

A flood is a natural event that can have far reaching effects on the people and the environment. One of the roles of the Environment Agency is to reduce the risk of flooding.

Many parts of England and Wales are at risk from flooding by the sea, including Central London. This is partly because the area lies below high tide level, though there are several other reasons why coastal flooding may occur:

LOW PRESSURE SYSTEMS

All **depressions** (areas of low air pressure) cause the sea level to rise as they put less pressure on the surface of

the sea. For example, every 30 millibars (mb) below the average atmospheric pressure of 1013 mb will result in a rise in sea level of 30 centimetres. This rise in sea level due to atmospheric

pressure is called a **surge**. This can be a particular threat where the shape of the coastline causes these surges to be more severe, for example in the Thames Estuary because, as the water is funnelled into ever narrower areas, the height of the water is forced to increase.

Storms

Storms often occur around these depressions with high winds generating large, powerful waves that increase the risk of flooding as water is pushed into the estuary.

Spring Tides

Spring tides are the higher than average tides that occur fortnightly coinciding with the new and full moons.

The worse cases of flooding may occur if there is a combination of many factors such as, for example, storm force winds and waves around a severe depression centred in the North Sea during spring tides. If this were to happen, it could have severe consequences for London.

Flooding can be very dangerous, particularly when the flooding is from the sea as the saltwater can cause great damage to property and its contents and can

severely disrupt transport and communication links. There will also be disruption to commercial business, such as shops, as stock is damaged and customers stay away. Because London has so many large and important businesses and offices, the effect would be increased. In addition, the underground railway network would be devastated.

THE WORK OF THE ENVIRONMENT AGENCY

The Thames Region of the Environment Agency provides effective defence against flooding for 12 million people and their property and is responsible for maintaining

130km of tidal estuary and sea defences. Each year, approximately £20 million is spent on flood defences in the Region. The responsibility for these defences lies with the

Flood Defence Department of the Agency. Their function can be broken down into the following areas: **Prevention** - advice on controlling developments that may increase the danger of flooding or be in areas prone to flooding.

Defence - building flood protection structures.

Operation - the maintenance and operation of sea defences.

Warning - forecasting and issuing flood warnings.

PREVENTION

The Agency aims to protect new developments from flooding and to reduce the risk of flooding to existing property. In order to avoid flooding problems the Environment Agency is consulted by local planning authorities before permission is given for any development. Each year the Agency is consulted on thousands of planning applications, many of which are related to coastal defence works. The Agency would generally resist any development that would increase



the risk of flooding, such as building along the foreshore.

DEFENCE

It is the responsibility of the Environment Agency to protect areas of land below the highest predicted sea level (caused by spring tides and storms). In other words, the Agency not only aims to reduce the risk of flooding by normal high tides but also by excessively high levels of water that may occur only rarely. The Agency concentrates spending on flood defence works to protect urban and industrial areas from flooding.

The Thames Tidal Defences, including the Thames Barrier, saves London from flooding. More information on this can be obtained from the Thames Barrier Visitors Centre. (Telephone: 0181 305 4188)

OPERATIONS

As well as constructing new sea defences, the Environment Agency is also charged with the responsibility of maintaining existing defences. In Thames Region, this largely relates to closing tidal defences such as the Thames Barrier to stop seawater flooding further inland.

Before doing any new work, the flood defence section consults with the conservation section and other interested organisations to produce an agreed plan. This aims to prevent flooding and protect and improve the natural environment.

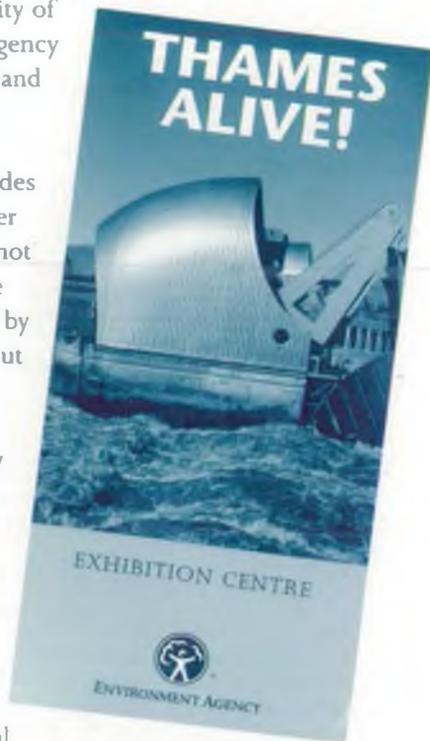
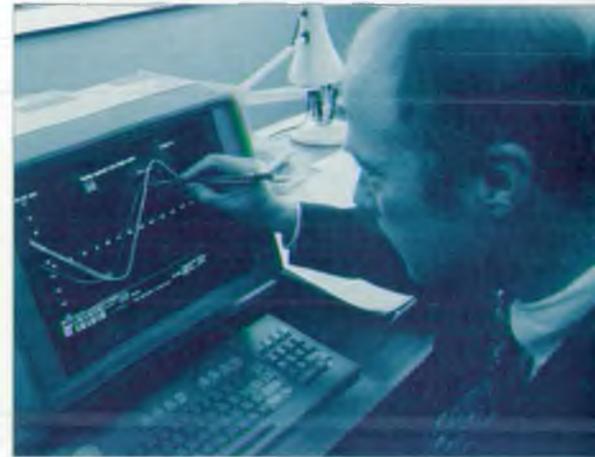
WARNING

The Environment Agency also operates a flood warning system. Flood defence staff constantly monitor weather conditions and tidal levels to determine where floods may occur, the severity of the flood and the extent of areas that may be affected. Information collated includes data from the Meteorological Office weather radar stations, the Storm Tide Warning Service and the

Environment Agency river level and tidal level gauges. When Agency staff decide that flooding is possible, flood warnings are issued to the general public in areas likely to be affected.

These warnings are passed to the police, the emergency services and the local authorities. Some places have flood wardens who pass warnings to isolated households at risk. The Environment Agency may telephone some people who live in areas at risk from flooding, to inform them that flooding possible. Local radio stations also broadcast warnings to their listeners. The three phases of the warning system are:

- **Yellow Warning** - minor flooding of agricultural land and roads in rural areas. No property flooding is expected and no public warning is issued.
- **Amber Warning** - flooding of agricultural land, parkland and gardens. Some individual properties may be at risk so consequently vulnerable properties are alerted.
- **Red Warning** - flooding forecast of residential and commercial properties. An indication of the severity will be provided in the public warning issued. The Environment Agency has a target for those at risk of flooding to be warned, where possible, two hours before flooding occurs. There are several leaflets produced by the Agency which give advice on what action to take in the event of a flood.



THE ENVIRONMENT AGENCY

The Environment Agency was formed by a merger of the National Rivers Authority with Her Majesty's Inspectorate of Pollution and the Waste Regulation Authorities. This new organisation began operating on 1 April 1996, and has responsibilities for the environmental protection of water, land and air.

ENVIRONMENT AGENCY



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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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