QUALITY MANAGEMENT

Spatial Data Quality Management: A Producers Perspective
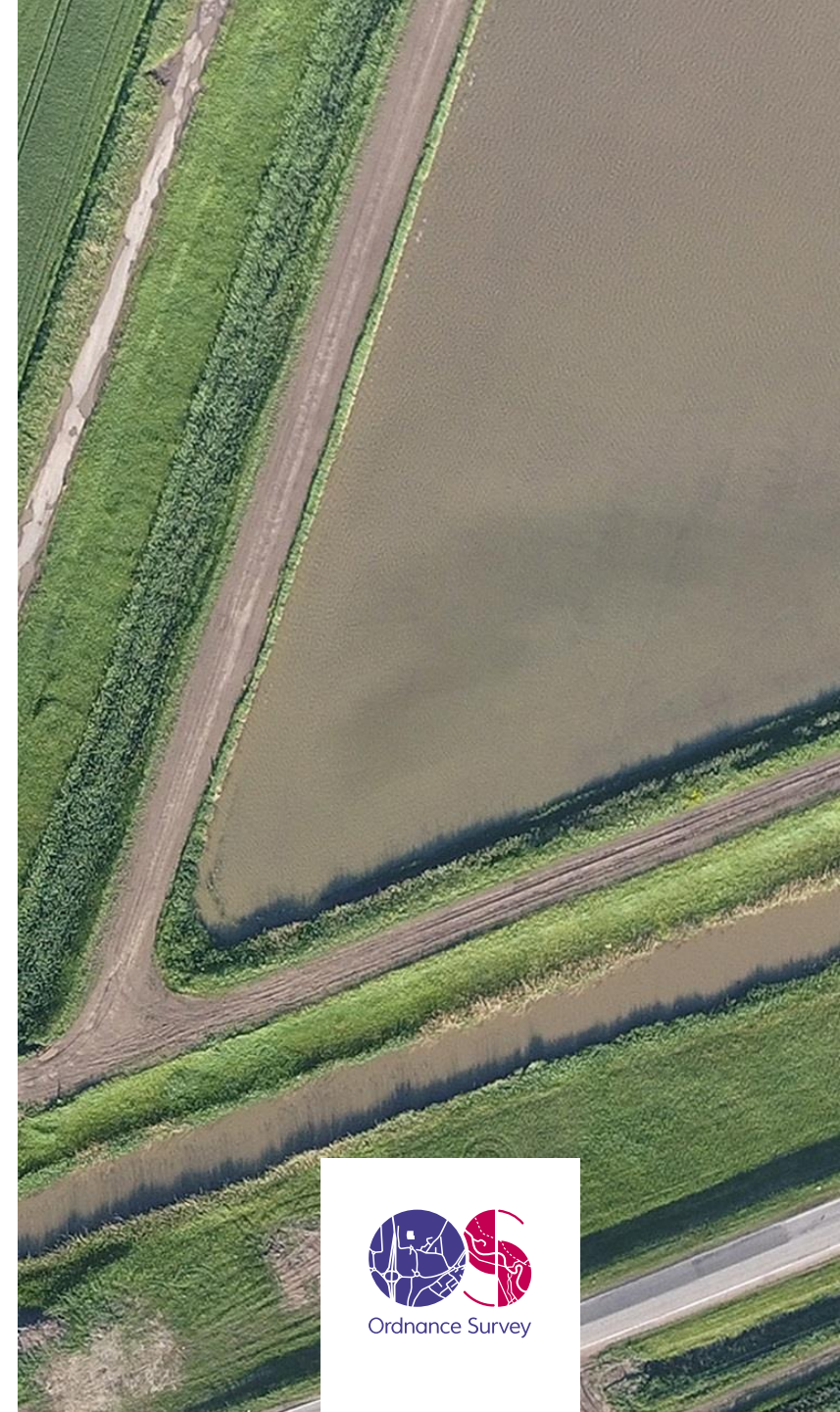
14/06/2017
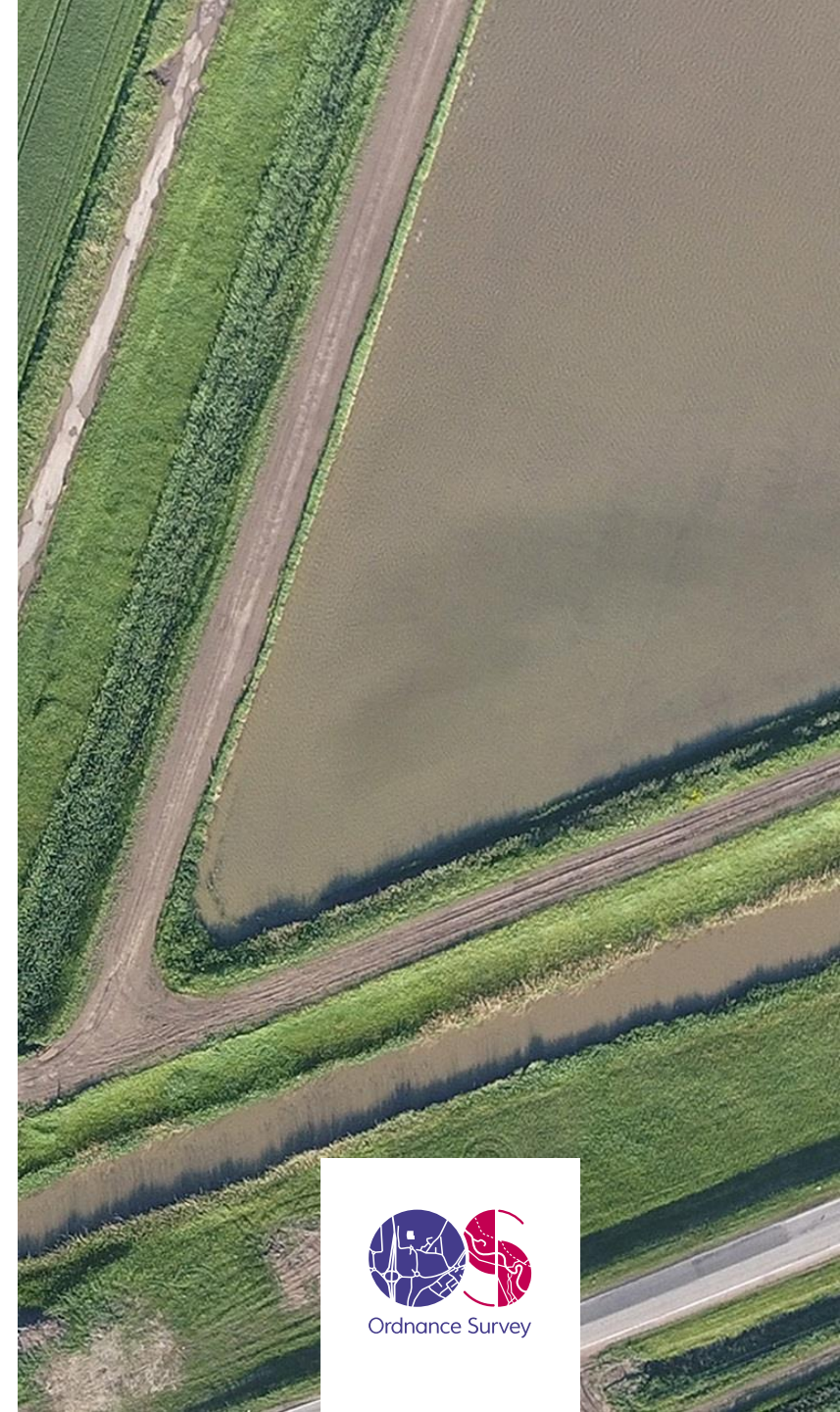
Ordnance Survey

Introduction

- Spatial Data Quality Measures Overview

- Customer Communication
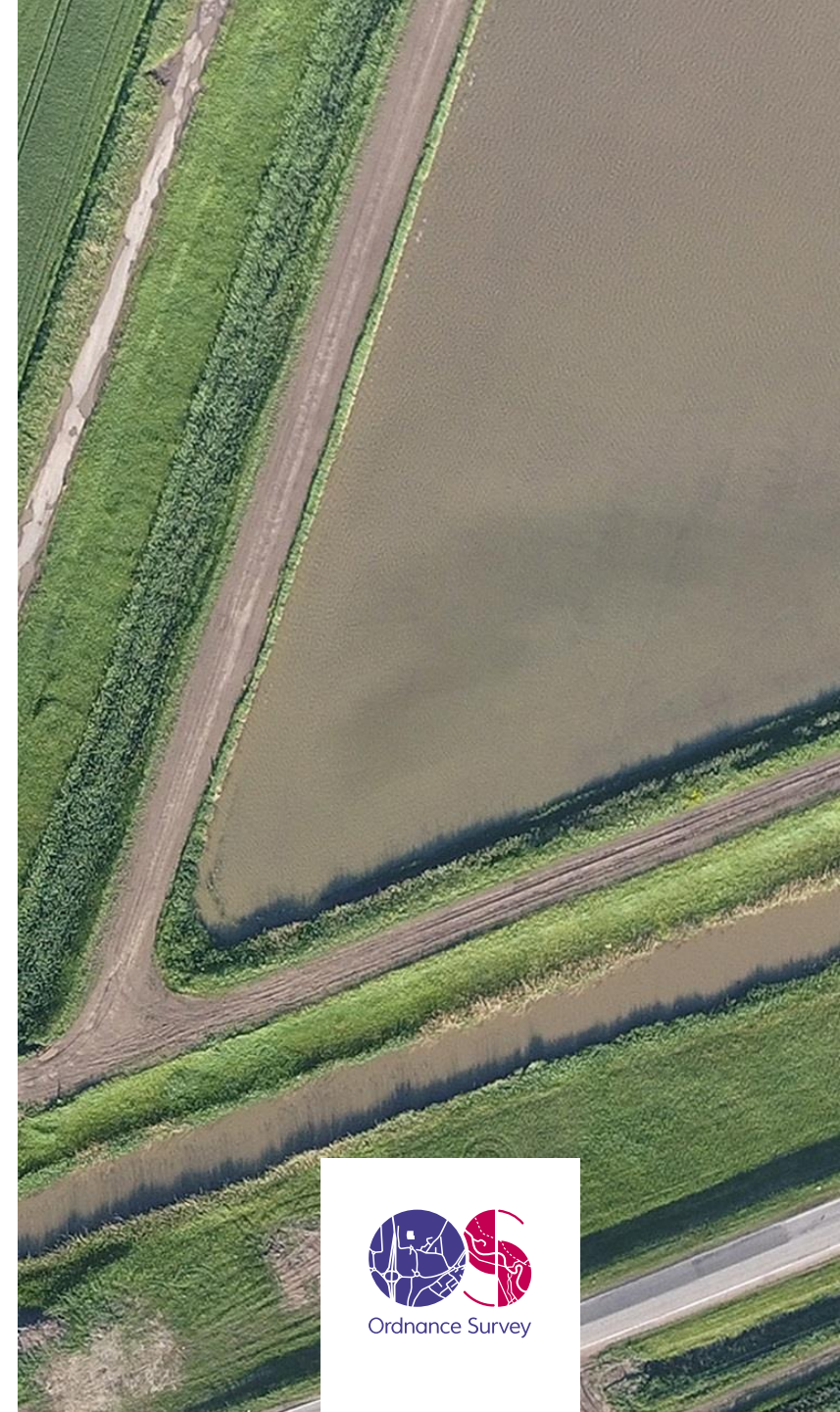
Ordnance Survey

# Spatial Data Quality Measures

Components/Elements

- Completeness

- Logical Consistency

- Positional Accuracy

- Spatial Accuracy

- Attribute Accuracy

- Thematic Accuracy

- Temporal Accuracy

- Resolution

- Usability

- Lineage
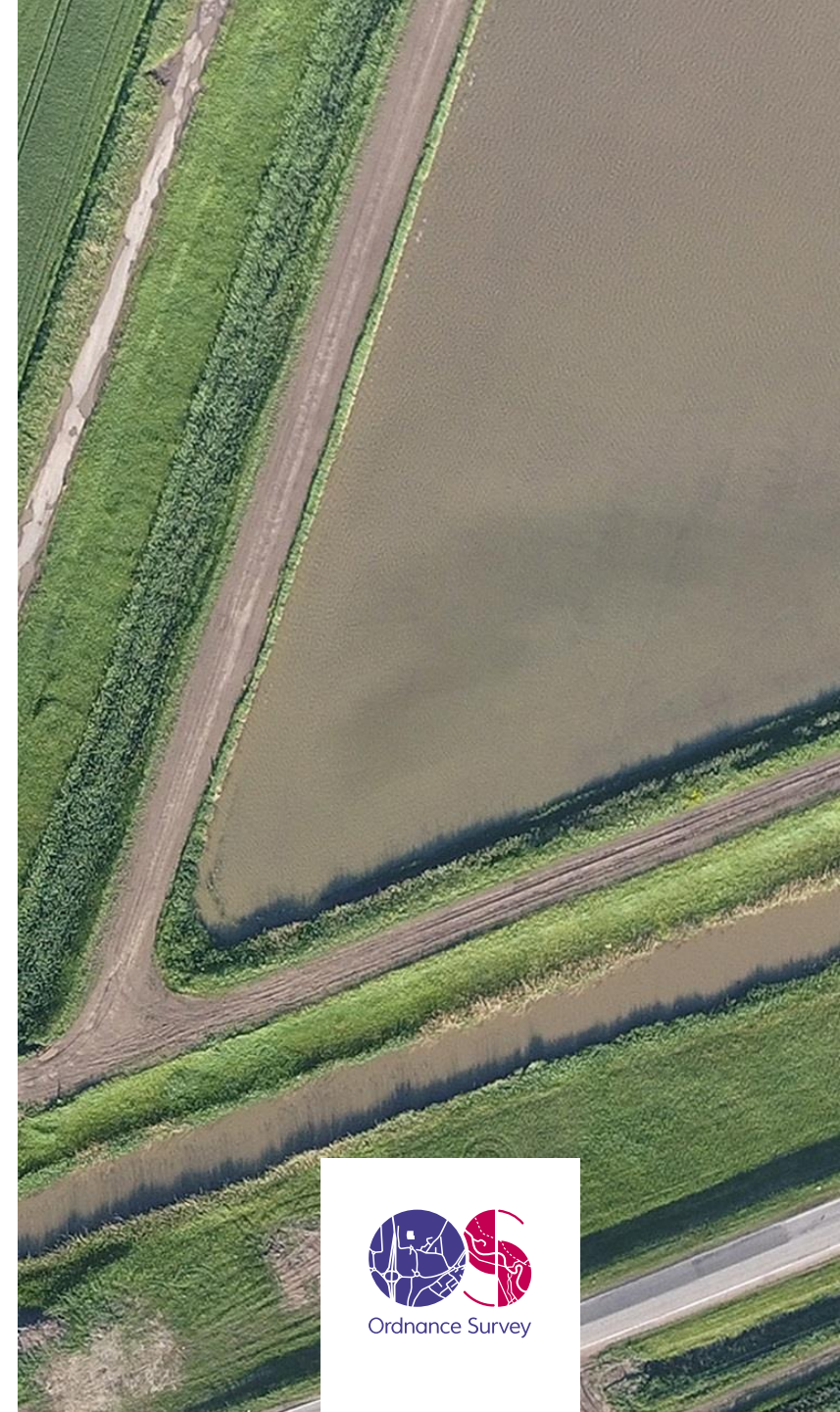
- Semantic Accuracy

Ordnance Survey

Positional Accuracy

- Accuracy of position in relation to the real world and other features in the dataset

  - Circular Error Probable (CEP):

    Probability that calculated value within defined radius of actual value

  - Route Mean Square Error (RMSE):

    Difference between calculated and actual value

Ordnance Survey
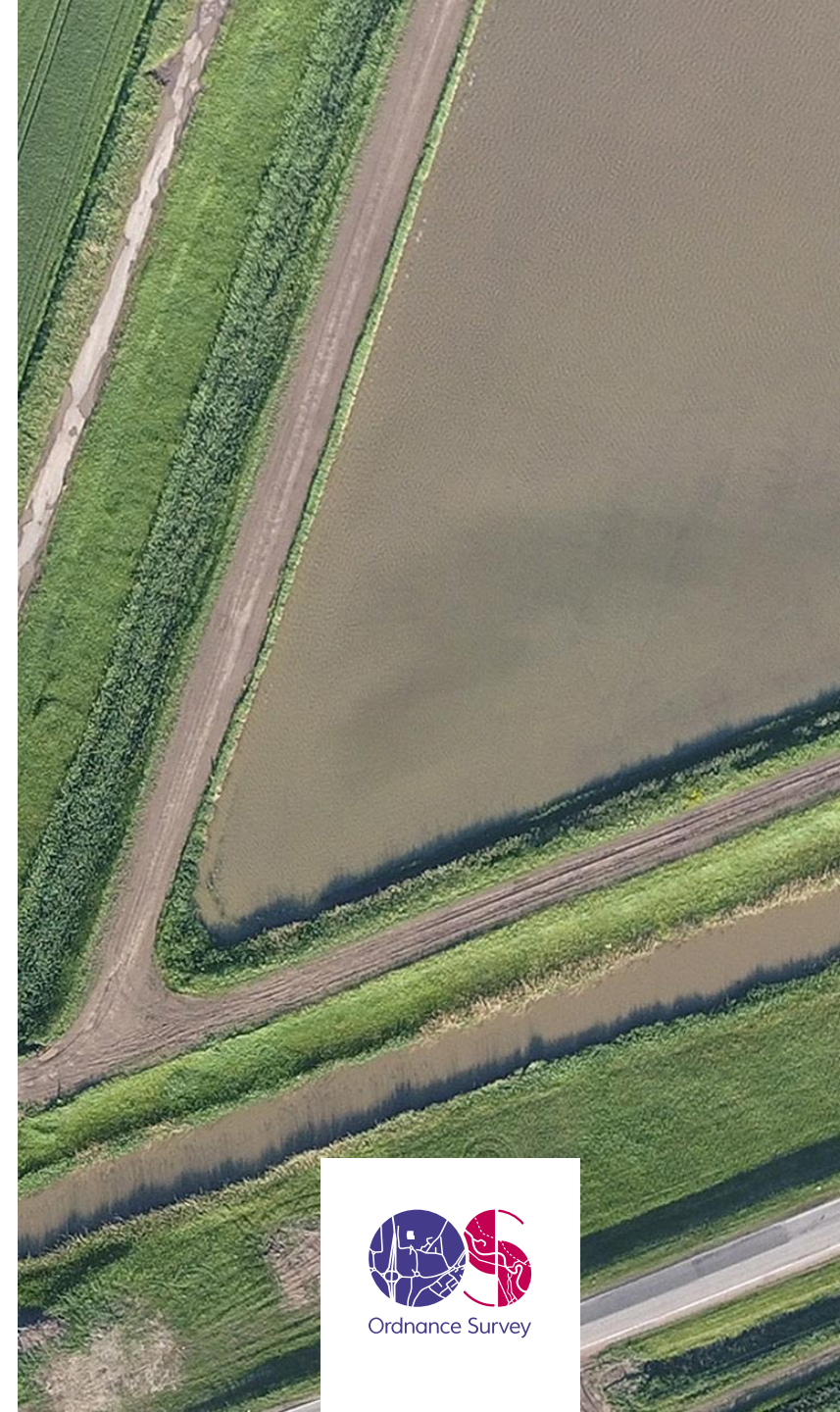
Thematic Accuracy

- Accuracy in relation to the real world description

  - Quantitative:

    Numerical Measurement

  - Qualitative:

    Naming & Labelling (Semantic Accuracy)
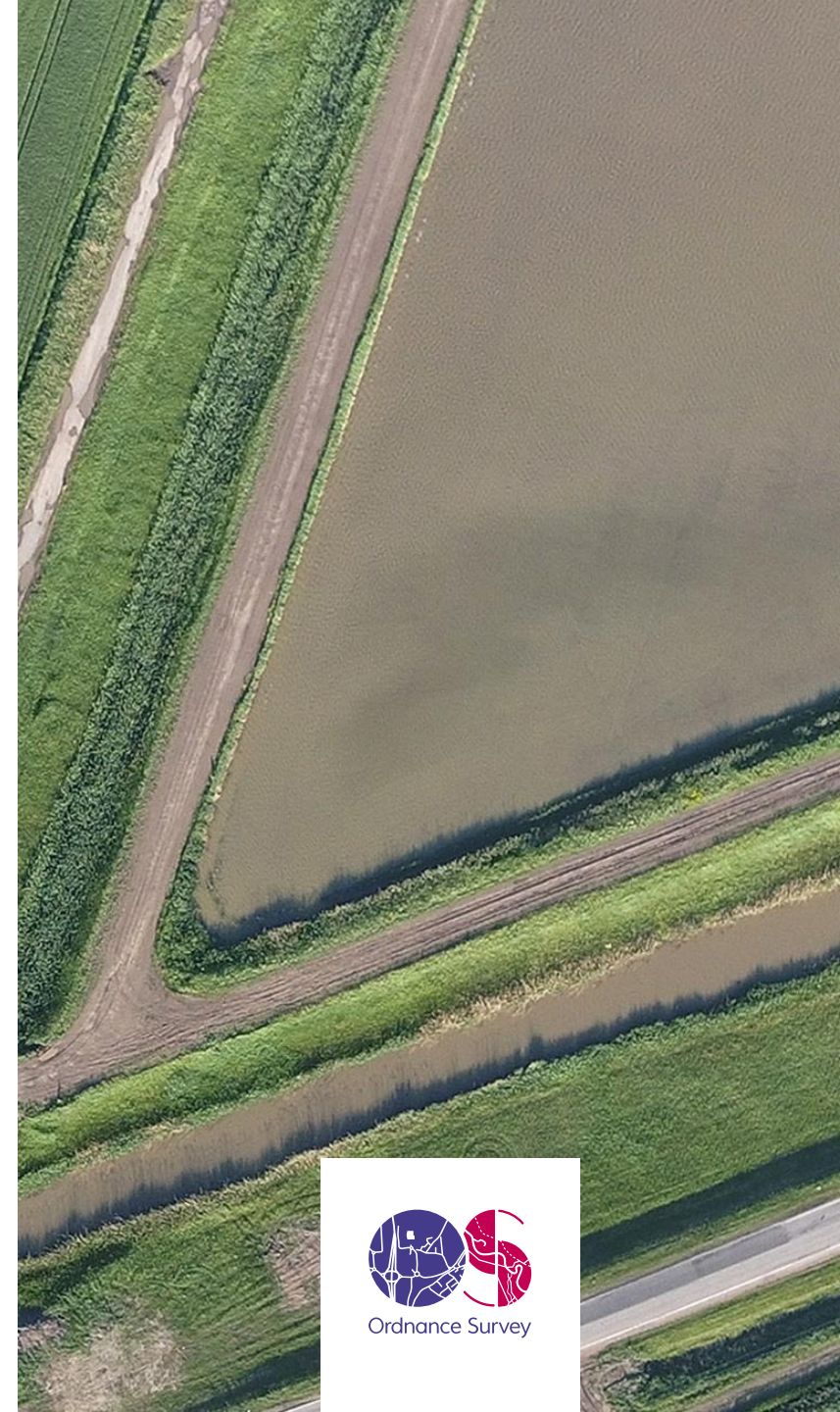
Ordnance Survey

Logical Accuracy

- Accuracy in relation to the rules of the data model

  - Attribution: Validity of values

  - Domain: Relationship with other features
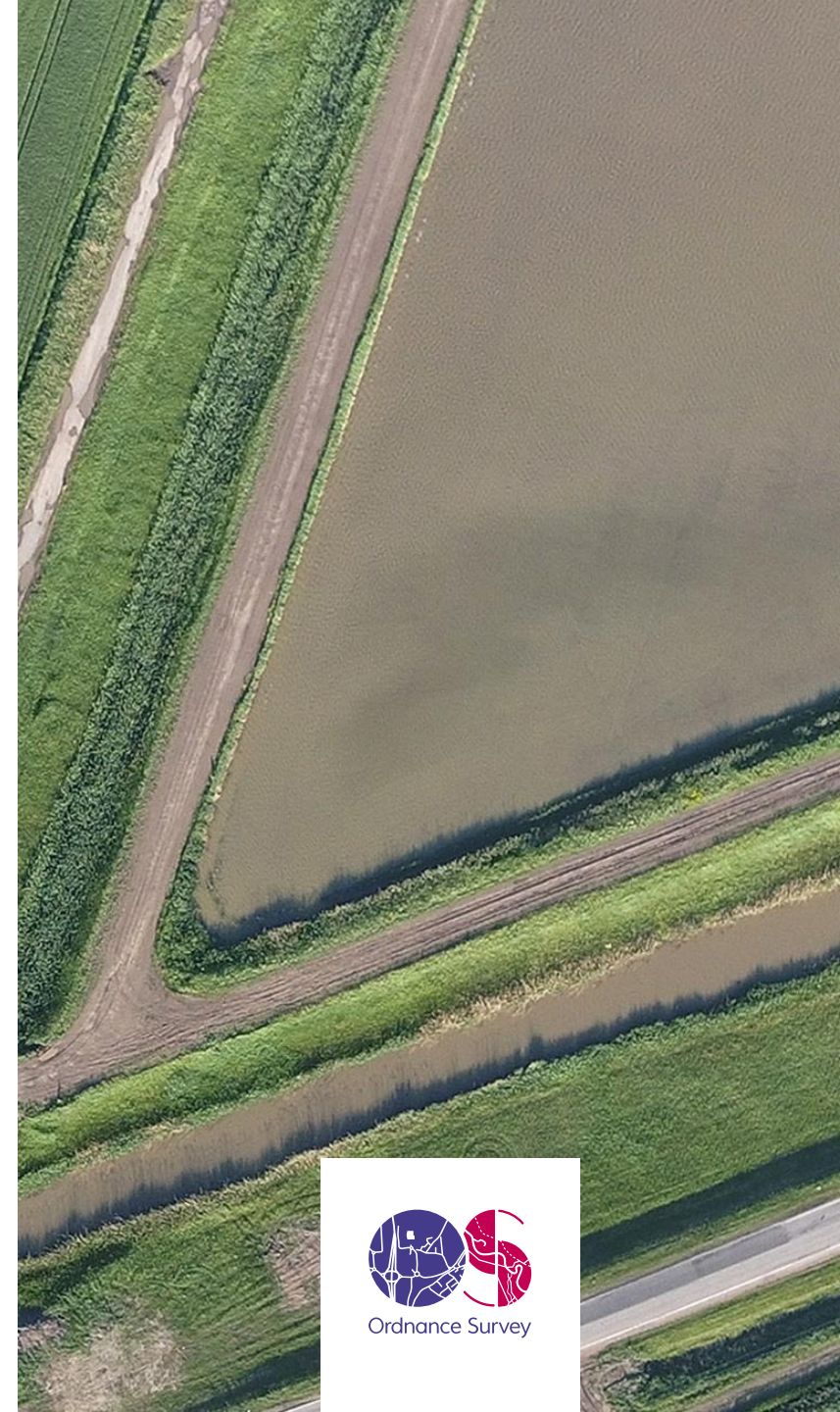
  - Structure: Topology (geometry)
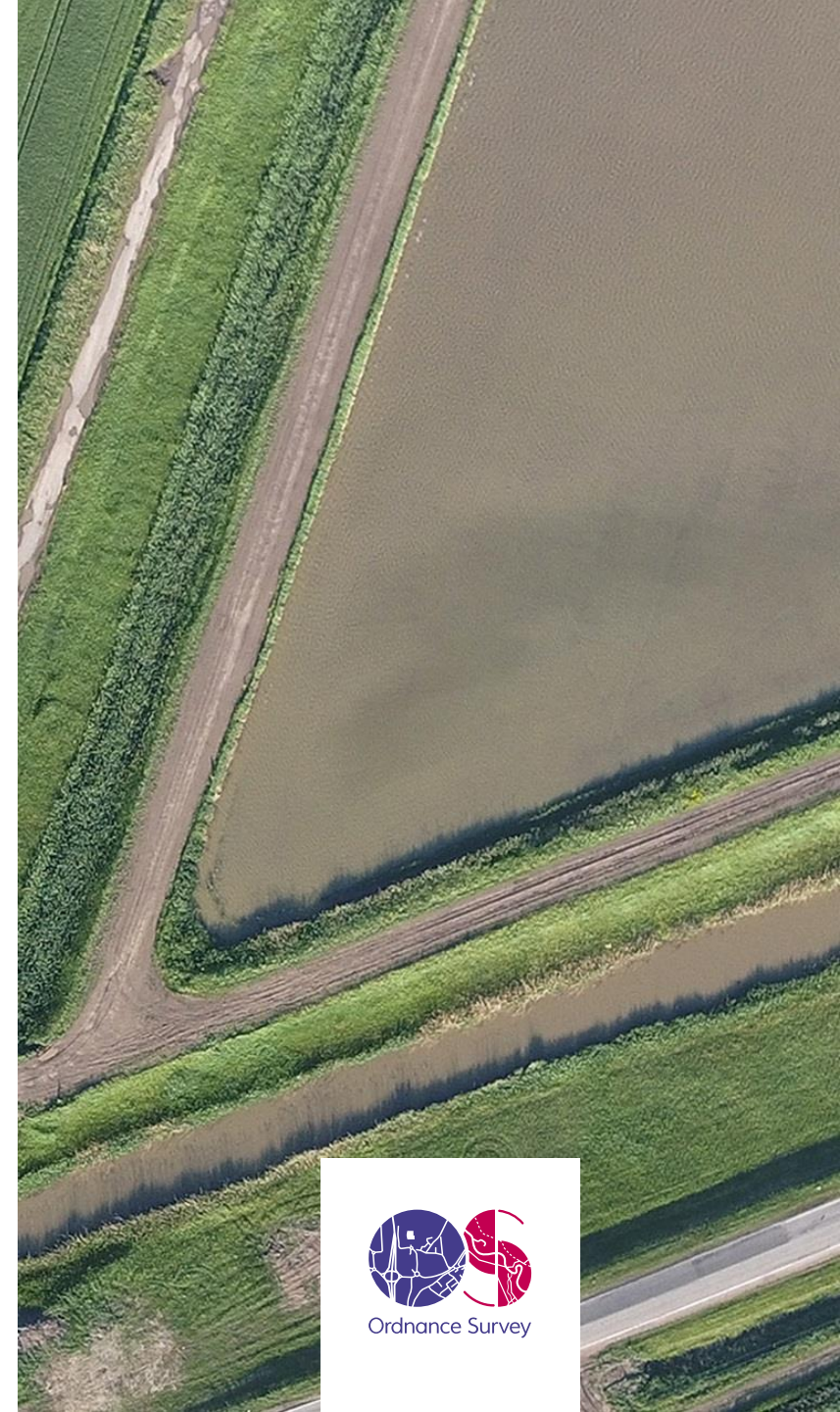
Completeness

- Accuracy in relation to the population of features and their attribution

  - Commission: Excess data

  - Omission: Missing data
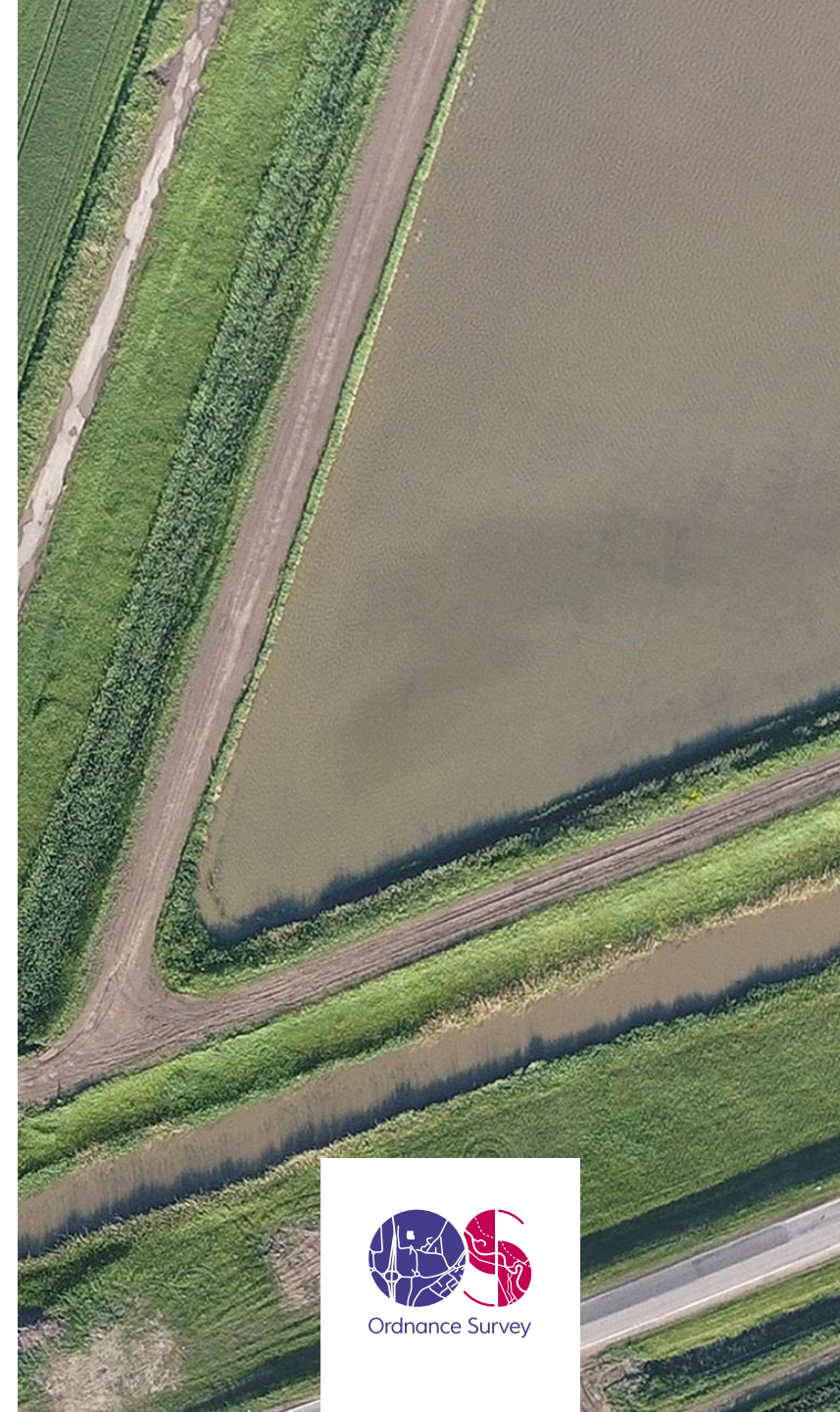
Ordnance Survey

Temporal Accuracy

- Accuracy in relation to time

  - Lineage:

    Correctness of the sequence of events in a features history

  - Currency:
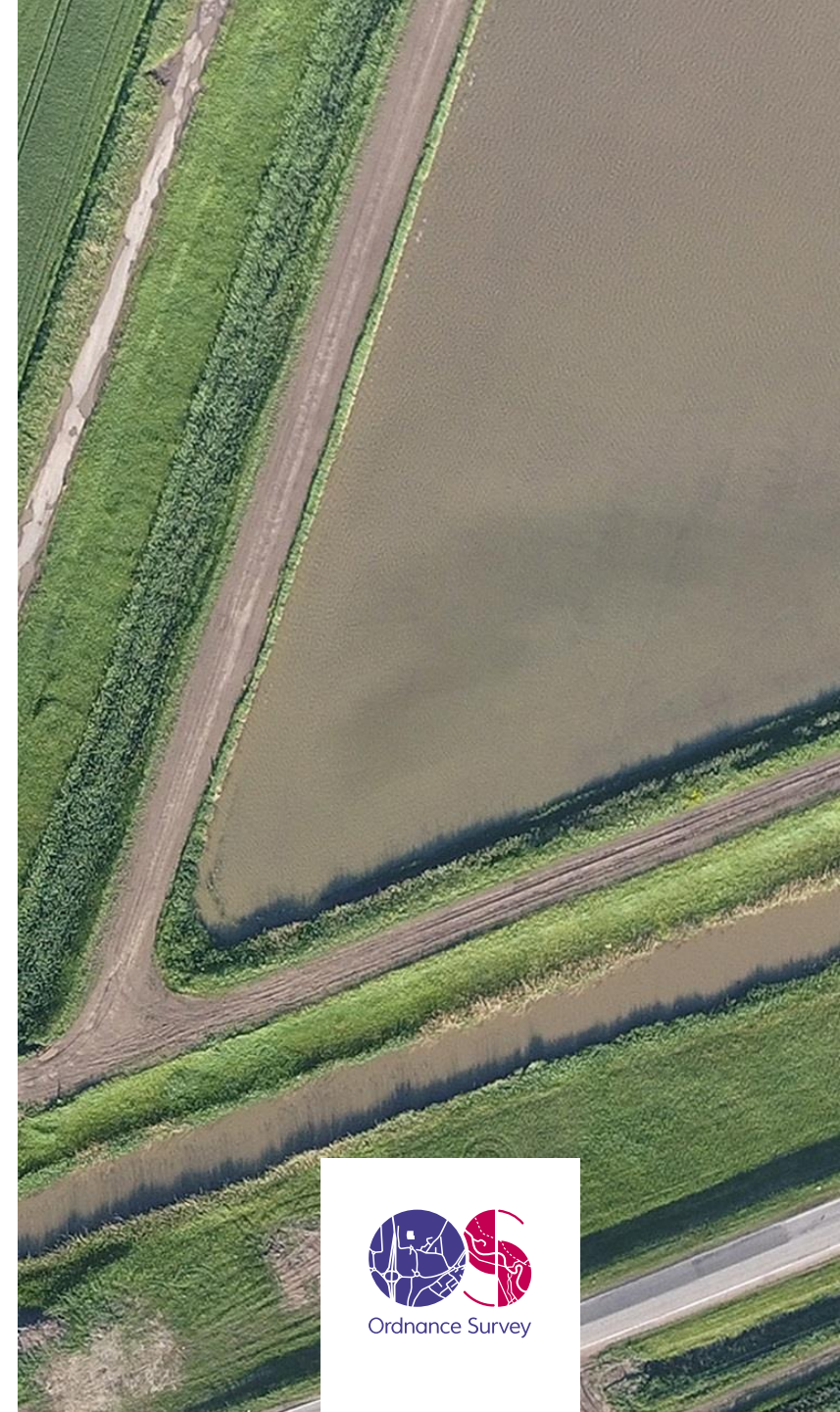
    Accuracy against a period or point in time
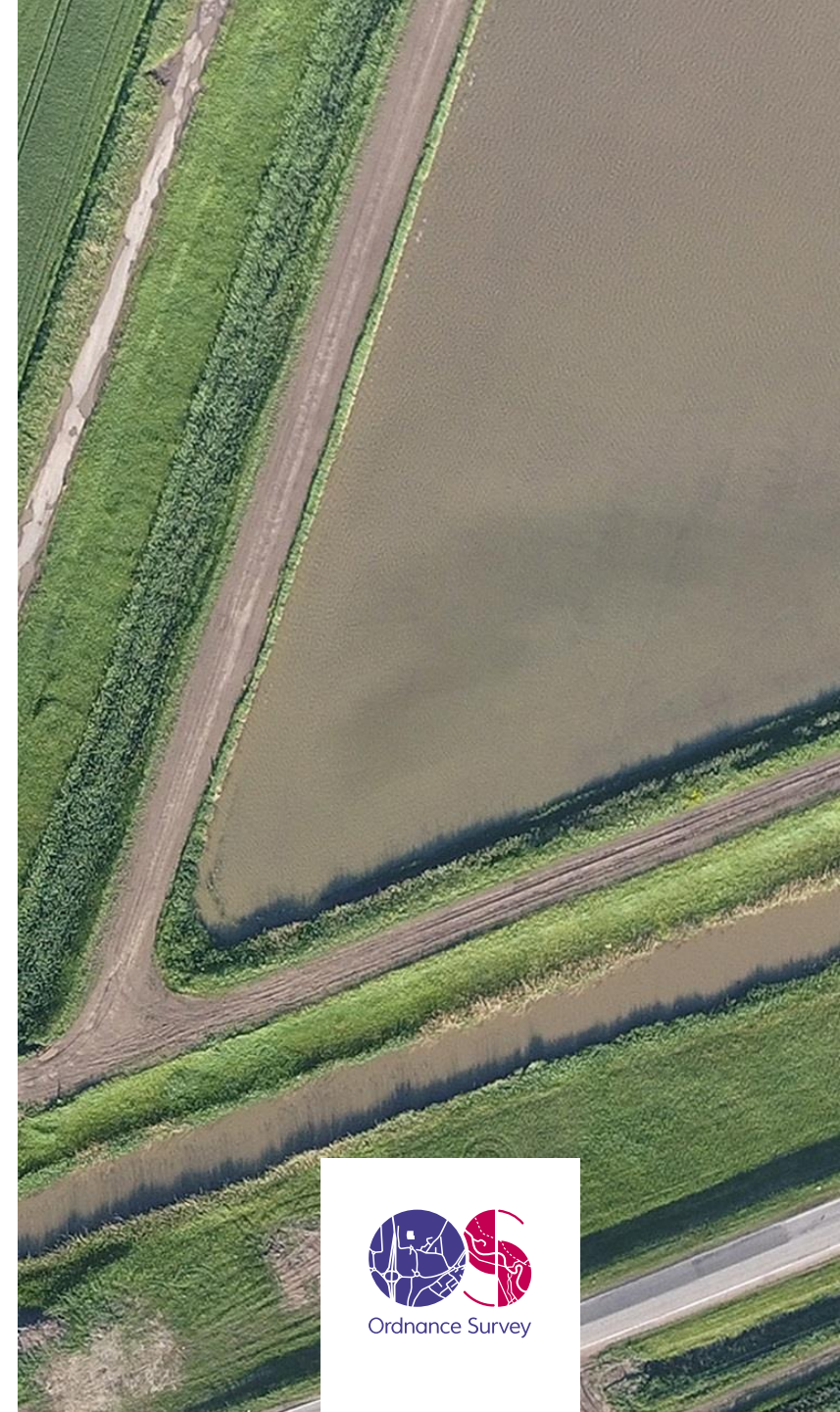
Ordnance Survey

Customer Communication

Customer Communication
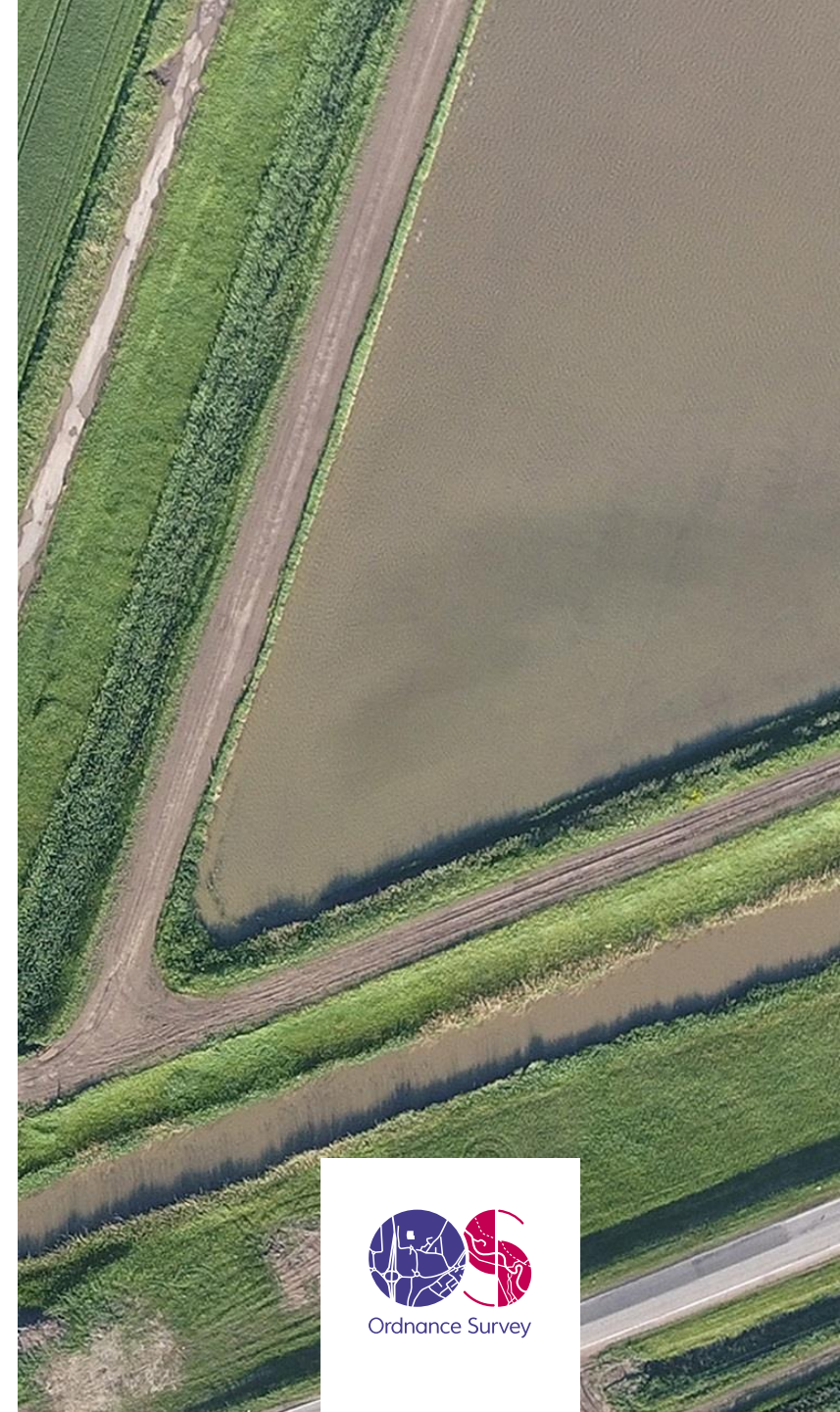
- Release notes

    Completeness

    Exceptions

Customer Communication

- Capture Specifications

- Acceptable Quality Limits (AQLs)

- Service Level Agreements (SLAs)
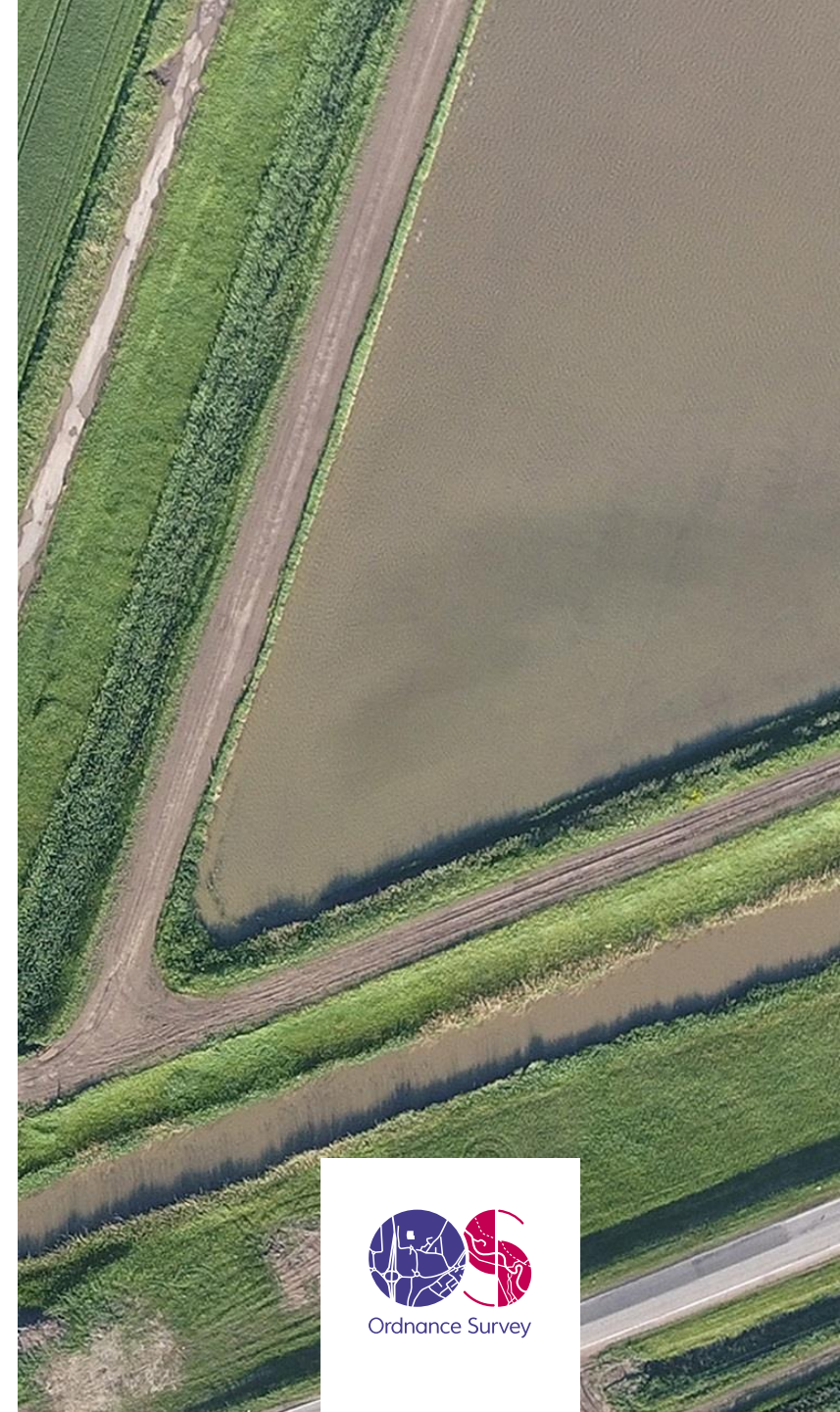
- Customer Insight

Ordnance Survey

Customer Communication

- Using industry standard measures

- Modelling them against our customers requirements

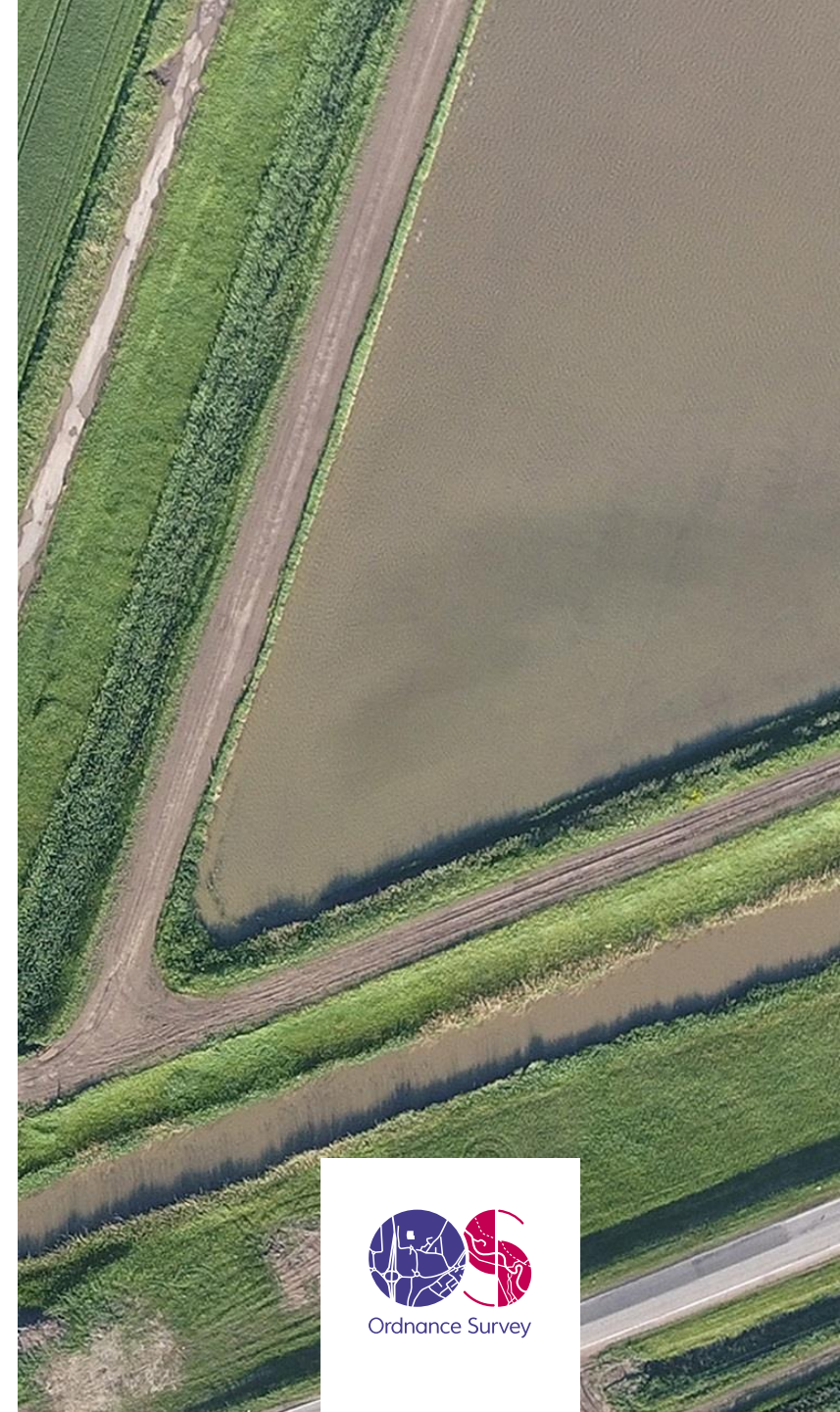- Applying them as part of our BAU and Continual Improvement processes

Ordnance Survey

Usability

- Measured against user requirements
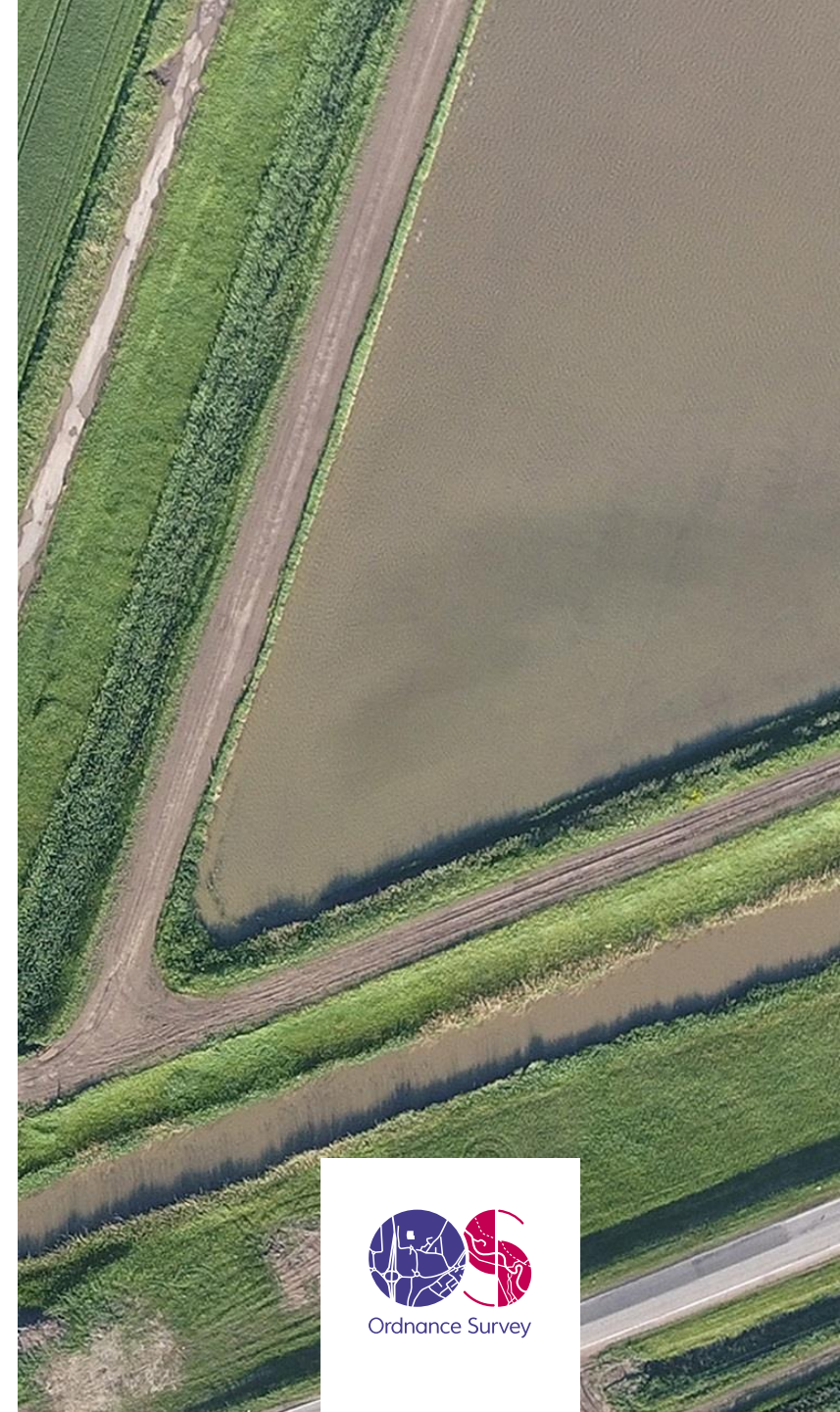
- Evaluated with the other Elements

Customer Communication

- Providing the material for the customer to make an informed decision on quality within the context of their specific use case
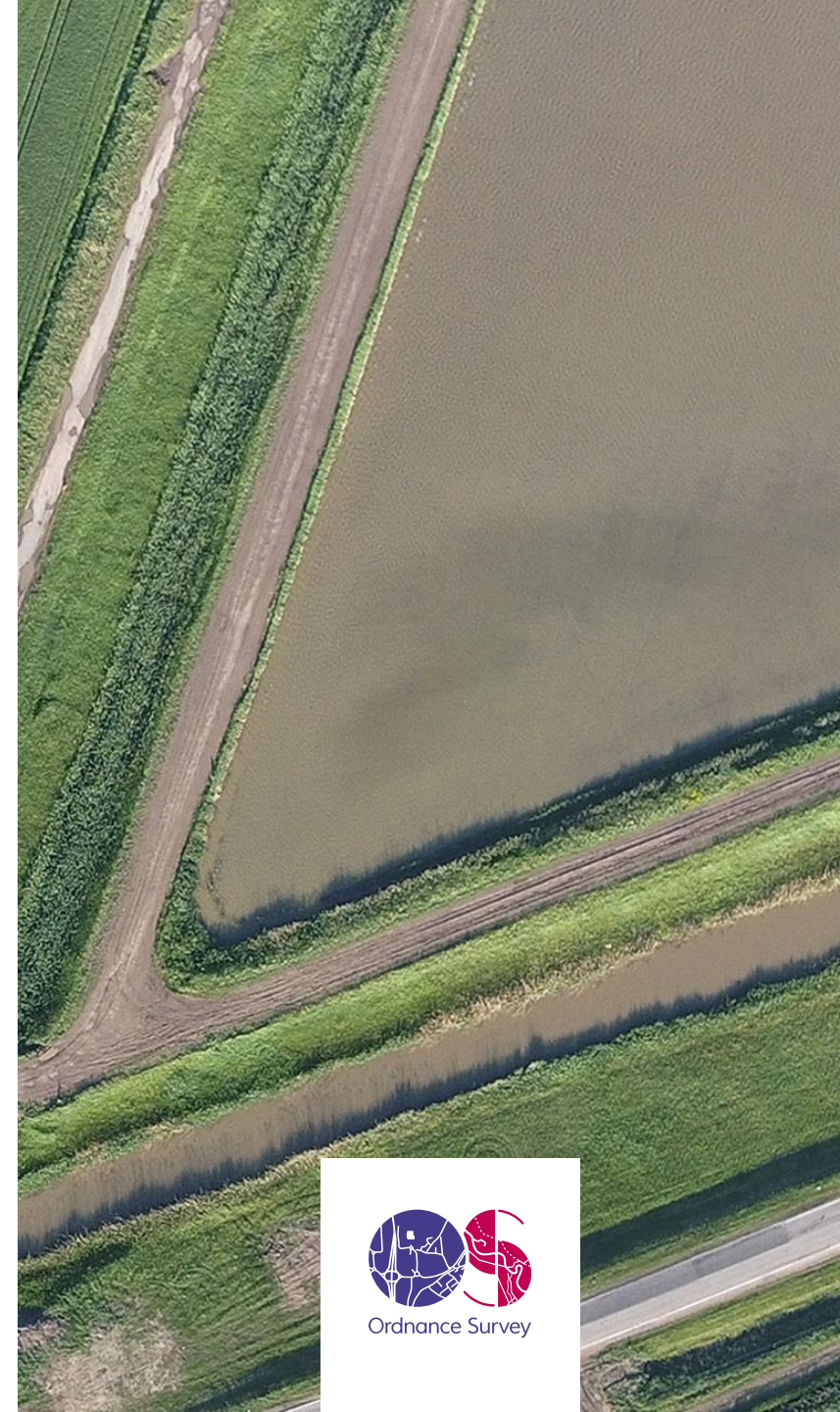
Ordnance Survey

Customer Communication

- Policy

- User Guide

- Technical Specification

- Technical Support

Ordnance Survey
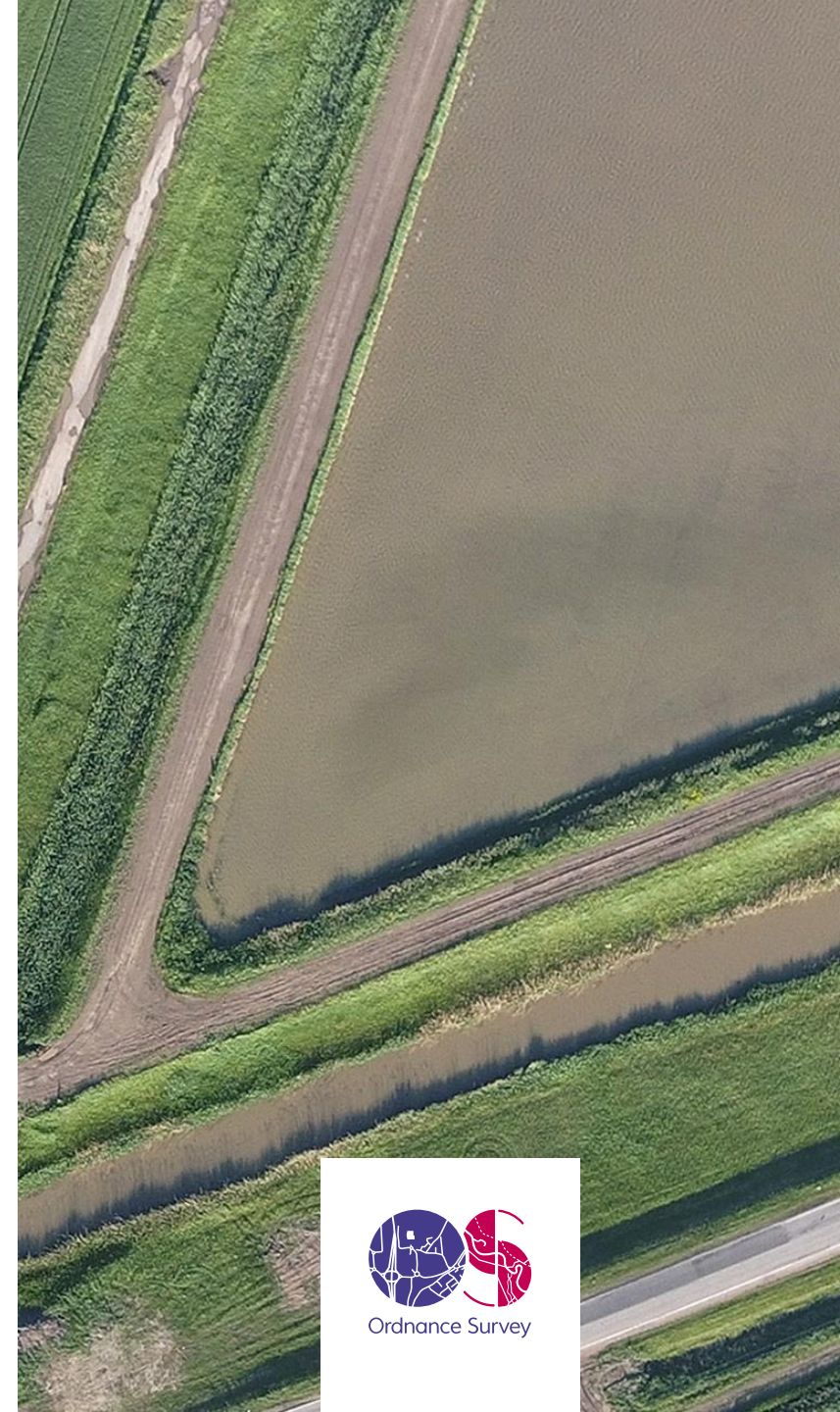
Questions?

Edward Mainwaring

Data Analyst

Ordnance Survey

edward.mainwaring@os.uk
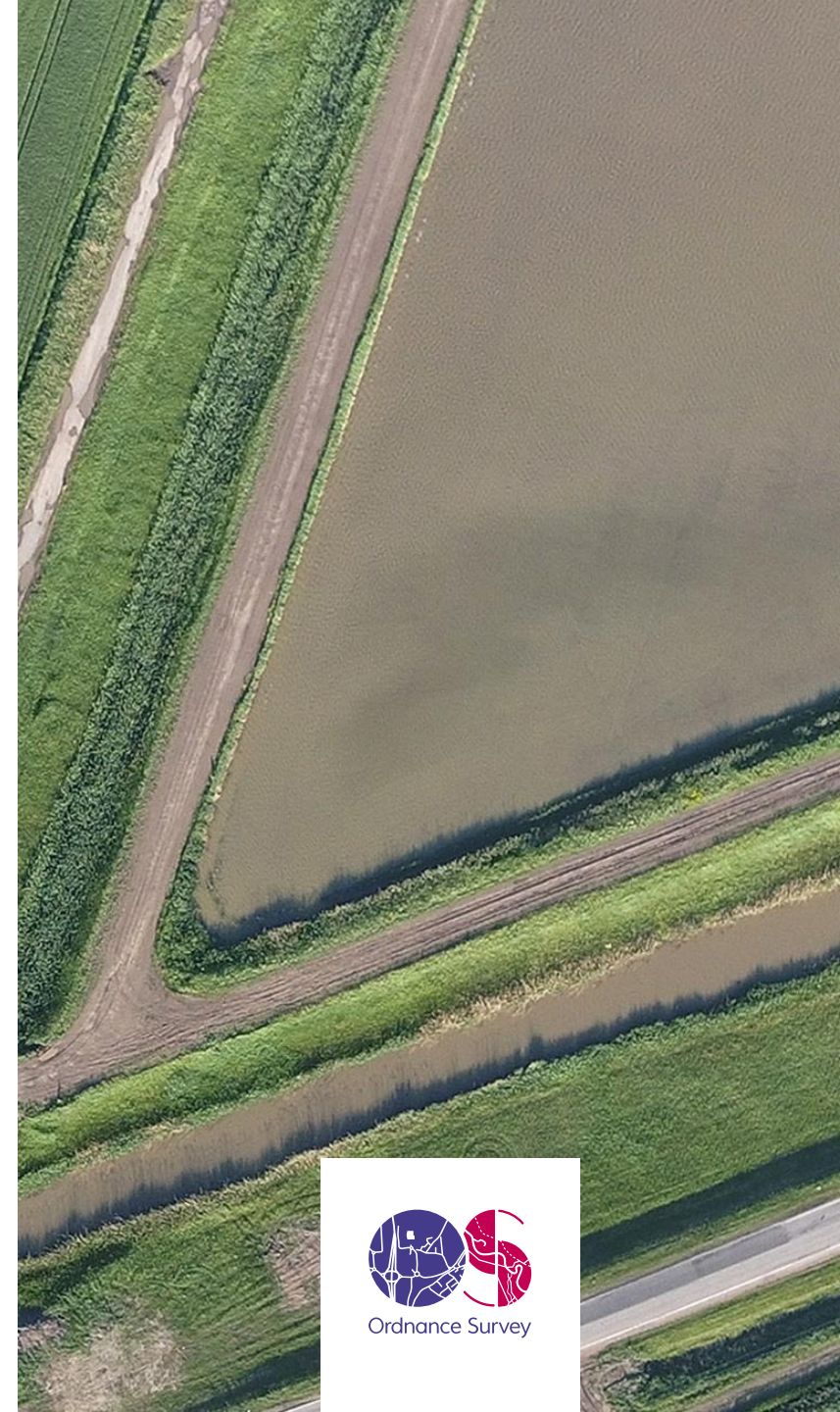
+44 (0) 2380 055142

www.os.uk

My Question

- Daguerreotype

My Question

- Daguerreotype:

- Image on a silvered copper plate

- Invented by Louis Jacques Mandé Daguerre

- 1st commercially successful photographic process

- (1839 - 1860)

References

- ISO/FDIS 19157:2013(E)

- Data Quality Measurement and Assessment

    Howard Veregin 1998

- Elements of Spatial Data Quality

    Elsevier Science Ltd 1995

- https://en.wikipedia.org/wiki/Louis_Daguerre

Ordnance Survey