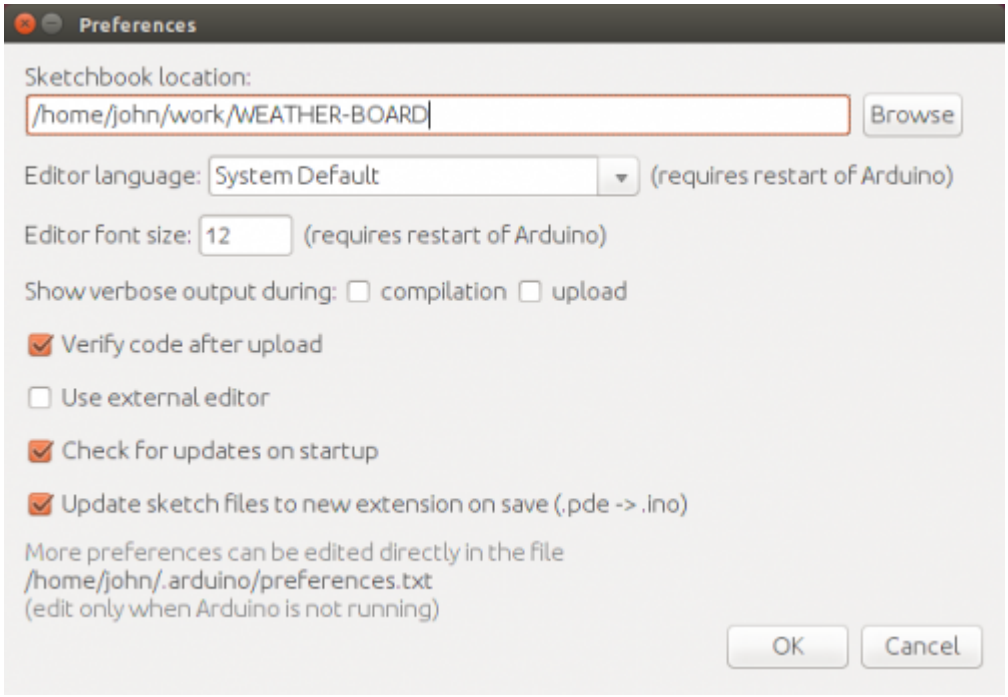
```
$ sudo apt-get install git
$ git clone https://github.com/hardkernel/WEATHER-BOARD
```

$ Run Arduino IDE

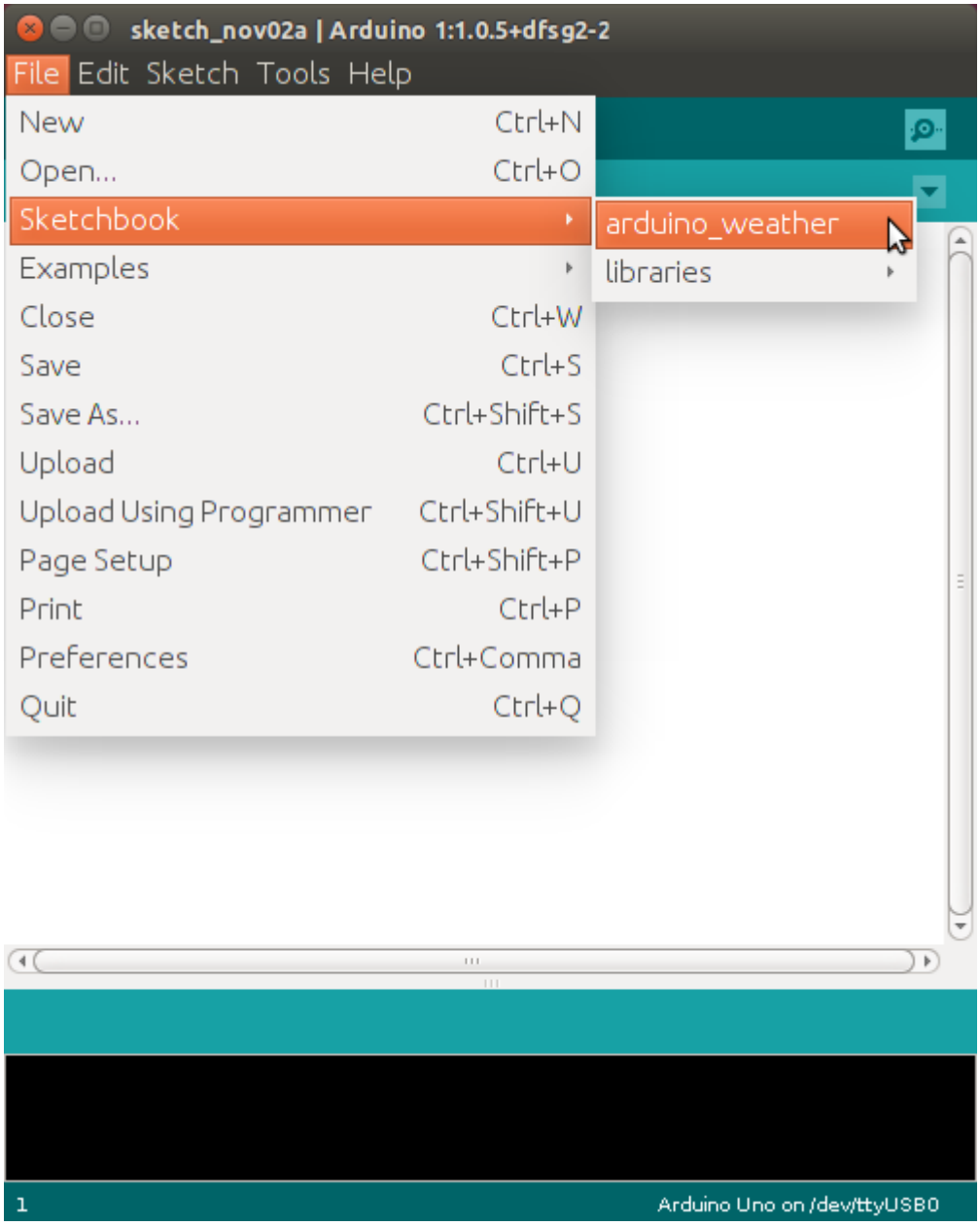
```
$ sudo arduino
```

Setting Preferences

You MUST locate sketchbook path to WEATHER-BOARD directory.

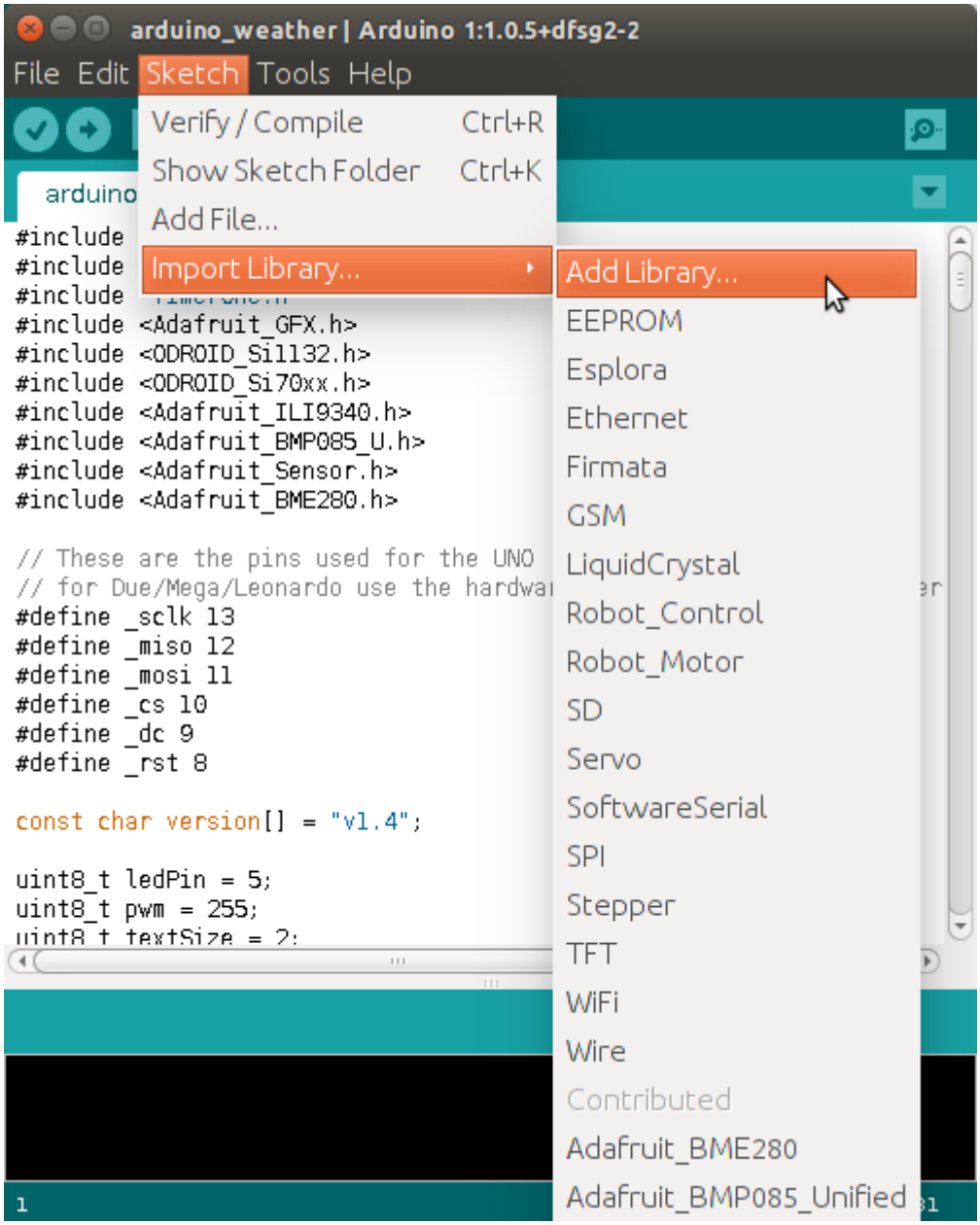


Load WEATHER-BOARD sketchbook file

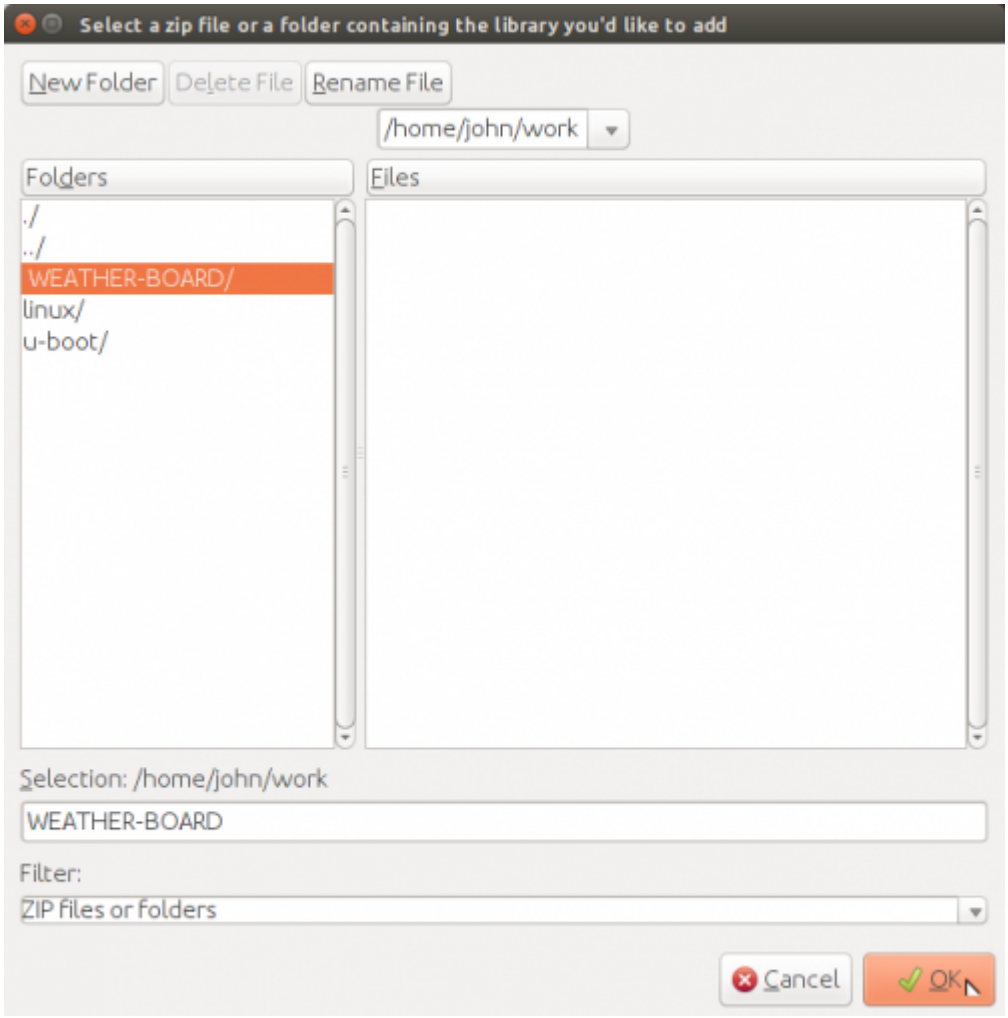


Add Libraries

You need to add the WEATHER-BOARD libraries in the IDE through the menu skech → import Library... → Add Library...



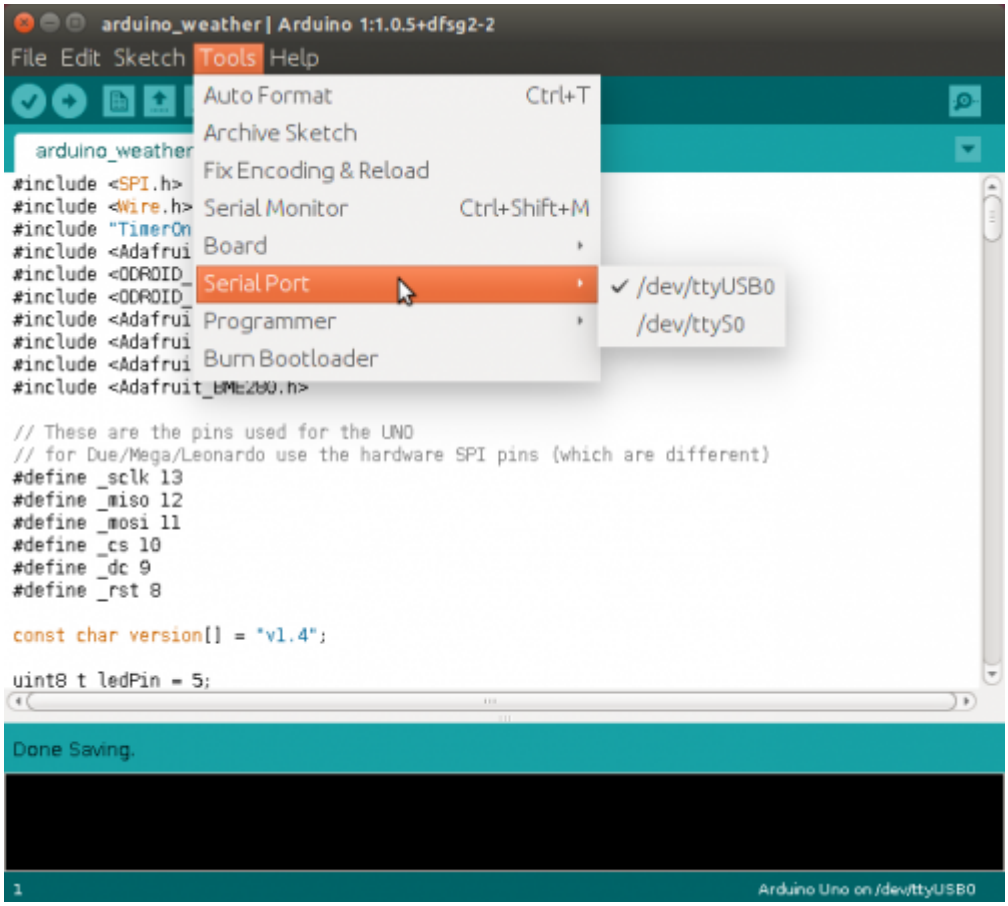
The following way, add WEATHER-BOARD folder. (sketchbook folder)



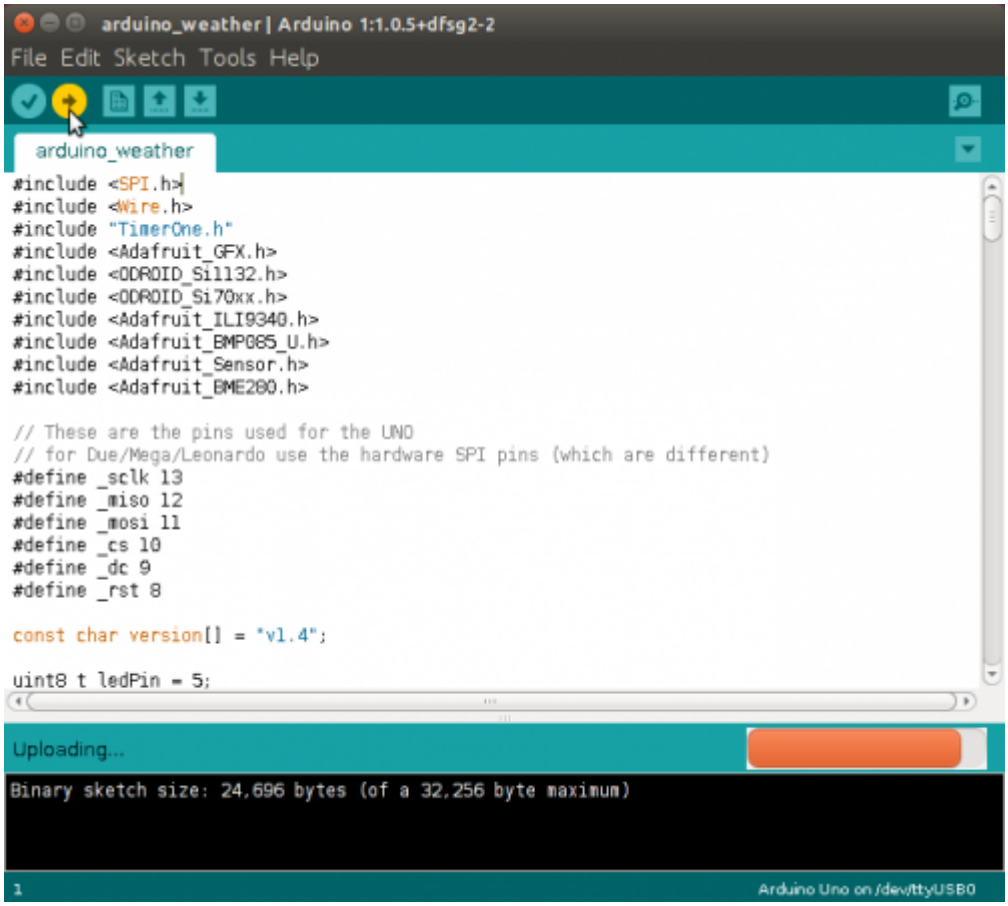
Compile and Upload

Check the serial port between /dev/ttyUSBn and “tools → Serial Port” of Arduino IDE.

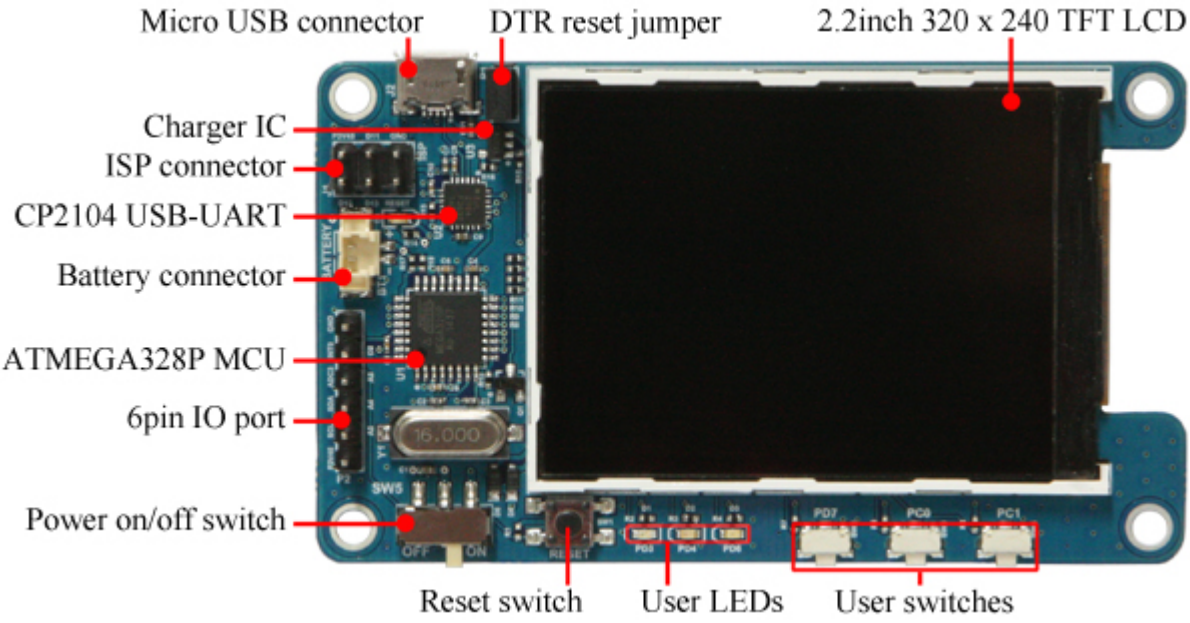
```
$ ls /dev/ttyUSB*
```



Finally, after connecting the jumper, click “upload” button on Arduino IDE.



The DTR reset jumper MUST be installed when you upload the firmware.
The DTR reset jumper must NOT be installed in normal usage mode.



Tips for Imperial measurements (Feet, Farenheit, etc)

Change the getBME280() function in the Sketch file. This code was contributed by bebop_man

```
void getBME280()
{
   BME280Temperature = bme.readTemperature()*(9/5)+32;
   BME280Pressure = (bme.readPressure()/100);
   BME280Humidity = bme.readHumidity();
   BME280Altitude = bme.readAltitude(SEALEVELPRESSURE_HPA)*3.28084;
}
```