

# Detecting Quality Defects in Soil-Sampling Data



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Soil-sampling  
data collection

Data quality  
assessment

1

2

3

Plot	X	Y
1	32.5982	35.1848
2	32.5739	35.2792
3	32.5971	35.1874

Plot	Date	Value
1	13/11/13	78.8
1	10/11/14	78.8
2	10/11/14	79.4

Plot	Value	Quality
1	78.8	0.42
2	79.4	0.73
3	NULL	0.00

## Model Purpose:

- Assign a reliability grade ( $Q$ ) per spatial object, considering:
  - Quality of attribute values ( $Q_s$ )
  - Temporal ( $Q_t$ ) and spatial ( $Q_d$ ) variability
- Display reliability grades as a metadata layer in a cloud-based GIS

$$Q = Q_s * Q_t^\alpha * Q_d^\beta$$