

EA - NCEDS

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Box 2

The National Centre for  
Environmental Data  
and Surveillance

Laser Induced  
Direction And  
Range: LIDAR



ENVIRONMENT  
AGENCY

# Laser Induced Direction And Range: LIDAR

The Environment Agency spends £13.3m annually on research and development. A significant proportion of this is allocated to the environmental monitoring techniques topic. This research is managed by the National Centre for Environmental Data and Surveillance.

The National Centre is currently undertaking a feasibility study into the use of a Laser Induced Direction and Range system, called LIDAR, for digital elevation measurements.

LIDAR is an airborne terrain mapping system, which uses a laser to measure the distance between the aircraft and the ground. This technique results in the production of a terrain map with a height accuracy of 10 to 15 cm. Typical horizontal resolution is 1 to 4 metres on the land surface.

The Agency's Flood Defence function have a requirement under the Water Resource Act 1991 to monitor the flood plain.

LIDAR is being evaluated for its ability to measure land topography, which is of use in flood defence and also in evaluating coastal erosion and geomorphology.

The Conservation function also have a requirement for information on land being set aside for managed retreat of sea defences. There is also a need to obtain data for a model linking land use, soil type and elevation with soil erosion and the associated river water quality problems.

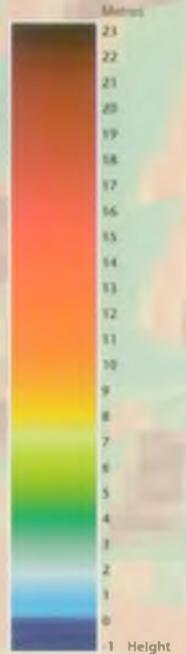
If the evaluation process proves successful, operational techniques will be developed which, when implemented, will form part of a comprehensive flood management system and coastal defence monitoring.



LIDAR system: Operational links



Detailed height measurements in the Humber Estuary from LIDAR



KEY



Enlargement of the above image showing foreshore detail with contours overlaying

One in a series of booklets describing techniques used by the Environment Agency's National Centre for Environmental Data and Surveillance.

For further information please contact Nick Holden or Bob Davison at the National Centre address shown overleaf.

## MANAGEMENT AND CONTACTS:

The Environment Agency delivers a service to its customers, with the emphasis on authority and accountability at the most local level possible. It aims to be cost-effective and efficient and to offer the best service and value for money.

Head Office is responsible for overall policy and relationships with national bodies including Government.

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For general enquiries please call your local Environment Agency office. If you are unsure who to contact, or which is your local office, please call our general enquiry line.

## ENVIRONMENT AGENCY GENERAL ENQUIRY LINE

# 0645 333 111

The 24-hour emergency hotline number for reporting all environmental incidents relating to air, land and water.

## ENVIRONMENT AGENCY EMERGENCY HOTLINE

# 0800 80 70 60

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