

Data Management: from georeferenced data to data storage and access
Thurs, 9:20 AM

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- I. Review - Raw sensor outputs to georeferenced data
 - A. Convert latitude and longitude data to UTM coordinates
 - B. Assign coordinates to each sensor location based on vehicle geometry
 - C. Locate sensor observation points within field plot boundaries
 - D. Assign field plot ID information to each sensor observation point
- II. Data interpretation
 - A. Instrument information
 1. Sensor type
 2. Relative sensor position on the phenotyping system
 - B. Physical information
 1. Observation values
 2. Unit
 3. Range
 - C. Temporal information
 1. UTC
 - D. Geographical information
 1. Longitude
 2. Latitude
 3. Elevation
 - E. Field plot information
 1. Plot name
 2. Seed variety
 3. Plot boundaries
- III. Data management
 - A. Table design
 1. HTP data table
 - a) Sensor ID
 - b) Sensor output(s)
 - c) Absolute sensor positions (x, y, and z coordinates)
 - d) UTM zone
 - e) Sampling date and time
 - f) Plot ID
 - g) Others (i.e. raw GPS outputs)
 2. Field plot table
 - a) Plot ID
 - b) Seed ID
 - c) Range and column index
 - d) Planting date
 - e) Boundary coordinates
 - f) Others (i.e. field location)
 3. HTP instrumentation table

- a) Sensor ID
 - b) Model type
 - c) Serial number
 - d) Relative positions (x, y, and z coordinates) on the phenotyping system
 - e) Others (i.e. phenotyping system information)
4. Relationship between tables
- a) Using Plot ID to link the “HTP data” table and the “Field plot” table
 - b) Using Sensor ID to link the “HTP data” table and the “HTP instrumentation” table
- B. Storage and access
- 1. File
 - 2. Database