

Earth Observation Fact Sheet

LANDSAT 5

Background

This factsheet is part of a series produced by the Yorkshire Peat Partnership (YPP) to share the knowledge developed in the application of open source earth observation technologies for the remote monitoring of peatland habitats.

Satellite technology

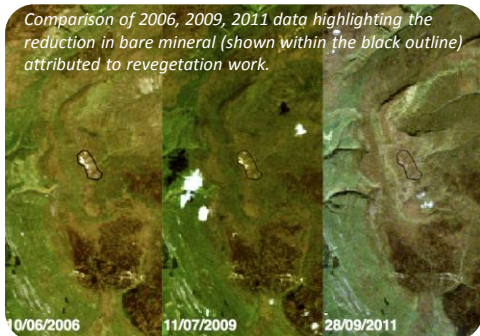
Earth observation satellites provide us with the capability to analyse current and retrospective data at a landscape scale.

Landsat 5

A member of NASA's Landsat programme, Landsat 5 holds the Guinness World Record for "longest operational Earth Observation satellite" at 28 years and 10 months.

Thanks to its longevity, Landsat 5 allows YPP to investigate habitat change across Yorkshire's peatlands from as early as 1984. Image classifications (to quantify bare peat and burn scar extents), vegetation indices (to understand plant health), and proxy soil moisture indices (enabled by the thermal band) can all be derived from Landsat 5's data to provide insights into the changes of Yorkshire's peatland habitats over the last few decades.

Comparison of 2006, 2009, 2011 data highlighting the reduction in bare mineral (shown within the black outline) attributed to revegetation work.



SPECIFICATION

LAUNCH DATE:	1 st March 1984 (decommissioned 5 th June 2013)
BANDS (Resolution):	1 – Blue (30m) 2 – Green (30m) 3 – Red (30m) 4 – Near Infrared (30m) 5 – Shortwave Infrared 1 (30m) 6 – Thermal (120m) 7 – Shortwave Infrared 2 (30m)
SWATH WIDTH:	185 km
REVISIT TIME:	16 days



An artist's illustration of the Landsat 5 satellite in Earth orbit.
Credit: USGS

Data Sources

Landsat 5 data can be downloaded for free from the following sources:

- EarthExplorer USGS (<https://earthexplorer.usgs.gov>)
- GloVIS USGS (<https://glovis.usgs.gov>)
- LandViewer (<https://lv.eosda.com>)
- Google Earth Engine (<https://earthengine.google.com>)