Guideline for AWS Installation

Part 1: Location selection

1. Temperature / humidity
    a. Environment for accurate measurement
        i. Grassland
        ii. Sheltered area
        iii. Good convection
    b. Avoid items deviate measurement
        i. Air vent / air conditioner
        ii. Metal roof reflection
        iii. Concrete floor
        iv. Westward concrete wall

2. Precipitation
    a. Environment for accurate measurement
        i. in an opening in a grove of trees provide windbreak protected in all directions
        ii. the windier the gauge location is, the greater the precipitation error will be
    b. Avoid items deviate measurement
        i. obstructions such as trees, shelters and buildings which may block and deflect precipitation due to erratic turbulence
        ii. Height of the windbreak protection should not exceed twice its distance from the gauge
        iii. Avoid reflective surfaces (including the ground) for splashing back raindrops

3. UV/Solar radiation measurement
    a. Avoid items deviate measurement
        i. Shadow of trees, shelters and buildings

4. Anemometer
    a. Environment for accurate measurement
        i. Away from mountain side
        ii. On prevailing wind track
    b. Avoid items deviate measurement
        i. obstructions such as trees and buildings which may block the wind or cause erratic turbulence
        ii. at least 10 meters higher than other obstructions (ideal)

Part 2: Installation

1. General
    a. No adapter/convertor/connector for extension purpose (consideration of weathering)
    b. Special design of mounting poles for unloading during maintenance and teaching and extension outward for better convection

2. Anemometer
    a. Mounting bar pointing north
    b. Mount at the end of the pole to avoid underestimation of wind speed and affecting wind direction measurement by the pole
    c. Length of cable not more than 40m
    d. Separate from ISS
        i. Avoid underestimation of precipitation and shadow for UV and solar radiation measurement by the mounting bar

3. ISS
    a. Body
        i. Mount at the end of the pole to avoid underestimation of precipitation and shadow for UV and solar radiation measurement b the pole
    b. Rain guage
        i. Cut cable tie at tipping bucket
        ii. Install 0.2 mm calibration mass
        iii. Put debris filter into the rain collector
    c. UV & solar radiation sensor
        i. Leveling after installation
    d. Length of cable not more than 300m

4. Console
    a. Plug in the data logger before connecting power
    b. Install 3 C-size batteries into the console
    c. Check flashing “X” after installation
    d. Press done to exit setup mode
    e. Check if all data could be shown