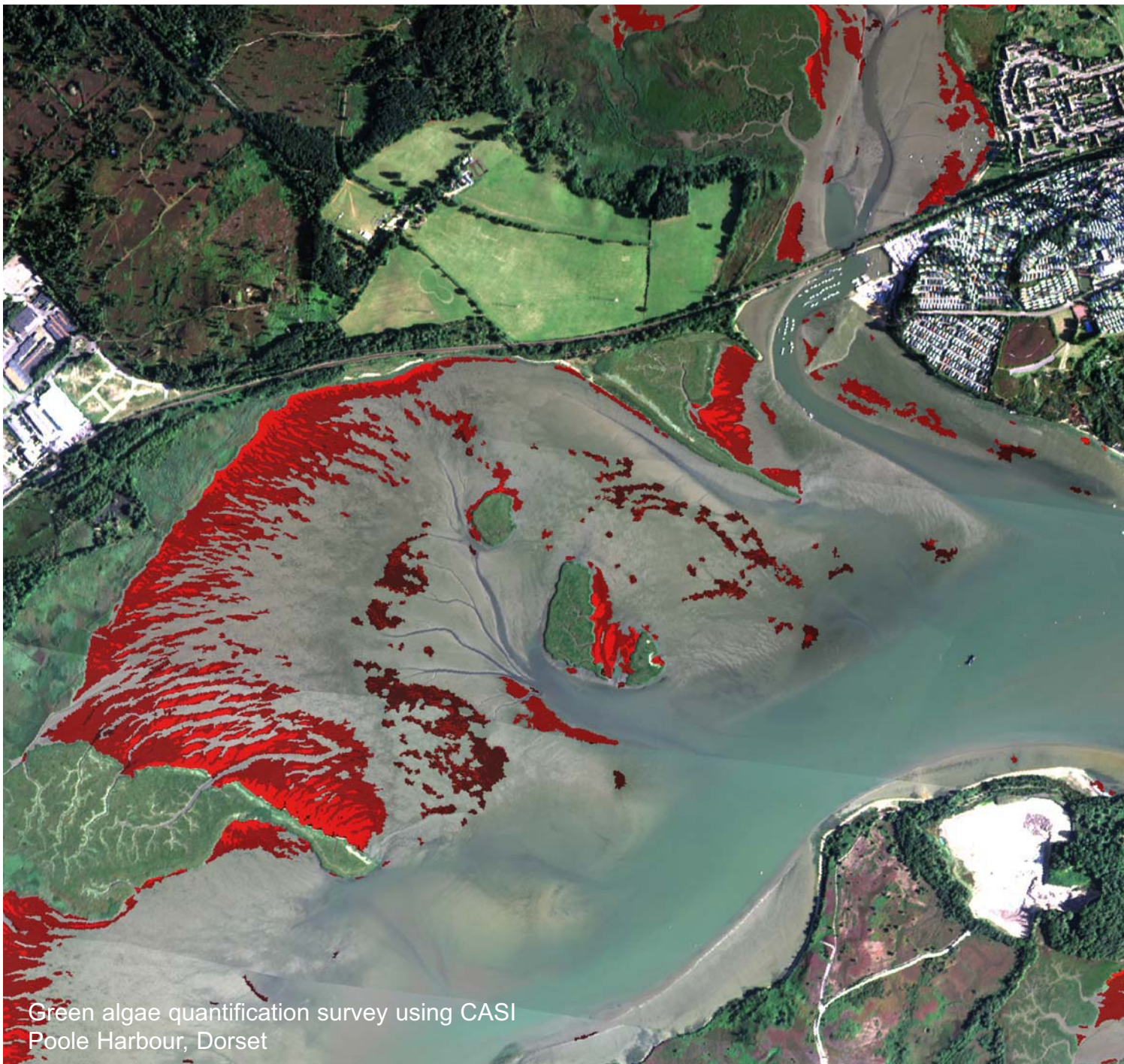


Hyperspectral Imaging (CASI)

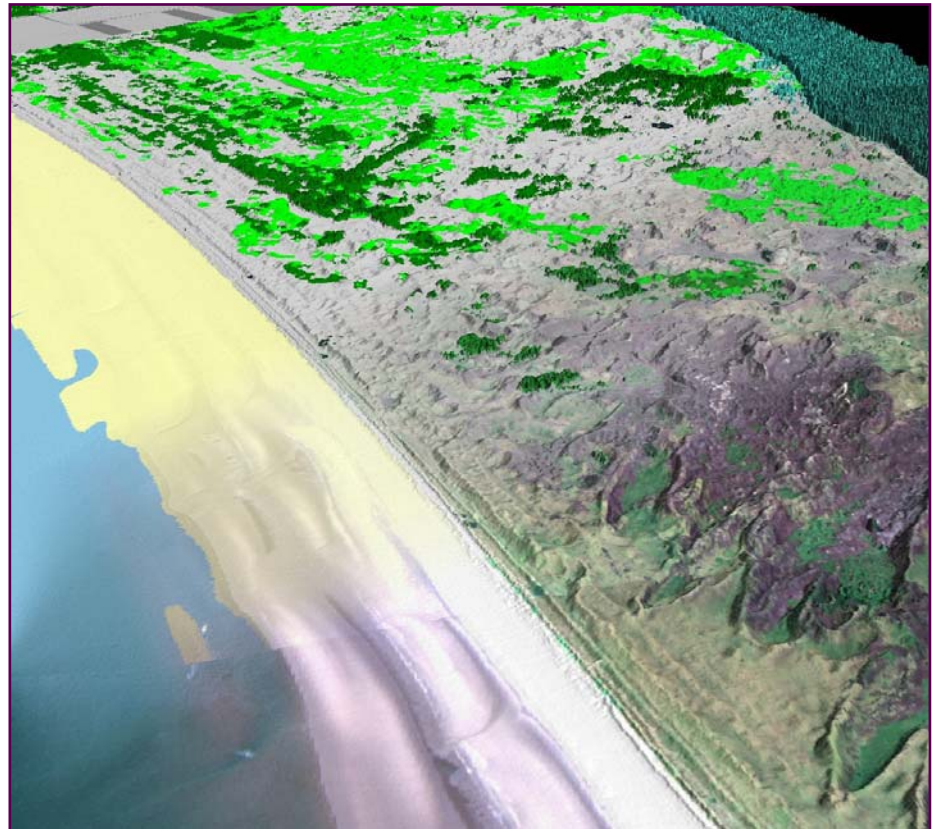
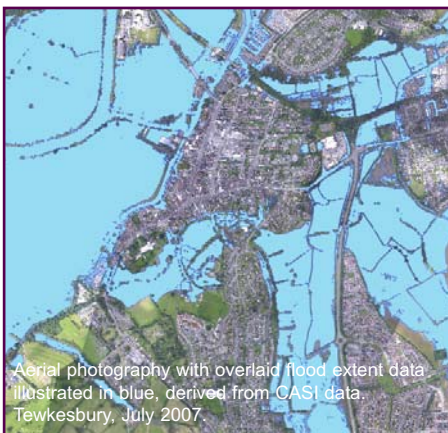


Geomatics Group have been pioneering the use of CASI data in the UK since 1992, when the then National Rivers Authority (NRA) utilised this survey technique for monitoring water quality in the coastal zone around England and Wales. Since then we have developed a diverse range of novel mapping techniques from toxic algal bloom mapping to emergency flood event monitoring.

CASI (Compact Airborne Spectrographic Imager) is a flexible mapping and monitoring tool, capable of multi-spectral and hyper-spectral imaging. This powerful, optical imager from ITRES, measures reflected light from the visible and near infra-red portion of the spectrum, which is split into multiple and discrete image bands.

Operating CASI on the same aerial platform as the LIDAR system allows for the data to be automatically and accurately orthorectified. As well as LIDAR, the aircraft are also fitted with high resolution digital cameras, providing the capability to gather a wide range of geospatial datasets. These data can then be integrated to produce a comprehensive environmental survey, greatly enhancing the planning and decision-making process.

Geomatics Group has significant skill and expertise in this field and continue to



Classified CASI data showing invasive species on a sand dune system
Torrs Warren, Scotland

carry out regular work on behalf of the Environment Agency for saltmarsh and biomass monitoring, as well as work for other government agencies, NGOs and commercial organisations.

Features and benefits

- High spatial resolutions (up to 50cm)
- Spectral range between 400 and 1000nm (visible to near-infrared)
- Fully programmable, up to 288 channels
- Long dwell times and high signal-to-noise ratio
- Full geo-correction and orthorectifying capabilities
- Linked with LIDAR navigation system,

allowing highly precise geo-referencing of the imagery

- Data available in a range of formats
- Can be integrated with LIDAR data to produce 3D visualisations
- Spectral programmability to suit wide range of applications

Applications

- Mapping coastal habitats (including change)
- Land cover classification
- Flood event monitoring
- Biomass studies
- Soil & geological applications
- Archaeology
- Forest management
- Agricultural crop management

Geomatics Group is a leading provider of high quality survey solutions. As a specialist business unit within the Environment Agency, we deliver integrated spatial data products to government and commercial clients. Combining cutting edge technology with expert personnel, we work to the highest scientific and ethical standards to provide accurate and high quality spatial data.