**Development of Meteorological Stations**

**Idea: Building stations to measure the most important agronomical variables and save information**

**Number of Stations: X**

**Variables required to measure**: Temperature, Atmospheric pressure, wind speed, air humidity, luminosity, precipitation.

Places where will be the stations

* North Farm

**Working alternatives**:

* Batteries and Solar Pannel
* Electrical line using a 12/3.5 v charger
* Modern approach as shown in article: “Hybridized energy harvesting device based on high-performance triboelectric nanogenerator for smart agriculture applications"

**Boards Alternatives**

* Arduino UNO
* Arduino Nano
* NodeMCU
* Look at some boards with bluetooth/wifi

**Structures**

* 3D printed (Sensors and boards protections’);
* Commercial ones;
* Build in places that works with metal (Sustentation)

**Inventory**

* Arduino boards: 5
* Temperature/Humidity sensor: 1
* Pressure sensor: 0
* Batteries
* 2x 3.7V and 2000mAh
* 1x 3.7V and ? mAh
* 6x 1.2V and 1300mAh
* 1x 11.1 V
* 7x Batteries holders
* Solar Pannels: 5
* Cables
* 3x Arduino UNO – USB
* 29x Female-male pin
* 29x Female-male protected gathered in 3
* 29x Male protected-non protected gathered in 2
* 27x Female protected-male non protected gathered in 2
* 12x 9V battery clips
* Regulator charge: 16
* Arduino Clocks: 1
* Clock: 0
* Soil moisture sensors\*: 1
* Air humidity sensor: 0
* Luminosity sensor
* 2x TSL2561
* 39 LDR
* Magnetic sensor (Reed Switch): 19
* Resistors: 25 of (470, 270, 33, 1k, 100k, 2.2k, 3.3k, 10k, 330, 100, 68, 150, 2k, 4.7k, 220 Ohm)
* Capacitor 100uF: 10
* Diodo IN4007: 50
* 1 Small protoboard
* 2 micro SD shield with 8GB microSD
* 1 SD shield without SD Card
* Water level sensor: 2
* Rain sensor: 2
* 3 Packs of heat shrink

References