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GET INSPIRED



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## GET THINKING

Many of us remember the flood in 1993 that Simon talks about. Whether it's our house that floods or not, these events can create havoc for the local community, rupturing its services and amenities and sometimes destroying livelihoods. So it is really important that we understand the risks and what we can do to reduce them as a community.

Bude has developed over 200 years in an era of very stable sea levels. Before this, the landscape was dominated by salt marshes, which have left us with many waterways weaving their way through our landscape. This brings both benefits and challenges to our community, including an increased risk of flooding. As the climate continues to change, we are becoming more vulnerable to flood events. This is due



to a number of factors including rising sea levels and more frequent extreme storm events with intense rainfall, such as the one that caused serious damage in Boscastle and Crackington Haven in 2004.

When rain falls on compacted soil or sealed surfaces like roads and buildings, it doesn't soak into the ground as it should. Instead, the rainwater surges over land into streams and rivers, raising their water levels and greatly increasing the likelihood of flooding.





# RISING SEA LEVELS

Bude is the most sensitive location in the UK to rising sea levels.

The global average sea level has risen by 8–9 inches (21–24 centimetres) since 1880, of which about a third has occurred in just the past 25 years. As the global average temperature rises, ice-sheets and

glaciers in the polar regions melt, adding to the rise due to water expanding as oceans warm. However, the amount of sea-level rise is not the same everywhere. Differences in the strength of winds and ocean currents put exposed locations like Bude at greater risk. Even if greenhouse emissions stopped now, the global average sea level will rise by at least one foot (0.3 metres) by 2100.







## STORM SURGE

Exceptionally large temporary rises in sea-level during intense storms are called storm surges. These increasingly frequent events are created by a combination of storm size, wind

intensity and direction on top of a high tide. If a storm coincides with a particularly high tide, such as a Spring Tide, the sea level can be more than nine feet (3 metres) higher than usual, with waves on top. In 2008, a storm surge, with waves of 20–30 feet

(6–9 metres) hit Bude's sea lock with such force it lifted the inner gate off its hinges. In most winters in Bude we see surfers riding storm surges up the river through the town. However, storm surges can present a significant danger to life and property

as they can spill over flood defences with force.

## FLUVIAL FLOODS

Extreme rainfall can cause our rivers to burst and overflow into the surrounding areas. As the gradient of many of our rivers is quite high, intense rainfall can also lead to flash flooding, as we saw in Crackington Haven in 2004, when two properties were destroyed, and extensive damage was caused.





## **SURFACE WATER FLOODS**

Intense rain events can overwhelm our drainage systems, the overflowing build up of water causing floods in built-up areas. Although rarely a threat to life because they are slower to form, they can still cause extensive damage to property, especially if sewage backs-up into the flood waters.

## **FLOOD DEFENCES**

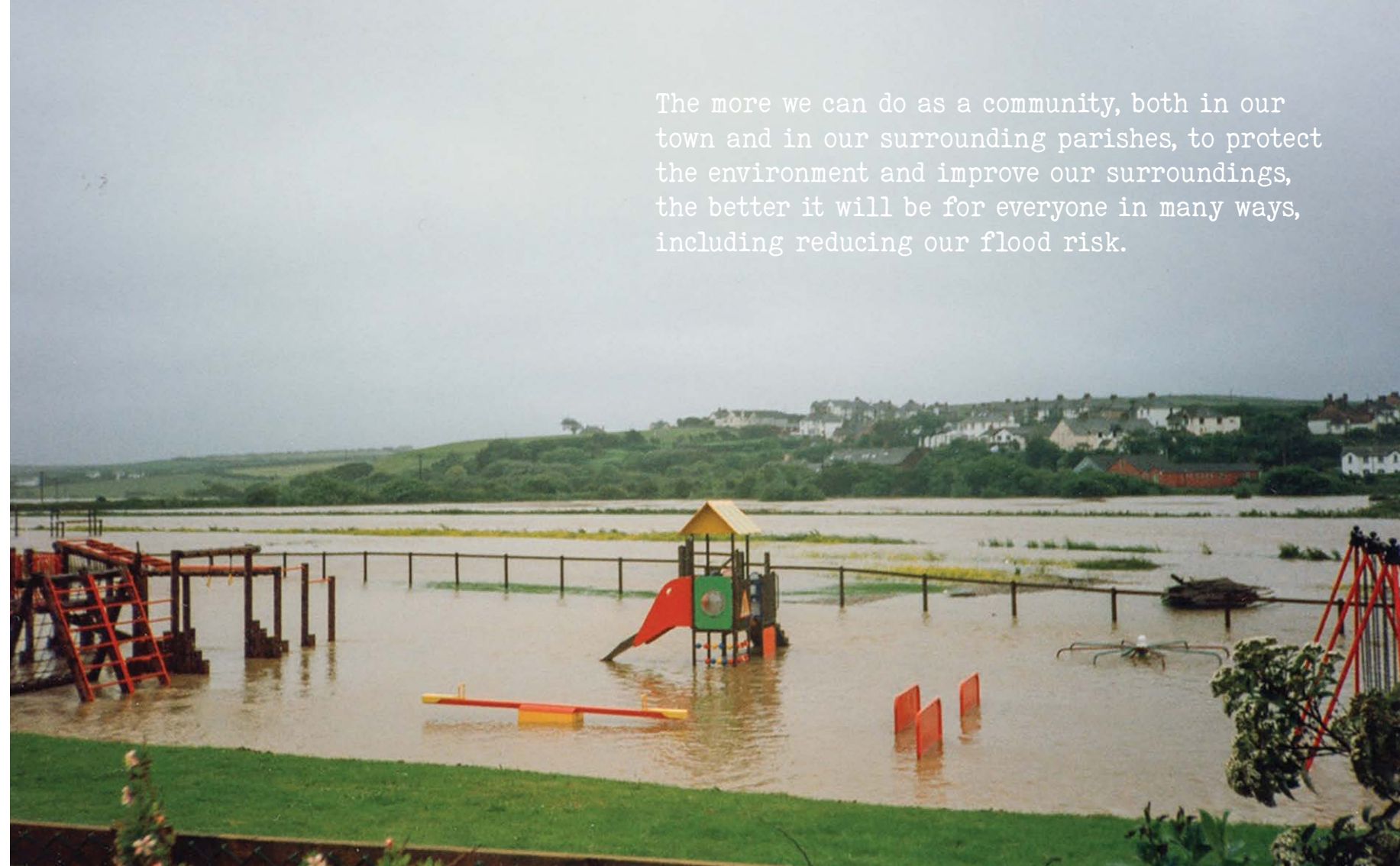
Protecting Bude from floods is an ongoing challenge, with many lessons learned from the past. For instance,

following the 1993 flood, critical improvements had a major impact and there hasn't been a significant river flood since. The old weir in town was found to be a contributing factor, so it was removed and replaced with a tilting weir, which is now permanently down to remove the risk of water backing up in town.

The government is currently funding £2.1 million of improvements to protect our existing defences, but we are still at risk from sea-level rise.

Alongside the necessary structural adaptations, dedicated people like

Simon are helping to restore the ecological potential of our landscape to hold water. Improving the condition of our landscape and soil will greatly reduce the amount of water that finds its way into our waterways, thereby helping to prevent flooding. The good news is that better land management and planting not only protects nature and increases biodiversity, it also improves soils to absorb more water and avert flooding.



The more we can do as a community, both in our town and in our surrounding parishes, to protect the environment and improve our surroundings, the better it will be for everyone in many ways, including reducing our flood risk.





## GET INSPIRED

**W**e have put together some tips on what we as individuals and community can do to reduce the risks associated with flooding. These centre around slowing the flow of water when it falls, as any rain that falls on your roof, driveway, or garden contributes to the risk of overflowing sewers and flooding. These changes not only enhance our enjoyment of our built-up areas, making them more visually attractive, but they also improve the environmental quality of our air and water.





These small and easy individual changes bring massive benefits if they are repeated across the community. Be the first in your street or community and others will follow.

### **LOOK AFTER YOUR PATCH**

If you have a garden or driveway, then give some thought to what happens to rain that falls here. Ideally rain should soak into the ground and not hit a hard surface,

such as a driveway or compacted soil, which increases run-off. Choose gravel or another permeable surface for driveways, so that water can still seep into the ground. You might like to think about planting on bare soil to break it up and increase the organic content.

### **IMPROVE BIODIVERSITY IN YOUR GARDEN**

Any vegetation is better than paving, but more diverse, species-rich planting is better at absorbing water all year round.

That said, evergreens absorb moisture all year, and trees take up particularly large amounts of water.

### **RAIN GARDEN**

Attractive and relatively cheap, rain gardens collect run-off water from roofs and

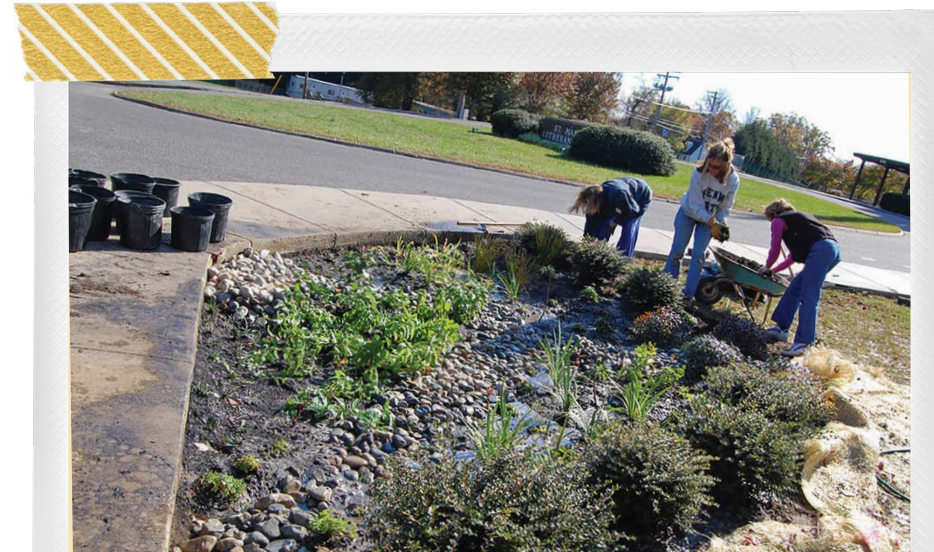
other hard surfaces, offering an easy way to slow its movement into the drainage system. Pictured below is an example of a rain garden designed to retain and clean water in a storm event. Not only are they attractive, they

reduce the risk of flooding and improve biodiversity. The Royal Horticultural Society (RHS) have detailed information on creating one.

### **GREEN ROOFS**

These perform a very similar function to rain

gardens, catching and retaining rain from the roof. By providing extra protection from the weather, they can last longer than a traditional roof, and offer additional insulation, particularly a cooling effect in summer. And they help reduce air and noise pollution! Green roofs can be retrofitted on existing roofs, sheds and garages, but their additional weight limits their suitability for some roofs, and specialist advice is always recommended.





## PERMEABLE OR POROUS PAVING

If you must pave, or you're replacing old non-permeable paving, then choose paving that is designed to absorb water either through the gaps between the tiles or through the surface of the tile itself.

## SWALES

A fancy word for what we might call a ditch and something you might consider if you have lots of land. This shallow drainage channel with gently sloping sides and vegetation collects water run-off and allows it to soak into the ground. In

a heavy rain-event, it can act as a channel to move water across a site, with check dams to slow water, allowing sediment to settle and more water to enter the ground.

## FORM A COMMUNITY FLOOD GROUP

Preparation is half the battle. Working together to formulate a strategy in the event of a flood will lower the risk of damage by ensuring our responses are quicker and more appropriate. It could include such things as designating a community refuge building, a buddying system for vulnerable community

members and creating a flood equipment store.

## LOOK AFTER OUR RIVERS

As Simon says, our rivers are a good indicator of the health of our environment. Westcountry Rivers Trust welcomes volunteers to help monitor our local rivers through its Westcountry CSI (Citizen Science Investigations) scheme. Westcountry CSI volunteers are provided with water testing kits to assist with regular surveys that also include wildlife sightings and pollution spotting. If something doesn't look right in a river, call the Environment Agency. The Bude Community Network Area, which includes the



'Westcountry Rivers Trust welcome volunteers to help monitor local rivers. Learn more through their website:

[www.wrt.org.uk](http://www.wrt.org.uk)





whole of both the Strat and Neet river catchments, includes north coast streams from Marsland Water in the north to Crackington Stream in the south.

### **REPORT WILDLIFE SIGHTINGS**

If we know what's out there, then it's easier to protect it. A number of charities, organisations and projects encourage people to submit wildlife sightings. Your valuable information will help improve our understanding of local natural history, as well as being used in decision-making, education,

research and other public-benefit purposes. (See 'Get Involved' for more information)

### **SPEND TIME IN NATURE**

Take time to get to know the beautiful places and creatures that share our home and encourage others to do the same. The more connected we are to nature, the more likely we are to protect it.

### **REDUCE OUR EMISSIONS**

Ultimately, the best way to protect Bude and vulnerable communities worldwide is to push for

climate action that supports rapid and fair lowering of global emissions.





## DIVE DEEPER

Below are some useful links to help you dive deeper into the science we've introduced in the 'Get Thinking' section.

For information on the flood risk in your area please see Cornwall Council's website:

[www.cornwall.gov.uk/environment/countryside/flood-risk/bude-flood-risk-profile/](http://www.cornwall.gov.uk/environment/countryside/flood-risk/bude-flood-risk-profile/)

Cornwall's historic flooding in the face of climate change-

[www.cornwalllive.com/news/cornwall-news/lives-lost-homes-submerged-roads-3416683](http://www.cornwalllive.com/news/cornwall-news/lives-lost-homes-submerged-roads-3416683)

How to prepare your house for a flood:

[www.floodguidance.co.uk/flood-guidance/prepare-home/](http://www.floodguidance.co.uk/flood-guidance/prepare-home/)

The new local flood defence scheme for

Bude: [www.gov.uk/government/publications/bude-improving-flood-defences-and-habitats/bude-improving-flood-defences-and-habitats](http://www.gov.uk/government/publications/bude-improving-flood-defences-and-habitats/bude-improving-flood-defences-and-habitats)

## GET INVOLVED

### WESTCOUNTRY RIVERS TRUST

Join the Westcountry Citizen Science Investigations team and contribute to the resilience of our region's rivers, their habitats and wildlife for now and for future generations.

[www.wrt.org.uk/project/become-a-citizen-scientist/](http://www.wrt.org.uk/project/become-a-citizen-scientist/)

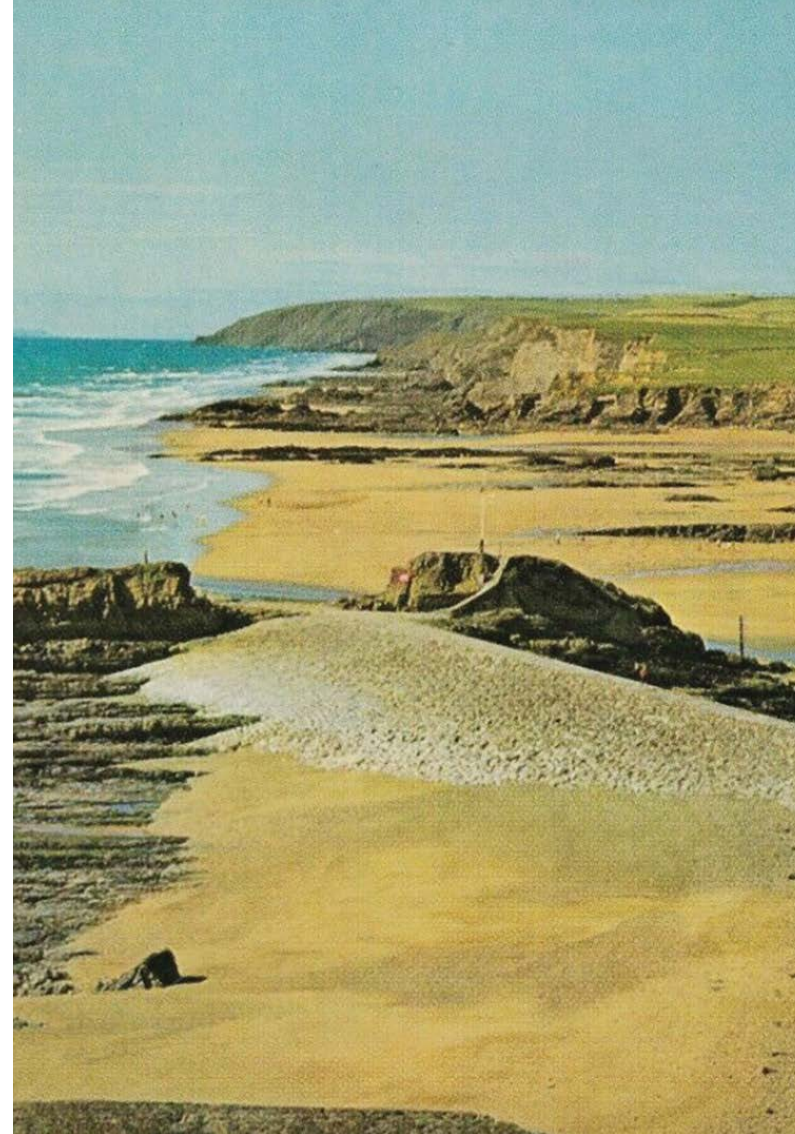
If you want to help record wildlife sightings there are numerous groups, here are a few:

[www.ercis.org.uk](http://www.ercis.org.uk)  
[www.cornwallwildlifetrust.org.uk/wildlife/wildlife-recording](http://www.cornwallwildlifetrust.org.uk/wildlife/wildlife-recording)  
[www.seawatchfoundation.org.uk/21-cornwall/](http://www.seawatchfoundation.org.uk/21-cornwall/)  
[www.cornwallmarinelifecode.org.uk](http://www.cornwallmarinelifecode.org.uk)  
[www.nbn.org.uk/record-share-explore-data/record-wildlife-a-fun-way-to-help-nature/](http://www.nbn.org.uk/record-share-explore-data/record-wildlife-a-fun-way-to-help-nature/)

### 2 MINUTE FOUNDATION

Help reduce plastic waste in the marine environment with a two-minute beach clean.

[www.beachclean.net](http://www.beachclean.net)



### FRIENDS OF BUDE SEA POOL

Join the group of volunteers that keep the Sea Pool open.

[www.budeseapool.org](http://www.budeseapool.org)

### WIDEMOUTH TASK FORCE

A group that gathers to litter-pick and rescues marine life on beaches between Widemouth and Millook. Find them on Facebook.

### CLEANER SEAS PROJECT

A long-standing community project that cleans up pollution in our seas. Bude Cleaner Seas Project works with the local community to give Bude the cleanest water quality and the cleanest beaches in Cornwall.

[www.cleanerseasproject.co.uk](http://www.cleanerseasproject.co.uk)

### TRANSITION BUDE

Working to make Bude sustainable with local solutions to global problems

[www.transitionbude.org](http://www.transitionbude.org)



## BUDE COASTAL COMMUNITIES TEAM

If you have a project, idea or group that needs funding, BCCT can help you find it. It works to maximise economic, social and environmental benefits for the local area via community partnership and collaboration.

[www.budecoastalteam.org.uk](http://www.budecoastalteam.org.uk)

## BUDE MARINE GROUP

Interested in marine life in the Bude area? Bude Marine Group can help you understand the marine environment and the influences on it, so that we can protect and enhance it for the benefit of all.

[www.budemarinegroup.weebly.com](http://www.budemarinegroup.weebly.com)





## THANK YOU.

We hope our suggestions and advice leave you feeling inspired. Climate change can be challenging to think and talk about, so if any of your questions haven't been answered or you need support or you have an idea you want to pursue, then please get in touch with the Bude Climate Partnership. We're here to help you.

Email [info@budeclimate.org](mailto:info@budeclimate.org)

### SUPPORTED BY:



*This toolkit has been developed by Storylines, a Community Interest Company who use the common language of story to bring people together to share, celebrate, learn and connect.*

*For more visit [www.storylines.org.uk](http://www.storylines.org.uk). Designed by Georgia Byron.*