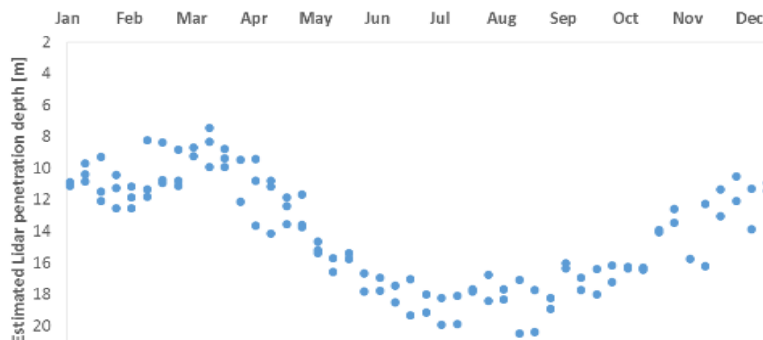


## TURBIDITY MAPPING

**Turbidity mapping** determines the depth to which light can penetrate water. Turbidity is determined by the organic and



inorganic particulates dissolved & suspended, the more turbid the water the shallower the depth light can penetrate.

Above: Plot of predicted Lidar penetration depth off the coast of Corsica from a time-series of remotely sensed data; lower penetration depths are occurring due to increased turbidity.

### Applications

- Monitoring variables such as water quality and the light available aquatic ecosystems.
- Useful for determining the best time to undertake seafloor and bathymetric mapping.
- Measuring water depth in shallow waters.

### Benefits

- Financial saving by ensuring that surveying work is undertaken at the most optimal time.
- Understanding the future impact of seasonal patterns and episodic events on data collection.
- Monitoring data available in near-real time.

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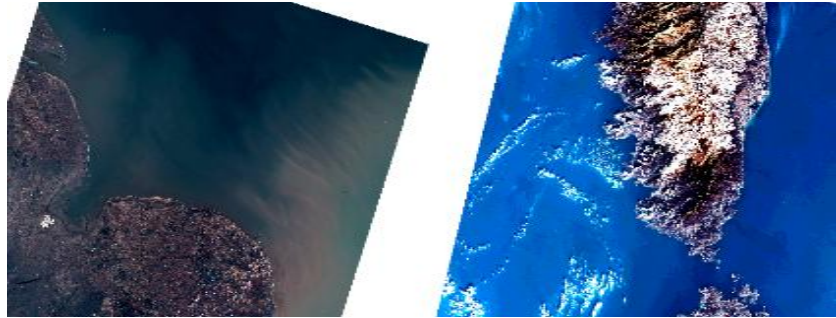
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Pseudo-true colour composites provide a qualitative approach to visualising turbidity and its causes – often being red / brown due to inorganic sediment and greenish versus blue due to phytoplankton.

Right: East Anglia coast compared to Corsica using atmospherically corrected pseudo-true colour composites



Algorithms can be used to provide quantitative measurements such as the Secchi depth, lidar penetration depth (on the graph overleaf), turbidity or suspended particulate matter concentration. The performance will vary from site to site, and can be tuned when local in-water measurements are available. Where the water depth is shallower than the depth of light penetration, bathymetry and seafloor mapping can be undertaken.

If you're interested in exploring how you could use **Turbidity Mapping** imagery and data to benefit your organisation, contact us by email at [enquiries@pixalytics.com](mailto:enquiries@pixalytics.com) or by telephone on + 44 (0)1752 764407.

*Pixalytics can also provide a variety of Earth observation services including data collection and processing products, scientific research, training and in-house scientific consultancy on tenders or projects.*