**Weather Monitoring System**

**Code:-**

#include <Adafruit\_Sensor.h>

#include <SFE\_BMP180.h>

#include <Wire.h>

#include <ESP8266WiFi.h>

#include <DHT.h>

DHT dht(D3, DHT11);

SFE\_BMP180 bmp;

double T, P;

char status;

WiFiClient client;

String apiKey = "MOPMRWA0A45FZU1W";

const char \*ssid = "Skyworth\_0A97C9";

const char \*pass = "00000000";

const char\* server = "api.thingspeak.com";

void setup() {

Serial.begin(115200);

delay(10);

bmp.begin();

Wire.begin();

dht.begin();

WiFi.begin(ssid, pass);

while (WiFi.status() != WL\_CONNECTED) {

delay(500);

Serial.print(".");

}

Serial.println("");

Serial.println("WiFi connected");

}

void loop() {

//BMP180 sensor

status = bmp.startTemperature();

if (status != 0) {

delay(status);

status = bmp.getTemperature(T);

status = bmp.startPressure(3);// 0 to 3

if (status != 0) {

delay(status);

status = bmp.getPressure(P, T);

if (status != 0) {

}

}

}

//DHT11 sensor

float h = dht.readHumidity();

float t = dht.readTemperature();

if (isnan(h) || isnan(t)) {

Serial.println("Failed to read from DHT sensor!");

return;

}

//Rain sensor

int r = analogRead(A0);

r = map(r, 0, 1024, 0, 100);

if (client.connect(server, 80)) {

String postStr = apiKey;

postStr += "&field1=";

postStr += String(t);

postStr += "&field2=";

postStr += String(h);

postStr += "&field3=";

postStr += String(P, 2);

postStr += "&field4=";

postStr += String(r);

postStr += "\r\n\r\n\r\n\r\n";

client.print("POST /update HTTP/1.1\n");

client.print("Host: api.thingspeak.com\n");

client.print("Connection: close\n");

client.print("X-THINGSPEAKAPIKEY: " + apiKey + "\n");

client.print("Content-Type: application/x-www-form-urlencoded\n");

client.print("Content-Length: ");

client.print(postStr.length());

client.print("\n\n\n\n");

client.print(postStr);

Serial.print("Temperature:");

Serial.print(t);

Serial.println("°C");

Serial.print("Humidity: ");

Serial.print(h);

Serial.println("%");

Serial.print("absolute pressure: ");

Serial.print(P, 2);

Serial.println("mb");

Serial.print("Rain:");

Serial.println(r);

}

client.stop();

delay(1000);

}