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Climate Action & Environment



Geological Survey
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GSI's Open Topographic Data Viewer: Latest developments

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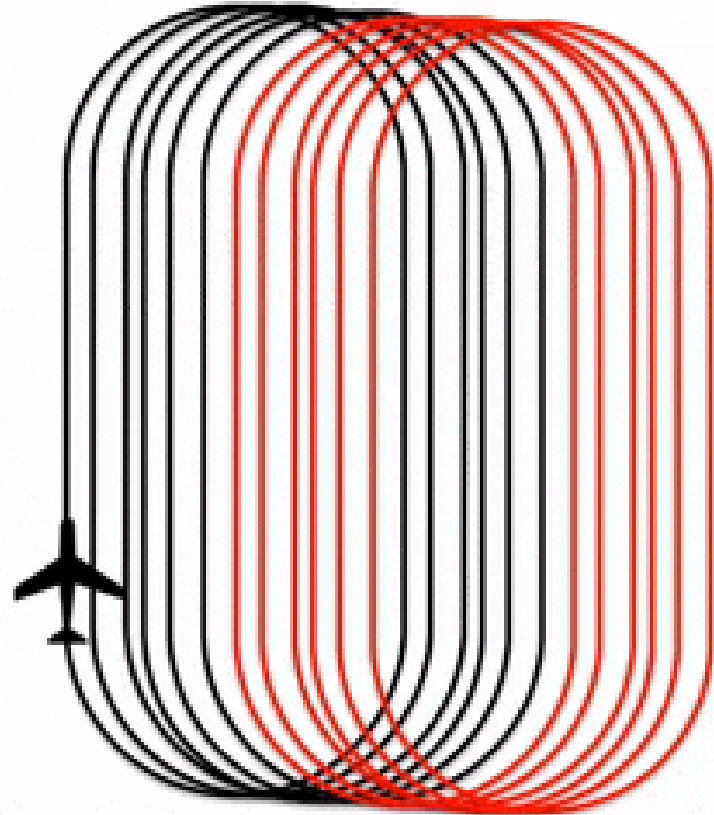
Groundwater Section



LiDAR and how it works

- LiDAR (Light detection and ranging)
- 1. Laser pulse emitted
- 2. Detector records the time it takes for the pulse to bounce back.
- 3. Pulses that bounce off trees and buildings return first, followed by signals from the ground.

Flight Lines



LiDAR so far: Some stats

GS1/DCHG/DP

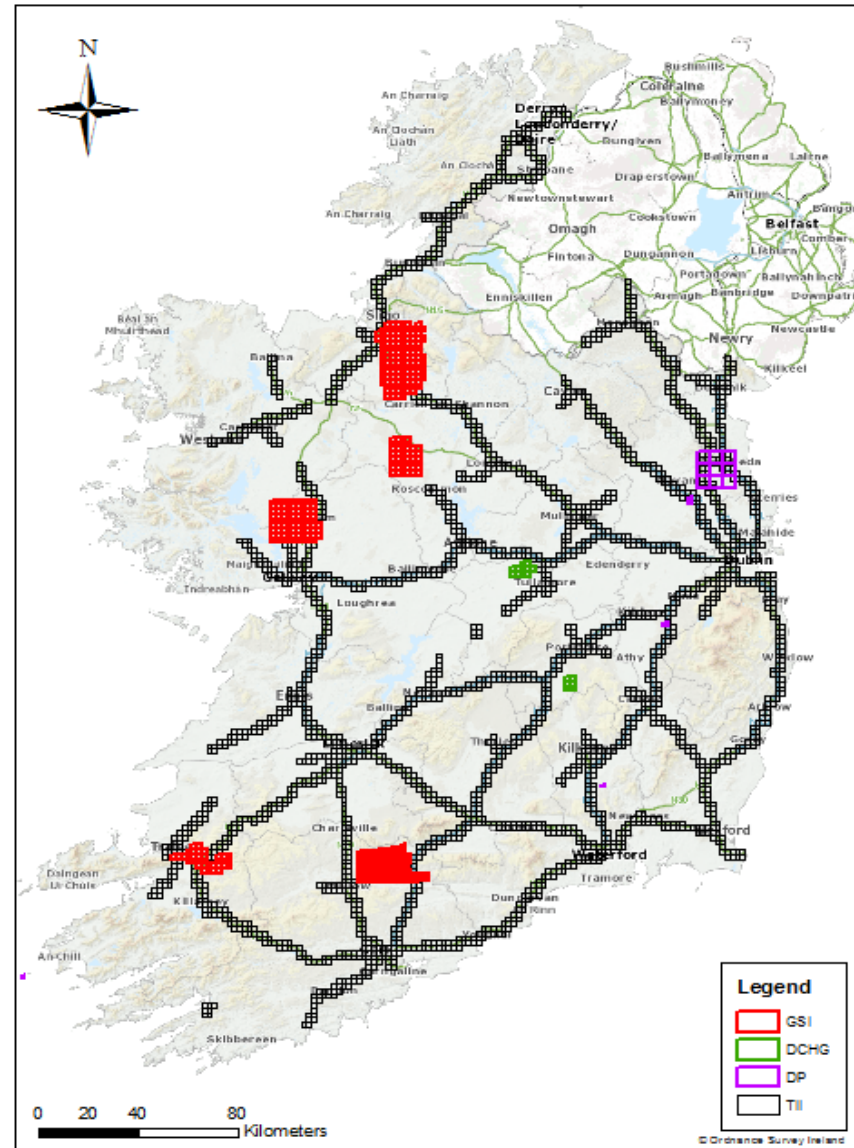
- Area: ~1100km²
- Average flight height: 900m
- Data type: Las files
- Each las file ½ GB in size
- Typical survey area:
 - ~ Over half a billion points

TII

- Area: ~3027km²

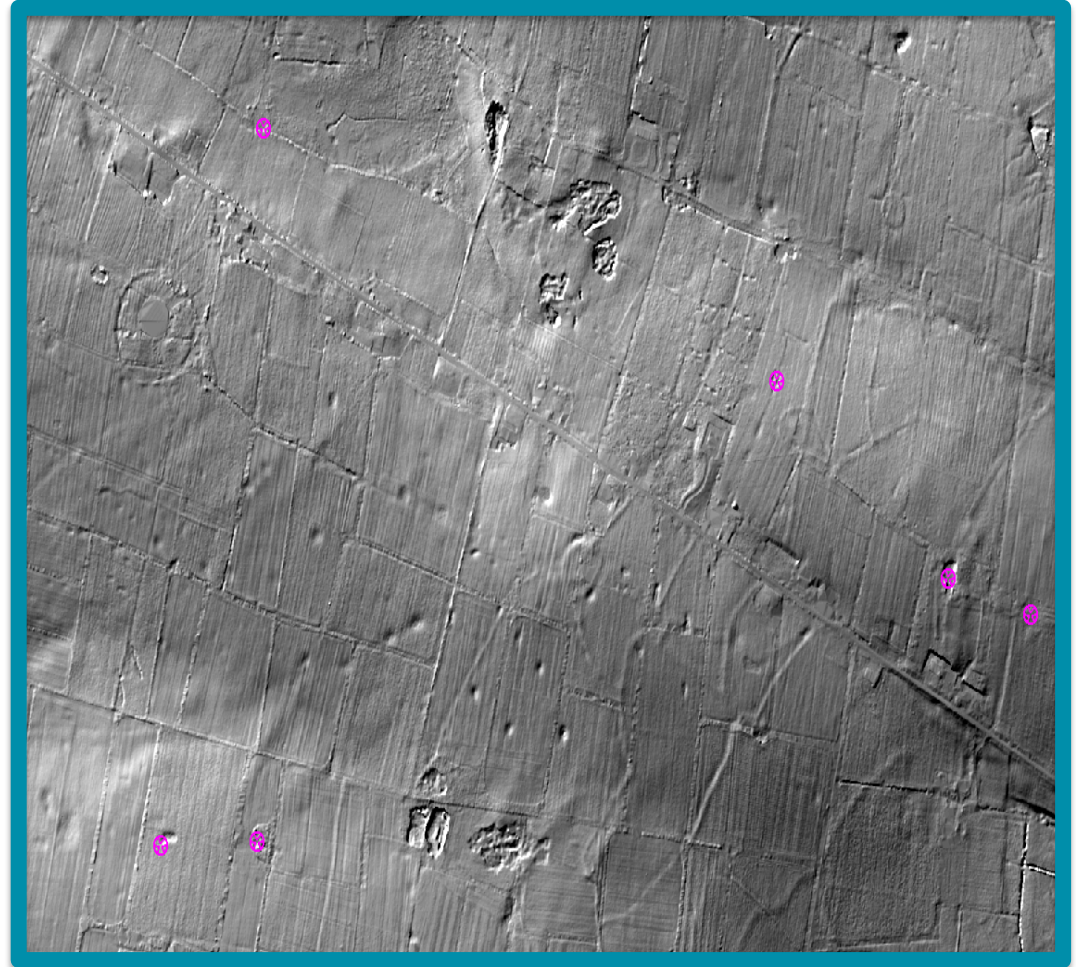
Total

- Area: ~4130km²



Applications

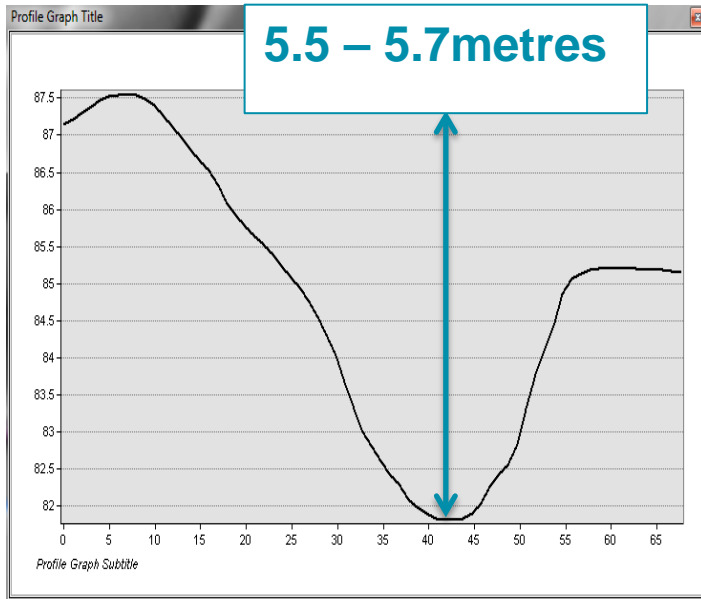
- Geology
 - Karst feature mapping
 - Bedrock mapping
- Flood modelling
- Archaeology
- Bog studies
- Feature extraction
- Road network mapping
- Powerline mapping
- Planning
- Engineering





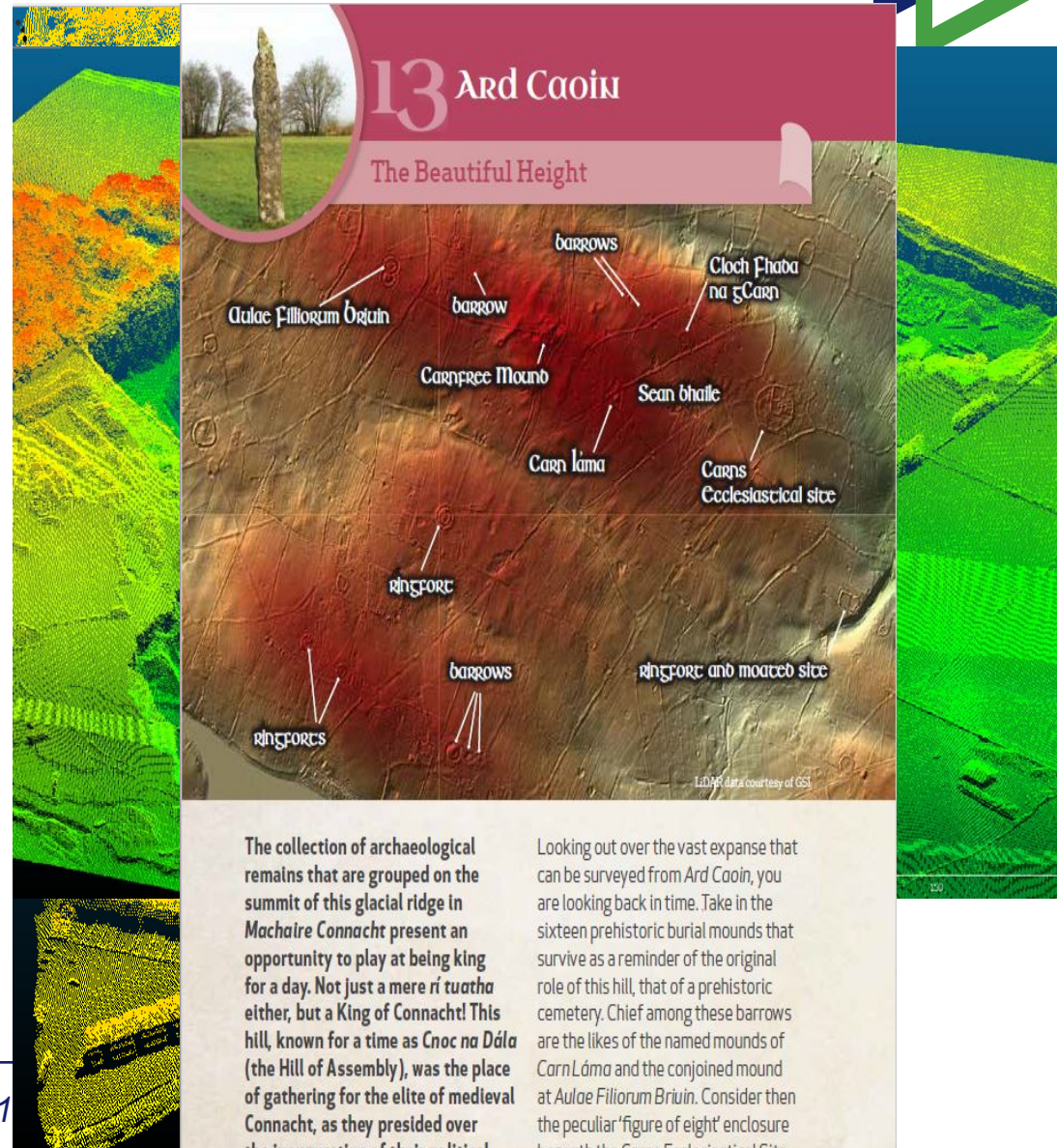
Roscommon Lidar 2016: Swallow holes

- Swallow holes
 - Dimensions for flood modelling



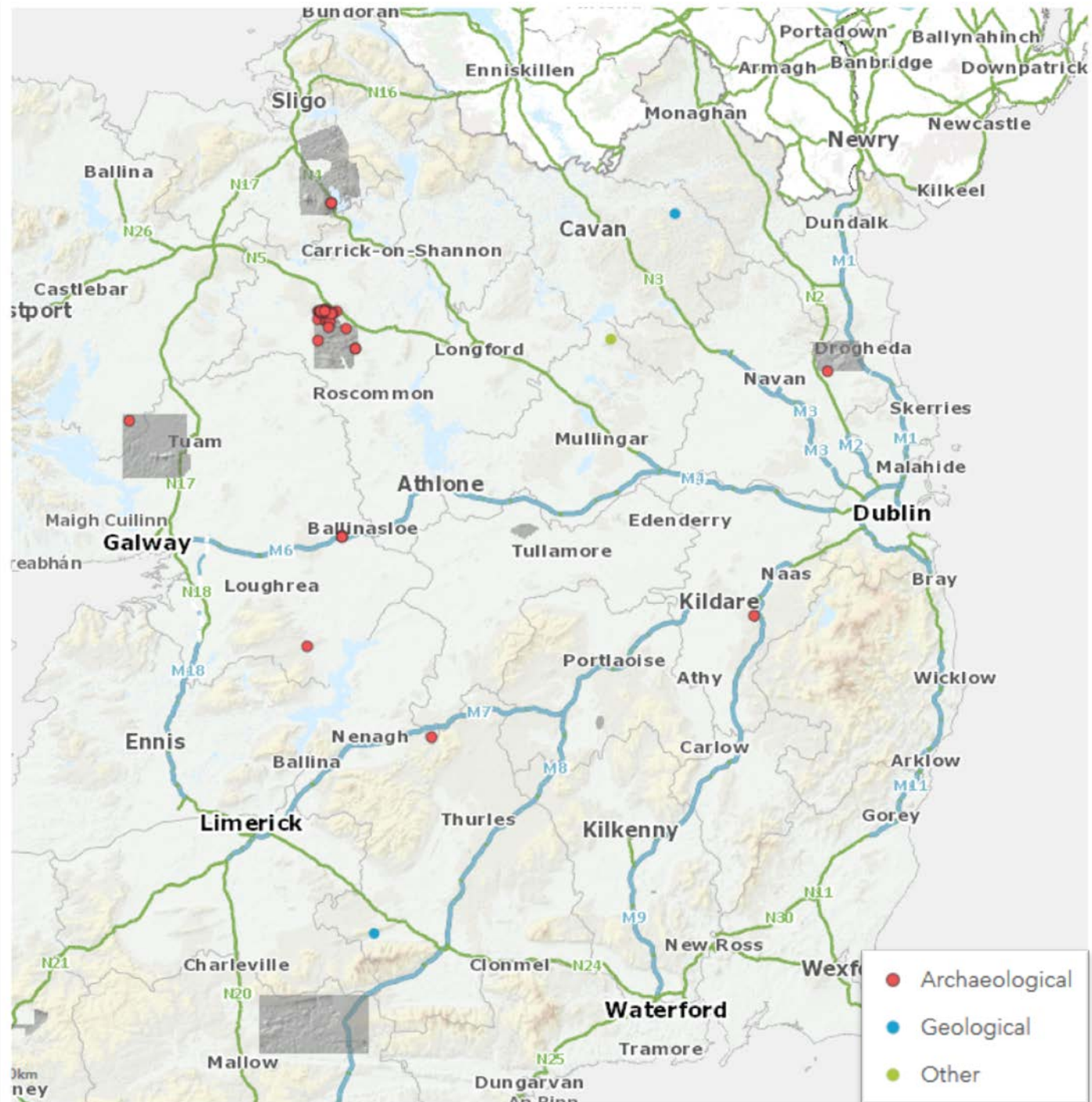
Its value: Return on investment

- Geology
 - Birdseye view of topography
- Planning
 - Forestry, flooding, transport
 - noise mapping
- Engineering
 - High level of detail
- Environment
 - Better understanding of where
- Archaeology
 - Detailed analysis



Open Top

- What's available
 - To Download
 - DTM
 - DSM
 - To View
 - Index grid
 - Hillshade
- Project partner
- Record feature
- Next release



Live Demos

- Download the data
 - Navigate to folder
 - *Unzip the data*
- Add data to QGIS
 - Create hillshade of the data
 - *Adjust transparency*
- 3-d modelling



Open data benefits and where to next



Benefits

- No data duplication
- Fill data gaps
- One national LiDAR archive
- Data creativity

Where to next

- Add data from other organisations
- Develop new tools for the online GIS

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Thank you for listening!