Yorkshire Wildlife Trust

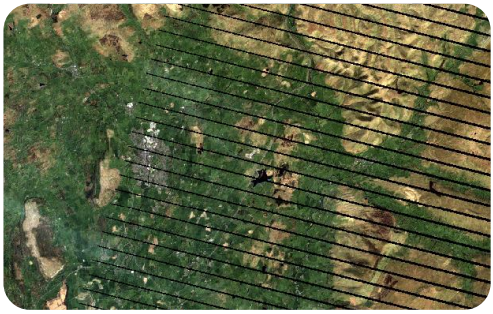
Earth Observation Fact Sheet

LANDSAT 7

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 7
Landsat 7 provides the same capabilities as its predecessor (Landsat 5) with an improved Thematic sensor including a panchromatic band (allowing images to be pan-sharpened to 15m resolution). Unfortunately due to a Scan Line Corrector malfunction in 2003, 25% of data is lost for each scene acquired. As a result, Landsat 7 is not a usable data source for YPP. The extension of Landsat 5 life span through to 2013 compensates for the lack of quality data from Landsat 7 until the inception of Landsat 8.



RGB image from Landsat 7. Note the extent of missing data caused by the Scan Line Corrector malfunction. Unless an area of interest is situated at the central column, Landsat 7 data is not usable.

SPECIFICATION

LAUNCH DATE:	15th April 1999
BANDS (Resolution):	1 – Blue (30m) 2 – Green (30m) 3 – Red (30m) 4 – Near Infrared (30m) 5 – Shortwave Infrared 1 (30m) 6 – Thermal (60m) 7 – Shortwave Infrared 2 (30m) 8 – Panchromatic (15m)
SWATH WIDTH:	185 km
REVISIT TIME:	16 days

Artist's rendering of NASA's Landsat 7 satellite
Credit: Wikimedia Commons

Data Sources
Landsat 7 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)