

## February: the cruellest month?

06 Feb 2002

February 2002, saw flooding in a number of locations around the world.

### Bolivia

"*I've lost everything*" - the words of a Bolivian pharmacist in La Paz.

### Malawi

"*Thousands of people in central and northern Malawi have been forced from their homes by floods*" - reported the BBC World Service from Malawi.

### Indonesia

"*The government was late - there was no early warning system in place*" - the voice of an environmental campaigner.

### UK

"*I've been flooded four times in the last 15 months and things just seem to be getting worse*" - the words of a York resident talking to the BBC.

### But can we compare them?

View the 'Floods in the News' activity to see if we can compare them?

Satellite images showed little evidence of prolonged flooding in the UK in the first two weeks of February 2002. Certainly, there was severe localised flooding. **The River Vyrnwy** at the head of the River Severn, recorded the highest river level on record.



### What factors contributed to the February 2002 UK events?



The hydro-meteorological background to February 2002 in terms of rainfall and runoff provides a useful perspective.

On January 28th a storm hit the UK and on February 1st heavy rain fell on many areas of the country. A deep depression passing to the northwest of the UK (as shown on the satellite image) was responsible for bringing heavy rain and strong winds to many areas of the UK. This was just one of a sequence of vigorous - and damaging- frontal systems across the UK during February. It was a particularly active depression producing notable rainfalls in western areas on the 1st of February.

### Was February 2002 unusually wet?

**Rainfall for February 2002 and for monthly accumulations of rainfall. It also shows the percentage (%) of rainfall that fell compared with the long-term average It also shows the Return Period for these quantities of rain.**

Area	Rainfall	Feb 2002	Jan 02-02	RP	Sep 01-02	RP	Jun 01-02	RP	Mar 01-02	RP
England & Wales	mm	<b>114</b>	199		523		726		963	
	%	<b>175</b>	128	5-10	103	2-5	102	2-5	105	2-5

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February was a wet month. Most of the country reported more than twice the 1960-90 average. Western regions were particularly affected.

### **So why was there not more severe flooding in February?**

In fact January and February rainfall total in certain regions were very high but the counterbalancing effect of the dry early winter means that Dec-Feb rainfall totals are mostly within the normal range. The natural ability of the drainage network to cope with runoff was well demonstrated but, locally, flooding was severe (e.g. Monmouth) and floodplain inundations were widespread.

### **How do these factors compare with those of the much greater flooding events of 2000/01?**

Then the flooding was widespread and prolonged underlining the UK's continuing vulnerability to rare climatic conditions. Exceptional rainfall sustained over 14 weeks from September led to the most extensive fluvial flooding since the snow-melt generated floods of 1947. High runoff rates were accompanied by significant erosion and landslides were common. The unremitting passage of active frontal systems continued well into 2001, triggering unprecedented rises in groundwater levels and prolonged groundwater flooding in southern England especially.

The impact of the floods was pervasive. In England and Wales around 10,000 houses were flooded, and, over the autumn alone, the flood damage was estimated at £1000 million. Different reasons for flooding included problems with defences and inadequate surface water drains.

The causes of the 2000/01 floods stimulated much public and political interest. Now, wherever smaller localised flooding occurs, such as that in February 2002, the issue is brought to full attention in the news. Much of this focuses on speculation that more frequent flooding caused by climate change is manifesting itself in the UK. As yet, evidence for any long-term trend in fluvial flood magnitude and frequency in England and Wales is weak.

## Floods in the News: February 2002

1. This exercise should encourage students to consider how issue attention in the media may influence pupils' perceptions on the relative impact of floods around the world.
2. Floods in the UK do not constitute the very real threat to lives and livelihoods that they do across much of the globe. However in an island with as high population density as the UK, floods are very important in economic (land use especially) and, occasionally, in human terms (as in the floods of late 2000 and early 2001).
3. It is important that pupils are made aware the importance of scale. Most UK catchments are tiny in a global context and respond to high intensity rainfall over hours or a couple of days, rather than month (which is the case with the Mississippi and Amazon)

## Floods in the News: February 2002

	<b>Causes</b>	<b>Effects</b>
<b>Malawi</b>	<ul style="list-style-type: none"> <li>• River Dzongwe burst its banks following a week of heavy rains.</li> <li>• Rainy season</li> </ul>	<ul style="list-style-type: none"> <li>• 1000s of people forced from homes</li> <li>• 1,500 homes in the central lakeshore district of Salima were destroyed</li> <li>• Over 2,750 acres of crops and livestock destroyed</li> <li>• Flooding hampered relief effort during existing food shortage</li> <li>• Railway line and road washed away</li> </ul>
<b>UK</b>	<ul style="list-style-type: none"> <li>• The wettest February since 1990</li> <li>• High flows in some rivers in western catchments</li> </ul>	<ul style="list-style-type: none"> <li>• Localised flooding in parts Western England and Wales and Scotland.</li> <li>• Disruption to a relatively small number of people and transport routes</li> <li>• Psychological and social effects of being flooded several times in a short period of time.</li> </ul>
<b>Bolivia – La Paz</b>	<ul style="list-style-type: none"> <li>• Intense rainfall and hail over a 50 minute period</li> <li>• City built on slopes of extinct volcano</li> <li>• Building of poorer housing on the slope above the city to the north, east and west</li> <li>• Slope shape causing a natural funnel for runoff into centre of the valley</li> </ul>	<ul style="list-style-type: none"> <li>• Floods ripped up streets and buildings</li> <li>• Subways filled with water, hail and mud</li> <li>• Bodies found 30km downhill from the event</li> <li>• Hundreds of injuries sustained from being smashed into cars, trees and amp posts by the water</li> <li>• Damage costs estimated at US\$60million and 60 killed</li> </ul>

# GEOGRAPHY IN THE NEWS

<b>Indonesia - Jakarta</b>	<ul style="list-style-type: none"><li>• Protracted rain and rising tides</li><li>• Environmentalists say years of bad city planning have led to building-work on green-field sites.</li><li>• Unsupervised development of has caused more rain to run into the city's many rivers rather than soak into the ground.</li><li>• Flooding made worse by drains blocked by rubbish</li></ul>	<ul style="list-style-type: none"><li>• Contaminated water supplies</li><li>• Disease</li><li>• Looting</li><li>• Traffic Jams</li><li>• At least 30 dead</li><li>• 15-20% of Jakarta underwater</li><li>• 200,000 residents homeless</li></ul>
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## Activity:

1. Rank these floods in order of which you think was the most serious. Explain your answer.
2. Which do you think received most coverage in the UK newspapers and on television news? Why?
3. Do you think we can compare floods like these? What problems do you experience when you try?