ChecklistGuro

Soil Moisture Monitoring (Location-Specific) Checklist

Site Selection & Characterization

Defining the specific location(s) for soil moisture monitoring and understanding their characteristics.

GPS Coordinates of Monitoring Site

Set My Current Location

Field Identifier/Name

Write something...

Elevation (meters)

Enter a number...

Soil Type (Dominant)

- [ ] Sandy
- [ ] Loamy
- [ ] Clay
- [ ] Silty
- [ ] Peaty
- [ ] Other

Slope (%)

- [ ] 0-2%
- [ ] 2-5%
- [ ] 5-10%
- [ ] 10%+

Description of Landscape Features (e.g., drainage patterns, presence of vegetation)

Write something...

Depth to Water Table (if known, meters)

Enter a number...

Aspect (Direction Slope Faces)

- [ ] North
- [ ] South
- [ ] East
- [ ] West

Sensor Selection & Calibration

Choosing appropriate soil moisture sensors and ensuring their accuracy through calibration.

Sensor Technology Selected:

- [ ] Capacitance
- [ ] Tensiometer
- [ ] Time Domain Reflectometry (TDR)
- [ ] Frequency Domain Reflectometry (FDR)
- [ ] Neutron Probe

Manufacturer Recommended Calibration Range (kPa):

Enter a number...

Calibration Procedure Description:

Write something...

Calibration Value at Field Capacity (Vol % or kPa):

Enter a number...

Calibration Value at Wilting Point (Vol % or kPa):

Enter a number...

Date of Initial Calibration:

Enter date...

Upload Calibration Data Sheet/Report:

Upload File

Notes/Observations During Calibration:

Write something...

Installation & Deployment

Properly installing and positioning sensors in the field.

Precise GPS Coordinates of Sensor Location

Set My Current Location

Depth of Sensor Installation (cm)

Enter a number...

Distance from Plant Stem (cm)

Enter a number...

Soil Type at Installation Point

- [ ] Sandy
- [ ] Loamy
- [ ] Clay
- [ ] Silty
- [ ] Organic
- [ ] Unknown

Orientation of Sensor (relative to slope)

- [ ] Horizontal
- [ ] Vertical
- [ ] Angled (Specify Angle)

Notes on Installation Conditions (e.g., rocks, obstacles)

Write something...

Date of Sensor Installation

Enter date...

Data Acquisition & Transmission

Setting up the system for collecting and transmitting soil moisture data.

Sensor Sampling Frequency (minutes)

Enter a number...

Data Transmission Protocol

- [ ] Wi-Fi
- [ ] Cellular (LTE/5G)
- [ ] LoRaWAN
- [ ] Satellite
- [ ] Wired (Ethernet)

Data Logging Method

- [ ] On-device logging
- [ ] Cloud-based logging
- [ ] Local Server Logging

Signal Strength (dBm) - Initial Measurement

Enter a number...

Notes on Initial Data Acquisition Setup

Write something...

Date of Initial Data Acquisition

Enter date...

Time of Initial Data Acquisition

Data Management & Analysis

Organizing, storing, and interpreting the collected soil moisture data.

Sensor ID(s) Associated with Data

Enter a number...

Data Import Date

Enter date...

Average Soil Moisture (%)

Enter a number...

Soil Temperature (°C)

Enter a number...

Data Quality Flag

- [ ] Good
- [ ] Questionable
- [ ] Bad

Notes/Comments on Data

Write something...

Soil Bulk Density (g/cm³)

Enter a number...

Supporting Data Files (e.g., rainfall data)

Upload File

Maintenance & Troubleshooting

Regularly maintaining equipment and addressing any issues that arise.

Last Sensor Battery Replacement Date

Enter date...

Sensor Power Level (%), if applicable

Enter a number...

Sensor Communication Status

- [ ] Connected
- [ ] Disconnected
- [ ] Intermittent

Describe any observed sensor issues (e.g., erratic readings, physical damage)

Write something...

Data Logging Status

- [ ] Logging
- [ ] Not Logging
- [ ] Unknown

Date of Last Sensor Calibration/Verification

Enter date...

Notes from Maintenance/Troubleshooting (e.g., steps taken to resolve issues)

Write something...

Sensor Physical Condition

- [ ] Excellent
- [ ] Good
- [ ] Fair
- [ ] Poor

Reporting & Actionable Insights

Communicating findings and using data to inform irrigation and other agricultural practices.

Average Soil Moisture (%):

Enter a number...

Soil Moisture Deficit (mm):

Enter a number...

Irrigation Trigger Status:

- [ ] Irrigation Required
- [ ] Irrigation Not Required
- [ ] Threshold Reached - Manual Review Needed

Date of Last Irrigation Event:

Enter date...

Time of Last Irrigation Event:

Observations & Notes (e.g., weather conditions, crop appearance):

Write something...

Next Action Recommended:

- [ ] Irrigate
- [ ] Monitor
- [ ] Adjust Irrigation Schedule
- [ ] Fertilize

Supporting Imagery (Photos of soil/plants):

Upload File