

reducing the risk of flooding

The Flood Warning Service for
England and Wales

We are the Environment Agency. It's our job to look after your environment and make it a **better place** – for you, and for future generations.

Your environment is the air you breathe, the water you drink and the ground you walk on. Working with business, Government and society as a whole, we are making your environment cleaner and healthier.

The Environment Agency. Out there, making your environment a better place.

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Foreword

The Environment Agency is the principal flood risk management operating authority in England and Wales, with powers to provide measures to reduce the risk of flooding on rivers and tidal waters. We have the lead role for providing flood warnings, where practical and possible, to **protect people and property** at risk.

Issues, such as climate change, floodplain development and advances in technology are constantly challenging us to review and adapt our flood warning service and find long term solutions to these problems.

This leaflet describes our current flood warning service.

What is managing flood risk all about?

Flood risk management aims to reduce the impacts of flooding. We do this by:

- **Strategic** and development planning;
- **Investment** in planning and managing flood defences;
- **Mapping** areas at risk of flooding and managing flooding information;
- **Managing** floods and providing the flood warning service.

Managing flood risk

What is a flood incident?

Flood incidents vary in scale and impact from low impact flooding of unpopulated floodplain to severe flooding of many towns and cities. It is difficult to classify flooding as each event and location is different.

A major flood involves flooding of a significant number of properties, or significant disruption to key parts of the infrastructure of England and Wales. It also requires the implementation of special arrangements by the emergency services and local authorities for one or more of the following:

- **Mobilisation** of the emergency services and supporting organisations to reduce the threat of death, serious injury or homelessness for a large number of people;
- **Handling** large numbers of enquiries from the public and the media;
- **Organising** the rescue, transport and care of a large number of casualties and evacuees.

Managing a flood incident

Managing a flood incident involves the following:

- **Planning** for floods;
- **Communicating** the risk of flooding;
- **Detecting** flooding;
- **Forecasting** flooding;
- **Issuing** flood warnings;
- **Providing** information on flooding;
- **Responding** to flooding.

We provide the flood warning service by doing all of these activities. However, the public only tend to receive our flood warnings and supporting information through our communications (see 'communicating flood risk' on page 6 for further details on how we communicate with the public).

Our flood warning service

Our flood warning service aims to reduce risk to life, distress to people and damage to property caused by flooding by providing accurate, reliable and timely flood warnings. To provide this service in an area it must be technically feasible and we must be able to justify the costs against the benefits.

We provide our flood warning service to residents within the floodplains of rivers, estuaries and coasts in England and Wales. Where the water levels in rivers and streams rise rapidly due to heavy rain or melting snow, we may not have enough time to issue specific warnings. In these cases, we will issue a general warning to a large geographical area. We also provide a warning service in limited locations where we can predict that rising groundwater will cause flooding.

We do not and cannot provide a Flood Warning Service for flooding from sewers, road drainage, or overland flow from heavy rain. This type of flooding is very difficult to prepare for as we cannot map these kinds of events to predict the risks and plan for them.

We predict the impacts of flooding by issuing warnings of varying severity.

These warning types are not issued as a sequence of messages. They are used, as appropriate, to indicate the impact of flooding in a given area.



Flood Watch

This means “Flooding of low lying land and roads is expected”. We issue Flood Watches for large areas of floodplain that have similar flooding characteristics. They are not specific to individual areas and can cover several communities and locations of flooding.

There is always a potential that parts of the floodplain may suffer from more serious flooding than initially indicated in the Flood Watch. Where feasible we will issue a Flood Warning for these locations, but it is not always possible to forecast when and where such flooding will occur.

In these circumstances we will record further details on Floodline to explain why we have issued the Flood Watch and, if possible, a description of where we expect flooding to occur.



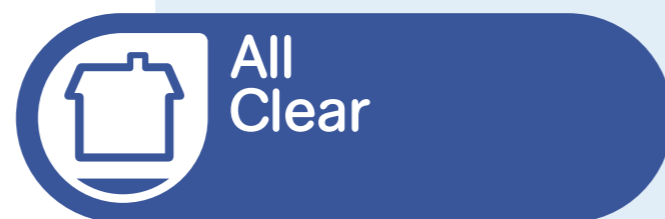
Flood Warning

This means “Flooding of homes and businesses is expected”. We mainly target Flood Warnings at specific communities that are at risk of flooding. Some Flood Warnings may apply to stretches of coast and river, but they are only relevant to property and road flooding along the stretch.



Severe Flood Warning

This means, “Severe flooding is expected”. Again, we mainly issue these warnings to specific communities that are at risk of severe flooding. Though some warnings may apply to stretches of coast and river.



All Clear

We also use an ‘All Clear’ message to indicate receding floodwaters and a settled outlook.

Planning for flooding

We constantly plan for flooding and organise how we will respond to each incident. We regularly meet with our professional partners, such as the police, ambulance service, fire and rescue service, local authorities and utility companies. Together, we create **multi-agency response plans and major incident plans for flooding. These detail how each organisation will respond to flooding in specific locations.**

We also meet with community groups, such as flood action groups or volunteer wardens, to discuss flood warning arrangements in their area and help establish community flood response plans.

The media have a vital role in broadcasting our warnings. We regularly meet with relevant media organisations to discuss and agree arrangements for media broadcasting of flood warnings during a flood event.

We map out our flood warning areas and make this information available through our website and publications. We also use these maps in our Local Flood Warning Plans to explain what our service covers and the flooding risks at each location.

Communicating flood risk

We talk to the public throughout the year about all aspects of our flood risk management work. We focus on flood awareness, our flood warning service and information about what to do before, during and after a flood.

We communicate with all properties that are covered by our flood warning service, to ensure that people living and working in those areas know that they are at risk, that they have a flood warning service, how they receive flood warnings and what to do when they receive them. We talk to people living and working in areas at risk in different ways depending on the level of risk and methods of warning in each location.

We produce national publications to help people to prepare for and respond to flooding. We recently produced a leaflet aimed at older people at risk from flooding and an on-line guide to encourage businesses to prepare a flood plan.

Detecting flooding

We monitor river and sea conditions, 24 hours a day, 365 days of the year, so we are prepared for potential flooding. We use remote detection systems to measure rainfall, wind speeds and direction and water levels and water flows in rivers and the sea.

Weather radar, which has the ability to detect rainfall over a wide area rather than a single point, provides us with an overview of current and approaching rainfall. This information can also be used to help us forecast flooding.

The Met. Office provides us with the following information:

- **Daily weather forecasts** – these include a general summary and rainfall prediction;
- **Severe weather warnings** – these predict heavy rain, snow and strong winds;
- **Heavy rainfall warnings** – these provide a focused short-range prediction of heavy rainfall;
- **Storm tide forecasting service** – provides forecast information on waves, tide and surge levels around the coast;
- **Daily tidal outlooks** – these indicate whether any significant storm surges are expected over a five-day period.

Forecasting flooding

We use flood forecasting so that we know when and where to issue flood warnings and when to operate our flood defences. We share this information with our professional partners so that they can also respond to flooding.

Our customer charter states “We will provide flood warnings at least two hours before flooding happens, in areas where a service can be provided”. This has led to our key delivery standard which is the ‘Warning Lead Time’. This is the amount of warning time given to people before flooding starts. This is an important measure of the service we provide, as it affects how long the public and our partner organisations have to prepare for flooding and can potentially reduce flood damage.

We use different forecasting methods in different places. These vary from simple river level relationships between certain points, to sophisticated models that take account of a variety of factors, such as rainfall, overland flow routes and soil conditions.

The Met. Office provides us with storm tide forecasts which predict sea levels and wave heights at key coastal and tidal locations around the United Kingdom. We interpret this information and produce local forecasts predicting whether flooding is likely to happen.

We are developing a national forecasting system and all of our 8 regions will use this in the future. This system will give our forecasting staff the same tool which will make our forecasting more reliable and efficient. Many different types of model can be included in this system, so our forecasting staff will have easy access to all their models.

Managing a flood – what we do

Issuing flood warnings

We send flood warnings to the public, our professional partners and the media using a variety of methods:

- Automated voice messages to landline and mobile phones;
- Fax;
- Pager;
- SMS text;
- E-mail;
- Static sirens;
- Public address loudhailers;
- Broadcast (by using radio and television stations or other suitable means).

How we send out the flood warning to each area will depend on the flood risk and which method is most practical.

Our warning system, Floodline Warnings Direct, delivers the messages by most of these methods. This system manages the dissemination of warning messages and provides us with up to the minute information on who we have sent a warning to and whether or not they have received it. This allows us to use contingency measures if our warnings fail to reach those who need them.

Although we may use a siren, loudhailer or TV/radio broadcast to issue flood warnings in some areas, anyone who lives or works in a flood warning area can still register with us to receive warnings from our Floodline Warnings Direct system.

We continually investigate the use of new technologies and will introduce new viable means of disseminating warnings in the future.

Providing information on flooding

If the public have not received flood warnings or want confirmation of the warnings issued they can view the warnings in force by:

- visiting our website at www.environment-agency.gov.uk/flood;
- viewing our interactive signs which are located in key flood risk areas showing flood warnings in force;
- viewing **Teletext (page 154) and Ceefax (page 419)** which also show warnings in force.

The general public and our professional partners can find more detailed information about what is happening in their area by:

- contacting **Floodline 0845 988 1188** – information is provided by recorded information and live call operators;
- contacting flood wardens in communities;
- listening to and reading media interviews/reports on the radio, television and in the press.

Responding to flooding

During a flood our priority is to issue flood warnings and make sure that our flood defences are working properly.

We use our flood detection and forecasting systems to decide which of our defences to operate and when. We continually review our procedures for this, to ensure that our defences function effectively.

We inspect our defences regularly to make sure that they are working properly and to carry out emergency repairs if necessary.

Where we can, we attend multi-agency command centres during a flood to provide face-to-face support and information on where flooding is happening and what people can expect to happen during the course of a flood. This helps local authorities and the emergency services identify where their services are needed both during and after a flood.

Where we have available resources we will help local authorities and emergency services to deal with the effects of flooding. This may include evacuating the public and distributing flood protection products, supplied by local authorities for the public to protect their properties. We will also provide assistance to local residents if possible.

Would you like to find out more about flooding or about the Environment Agency?

Then contact us on

Environment Agency Floodline

0845 988 1188

Environment Agency Floodline Minicom Service

0845 602 6340

Environment Agency Customer Service Line

08708 506 506

Website

www.environment-agency.gov.uk/floodline

Email

enquiries@environment-agency.gov.uk



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