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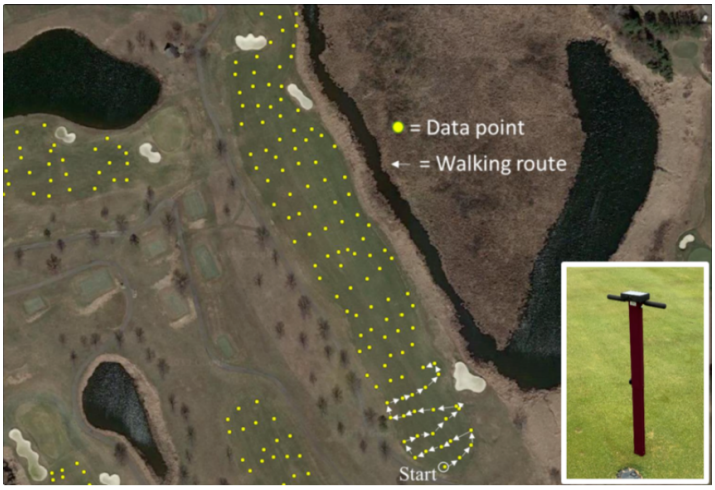
Protocol for Golf Course Soil Moisture Mapping

A detailed, easy-to-use protocol for collecting and analyzing golf course soil moisture data using commercially available devices and free software.



Technology ID

2019-332

Category

Express License

Software & IT/Education & Training

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Easy, step-by-step protocol for soil moisture data collection and analysis

Are you a golf course superintendent or staff member who wants to reduce water consumption at your course? Significant reductions can be possible by programming your irrigation system to match soil moisture variability. While the technology required to collect and map soil moisture data is already commercially available, its adoption has been poor. This is primarily due to lack of knowledge about how to collect and analyze the data effectively. In addition, analysis software can be expensive and requires training. To help get over these hurdles, researchers at the University of Minnesota have created a detailed protocol to walk the users through the entire process. With this step-by-step protocol (written instructions & videos), users can easily

- collect soil moisture data using handheld GPS soil moisture meters,
- create soil moisture maps of fairways using a free software (QGIS),
- create and classify irrigation management zones.

This self-teaching protocol package will enable golf course maintenance crews to better utilize existing technologies to make data driven irrigation decisions to reduce water consumption and maintenance costs.

Phase of Development

- Protocol available for download. Instructions prepared using Fieldscout TDR 350 soil moisture meter.

Features & Benefits

- Downloadable, easy-to-follow written and video instructions
- Practical, affordable, and repeatable approach for soil moisture mapping
- Uses commercially available GPS soil moisture meters
- Create detailed soil moisture map on your own; no need to pay a 3rd party for data analysis
- Cut down on cost using freely available software for analysis
- Save maintenance cost by reducing water consumption
- Georeferencing provides high regional accuracy

Applications

- Golf course management
- Irrigation management
- Data driven decision making

Researchers

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Ready for Licensing

This technology is now available for license! The University is excited to partner with industry to see this innovation reach its potential. Please contact us to share your business' needs and your licensing interests in this technology. Click the "License this Technology" button on the right panel to license and download the protocol. The University is currently offering this protocol for free. The license agreement helps us keep track of the users.

A protocol specific to mapping sports field properties is also available.