

# Risk of flooding from surface water

Understanding and using the map

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# Providing flood risk information

*Surface water flooding occurs when intense rainfall overwhelms drainage systems. Around 35,000 properties were affected by surface water during the major floods of 2007.*

Unlike flooding from rivers, surface water flooding can happen many miles from a river, often in places that people wouldn't expect because it's a long way from a river or stream – it happens simply because there is nowhere else for the rainwater to go. In 2013 a national map showing the risk of flooding from surface water was published online. The map uses the latest improvements in data, technology and modelling to help you understand how likely it is to flood where you live, travel or work.

## Creating the map

Managing the risk of flooding from surface water is the responsibility of Lead Local Flood Authorities. Lead Local Flood Authorities are the unitary authority or if there is no unitary authority, the county council for the area. They work in partnership with other organisations, including the Environment Agency, district councils, water and sewerage companies to manage local flood risks.

The risk of flooding from surface water map has been produced by the Environment Agency on behalf of government, using information and input from Lead Local Flood Authorities. It has been developed using cutting edge technology, with flood experts using models to observe how rain water flows and ponds, and producing maps that take local topography, weather patterns and historical data into account.

### Land heights

Surface water flooding is influenced by features in the landscape, particularly buildings and roads. A model was produced showing the height of the ground level based on 2 metre squares. Then, to get a better picture of where would be affected by surface water, we improved the way flow paths through structures such as bridges and rail embankments were shown.

Ground level was raised within building footprints by an average of 0.3 metres to represent the way that the average building would not flood internally until water outside is 0.3m deep. At that depth, the model allows water to flow slowly through the building. Roads were lowered by 0.125 metres, so that the model would reflect the way that surface water often flows along roads. Ground roughness was also varied to take into account different land use.

### Rainfall

Models were run to represent different storm severities, different storm durations, and the variation in rainfall over the whole country. These were adjusted to better represent the effects of drainage and the differences between the way water soaks into the ground in urban and rural areas, .

### Areas identified at risk

The effects of the remaining rainfall were modelled to assess how the water moves across the ground and see where the water flows and ponds.

### Local knowledge and information

Lead Local Flood Authorities reviewed the model results and compared them with their local and historic knowledge. Where Lead Local Flood Authorities could provide better local maps, we included these to create the risk of flooding from surface maps.

### Depth and speed of water

Information on the depth and velocity or speed of the surface water is included. On the map on the Environment Agency website you can view three different depth bands and two velocity bands.

### Quality of information

The risk of flooding from surface water map was given a rating based on how well we think the model performs, how good the data is, and based on feedback from the Lead Local Flood Authorities' knowledge of the area. The results show how the map can be used.

## Accessing and using the map

### Access to the map

The risk of flooding from surface water map is available on the Environment Agency website – [www.environment-agency.gov.uk/flood](http://www.environment-agency.gov.uk/flood). If you don't have access to the Internet, you can get a copy of the map posted or emailed to you by calling Floodline on 0845 988 1188.

### Using the map

You can search the risk of flooding from surface water map on the Environment Agency website ([www.environment-agency.gov.uk/flood](http://www.environment-agency.gov.uk/flood)) by postcode or town name. You can zoom in or pan out depending on the area you are interested in.

Once you find the location you are interested in, you can click on the location and will be provided with further information including detail about the level of risk, the name of your Lead Local Flood Authority, and access to depth and velocity information. There are four levels of flood risk. These are:

- High - each year, the area has a chance of flooding of greater than 1 in 30 (3.3%)
- Medium - each year, the area has a chance of flooding of between 1 in 100 (1%) and 1 in 30 (3.3%)
- Low - each year, the area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%)
- Very low - each year, the area has a chance of flooding of less than 1 in 1000 (0.1%)

The map does not contain sufficient information for it to be used to determine flood risk to individual properties, but it does give you an indication of whether your area may be affected by surface water flooding and to what extent.

Floods can be devastating, so it is important to find out if you are at risk now rather than wait until it's too late. We do not currently provide flood warnings for flooding from surface water. The sporadic and intense nature of rainfall makes it very difficult to accurately predict when surface water flooding will happen. But there are simple steps you can take to prepare for this type of flooding.

- Check the [Environment Agency website](http://www.environment-agency.gov.uk) to see if you're at risk from other sources such as the river, the sea or reservoirs.

**FLOODS  
DESTROY  
DESIRE  
BE PREPARED**

- Complete a simple [flood plan](#) - it only takes ten minutes and doing this in advance will save you valuable time and reduce damage if you're flooded.
- Check the three-day flood risk forecast on the [Environment Agency website](#). This provides a county view of flood risk from all sources, including surface water, based on weather forecasts and predicted rainfall.
- Find out how to prepare your property for flooding. Flood defences can't eliminate all risks of flooding but there are some practical steps which will help to protect your home.

### **Sharing data**

The surface water map is available online for people and communities. Lead Local Flood Authorities and other risk management authorities also have access to the maps and data.

The surface water map and information is available on request, under licence to insurers and other commercial users. We share our information with guidance and terms & conditions which explain how it should and shouldn't be used. Sharing the data enables everyone to make more informed decisions about flood risk.

### **Insurance**

The risk of flooding from surface water map and data is available to insurers who may use it alongside other information to inform their decisions. Insurers are free to use whichever data they like to determine whether to offer insurance and at what price. Some insurers already have and use their own surface water information. How insurers decide to set premiums and excesses is up to them. The Environment Agency and local authorities have no role in determining insurance cover.

If you are selling or buying a house, an assessment of flood risk is included in standard solicitor's searches. Whilst the Environment Agency's information is not property specific, making it available to be included in these assessments, allows the prospective purchaser to understand risks in the area of the property and make better informed decisions about their purchase.

## **Questions about the map**

### **More information about your local flood risk**

If you would like more information about your local flood risk from surface water or the management of surface water flood risk then you will need to contact your Lead Local Flood Authority. You can find out who this is either by clicking on the highlighted area of the surface water map or by using the postcode search on [www.gov.uk/find-your-local-council](http://www.gov.uk/find-your-local-council).

### **If you disagree with the map**

If you disagree with the surface water map then you will need to provide appropriate evidence to your Lead Local Flood Authority for consideration. If agreed that your evidence should be considered, they will discuss timescales for changes with you. Lead Local Flood Authorities will already have a programme for their own modelling and mapping updates, so any changes that may arise from your evidence will need to be prioritised against other work. Without appropriate evidence, Lead Local Flood Authorities won't recommend changes to the map. Anecdotal evidence will not be considered.