

Social media, citizen empowerment and crisis communication during the 2014 UK Floods

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Overview:

- Flood prevention and response in SW England
- The UK Floods (December 2013-January 2014)
- Communication strategies of emergency services
- Use of social media by citizens during the floods
- Flood apps – towards a crowdsourced crisis response?

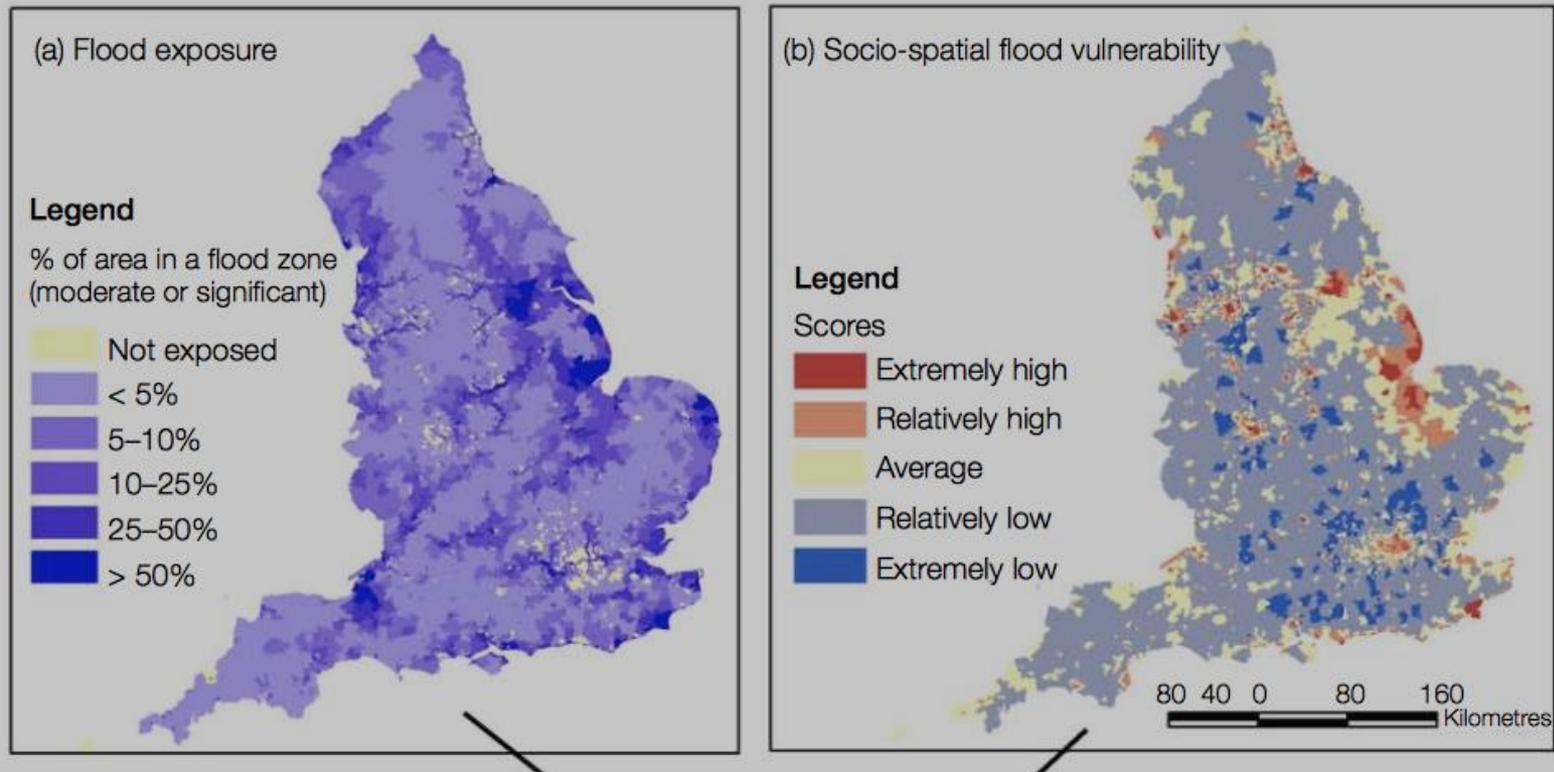


Context: Flood risk in England

- Environment Agency (EA) estimate that 5.2 million (approximately 1 in 6) properties in England are at risk of flood (rivers, sea, surface water)
- The North–South divide in English socio-spatial flood vulnerability is also seen to some extent with patterns of flood disadvantage.
- The Yorkshire and The Humber region is estimated to have the highest average flood disadvantage of all English regions
- In 2011, National Audit Office estimated that the annual cost of flood damage was £1.6 billion

O'Neill et al (2011): Many socially-deprived areas are socially vulnerable to climate events

Figure 12: Relative flood disadvantage in England as a composite of (a) flood exposure and (b) socio-spatial flood vulnerability

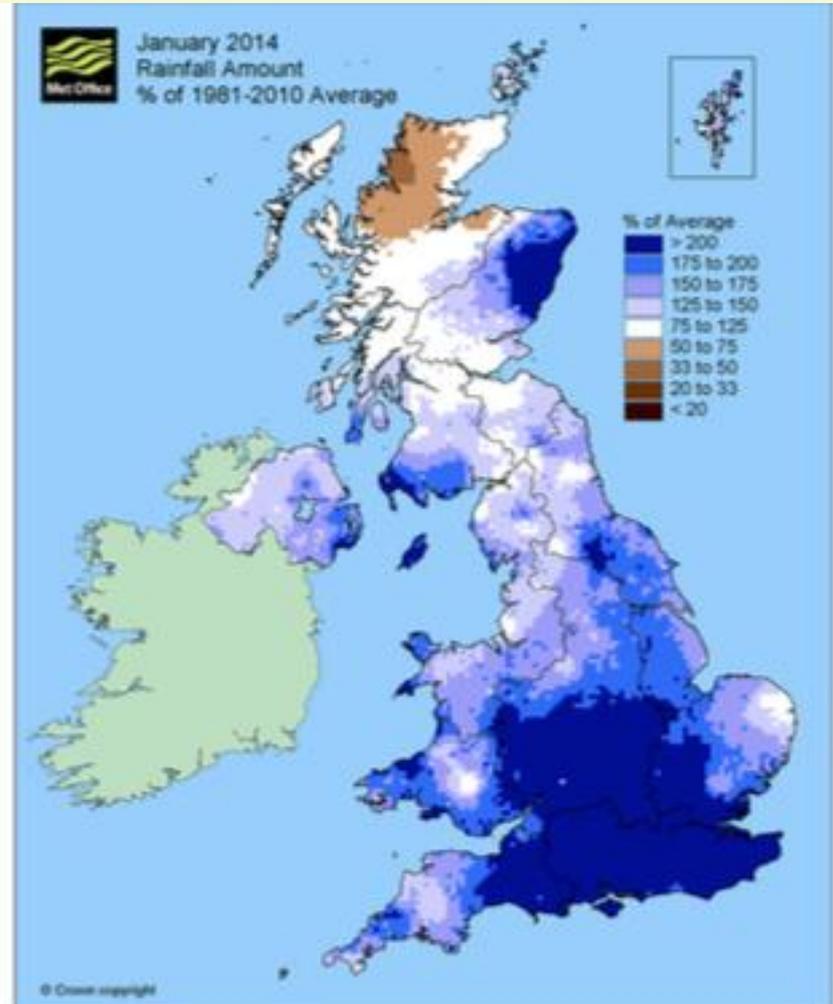
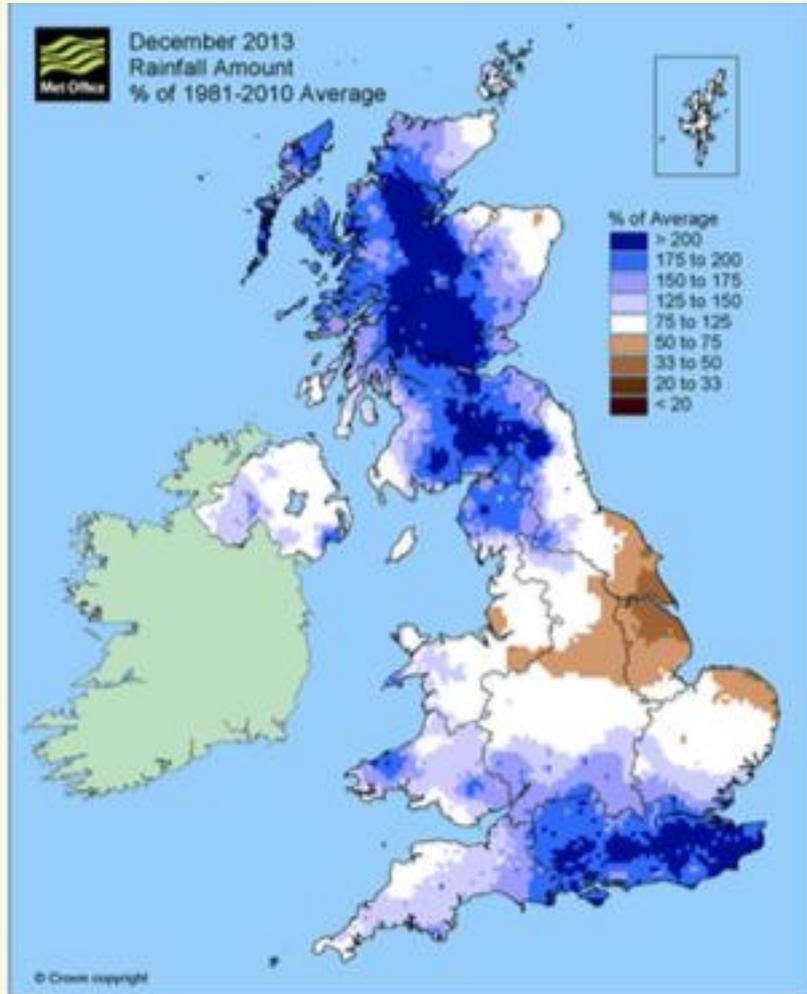


UK Govt. responds to EFRA Committee criticism of its allocation of flood defence funding:

“Whilst rural areas can be badly affected by flooding, analysis suggests that the overall exposure of the agricultural sector to flood risk is not disproportionate to other parts of the economy [...] The total agricultural damages caused by this series of events [floods in summer 2007] was estimated to be in the region of £50 million; approximately 1.6% of the total economic damages.[...] The Department is not aware of any evidence that flood events, such as those experienced in the summer of 2007, autumn 2009 or 2012, represent a significant threat to food security in the UK”

(published 16 October 2013)

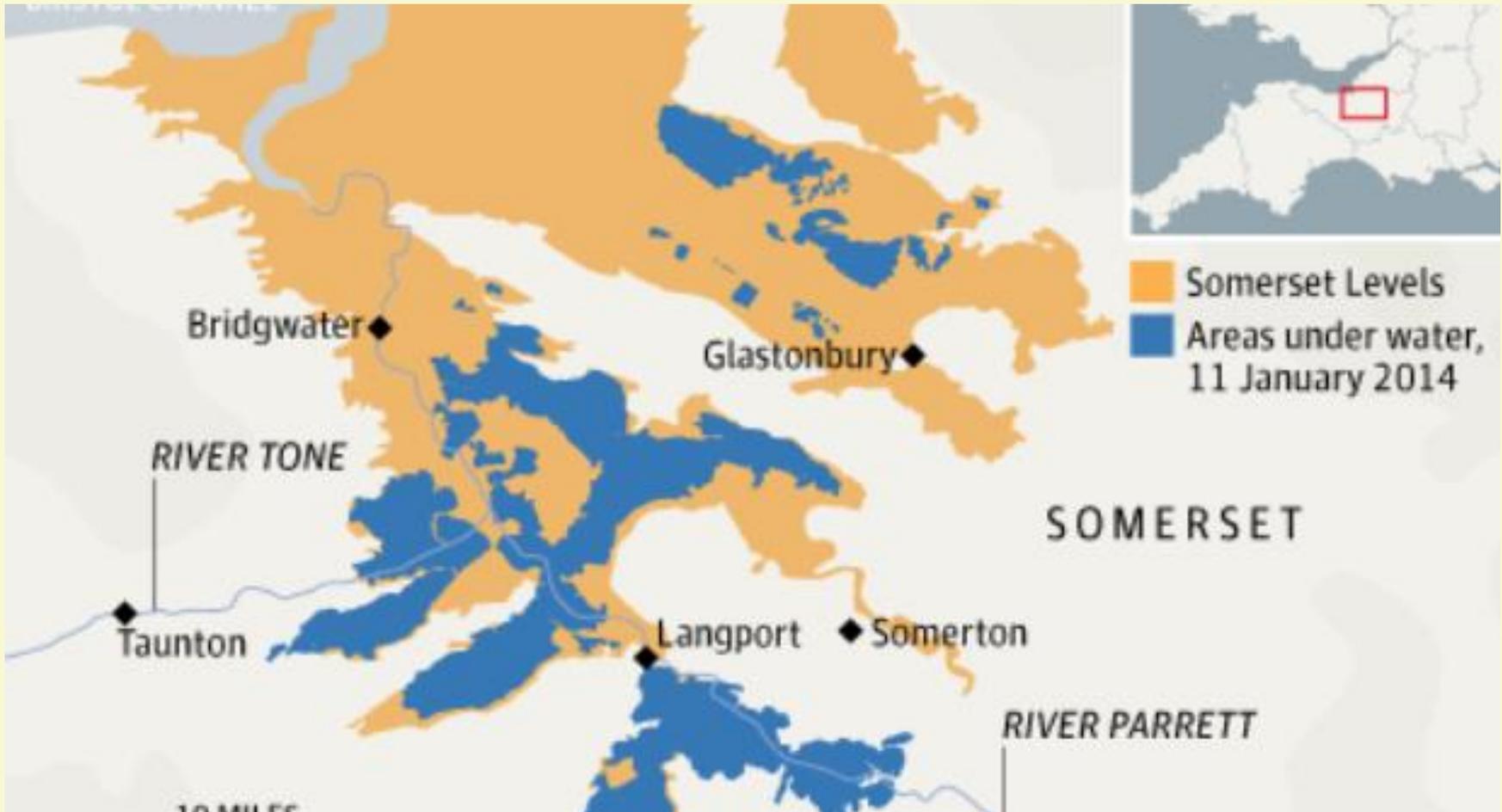
Met Office: Record rainfall recorded in UK December 2013- January 2014 (since 1910)



December 2013: Storms cause tidal surge, high tides and high winds in coastal areas



Rainfall leaves large sections of Somerset Levels under water in January 2014



5th February: Dawlish train line collapses



Widespread Impact of floods and storms:

- UK Environment Secretary Owen Patterson states that 7 people had died and 1700 homes had been flooded in England in December and January
- Power cuts affect many coastal areas (e.g. 450,000 homes and businesses without power 14-15 February 2014)
- EA estimated that £135 million worth of damage was caused to flood defences
- Association of British Insurers state that there were 17,500 flood claims (worth an estimated £1.1 billion) between 23 December 2013 and 28 February 2014

How did key agencies communicate with the public during the floods?

- EA released three day weather forecasts and updated flood maps on their website (shared via Facebook and Twitter)
- BBC and other local radio stations transmitted public information e.g. where to get sandbags, areas to avoid
- Police, fire and rescue services used social media (Twitter in particular) to offer reassurance and issue warnings
- Cornwall Council used Twitter to provide travel bulletins, flood updates, and to call for volunteers to help people in affected areas

EA ‘hyper-local’ Facebook page supplements F2F meetings with local communities:

“It’s been again a really good example of where we can help change the culture within the organisation that face-to-face contact and engagement is fabulous and, you know, we’ll always do that, but now that can be supplemented with an online discussion which reaches many, many more people not just within that community but people who are interested in the issues around that community [...]so again, a very, a very good example of where we’ve been able to marry, you know, the digital presence with the face-to-face conversations and engagement.”

(Lisa White, Head of Media & Comms)



Cornwall Council uses Twitter help with distribution of sandbags in between two high-tides

“The next tide was going to be be equally if not worse than the one before, and there was expected to be even more flooding [...] So what I was able to do using my Twitter account was to get a message out very very quickly to call for volunteers to come down and help out [...] Within 5-10 minutes, messages were appearing all over the place and picked up by the local media and it has been retweeted many, many times by lots of people with thousands of followers [...]/ Within a few hours we’d managed to help the parish council get over 80 volunteers”

(Mark O’Brien, Community Network Manager, Cornwall Council)

Fire and Rescue Services use Twitter to feed messages of reassurance to the public via media

“if I tweeted that the boats were launching to do a routine, um, run around a particular area, I knew that the BBC would come back to me within minutes, saying can we run this as a story. And my answer was, absolutely you can, yes please. So, so, that two way dialogue that starts very publicly was particularly effective [...] So you're kind of feeding that, that hunger and once you know that that's how they operate you can actually use it [...] but once you know what they respond to you can actually trigger the media to pay attention very easily and very quickly”

(Jon Hall, Glos Chief Fire Officer)



Gloucestershire
Fire & Rescue Service
Working together for a safer Gloucestershire

All interviewees agree that:

- Key agencies see great potential in the use of social media to build an ‘intelligence picture’ around future incidents that informs decision-making
- Concerns continue to be raised about verification of user-generated content
- Local radio and television channels remain the most effective channels for communication during floods
- Communication strategies are driven by national infrastructure – “sometimes that will rule social media out” (White, EA).

Citizen-led social media campaigns help with flood response (and recovery)

- #Forageaid initiative (founded in March 2013 to help farmers affected by snowfall) is resurrected to help provide supplies (e.g. feed, straw) to those affected by floods
- Founder (and Lincolnshire farmer) Andrew Ward (@wheat_daddy) receives an MBE in recognition of the initiative and sets out plans to turn Forageaid into a ‘rapid-response’ charity in December 2014
- #clubhectare and #AgrichatUK communities also form on Twitter and play a key role in connecting farmers affected by the floods



Flood Volunteers created to provide assistance to these farmers in February 2014:

What we **do**

Flood Volunteers enables people to volunteer their time, equipment and skills to help those in flood-stricken parts of the UK. We connect people in need with local volunteers.



Find volunteers

Find help or volunteers in your local area.

[Find Volunteers](#)

Request Help

Need help? Request volunteer services

[Request Help](#)

Flood Advice

Important Contact Information

[Learn more](#)

Facebook directs its users towards the Flood Volunteers site:



Andrew Ward is one of many tweeters to use social media to criticise EA for not dredging rivers



Andrew Ward @wheat_daddy · Mar 2

@westyeo @dredgetherivers This shows perfectly the problem & why the EA and government have to accept responsibility.
pic.twitter.com/KXREBGgKJo



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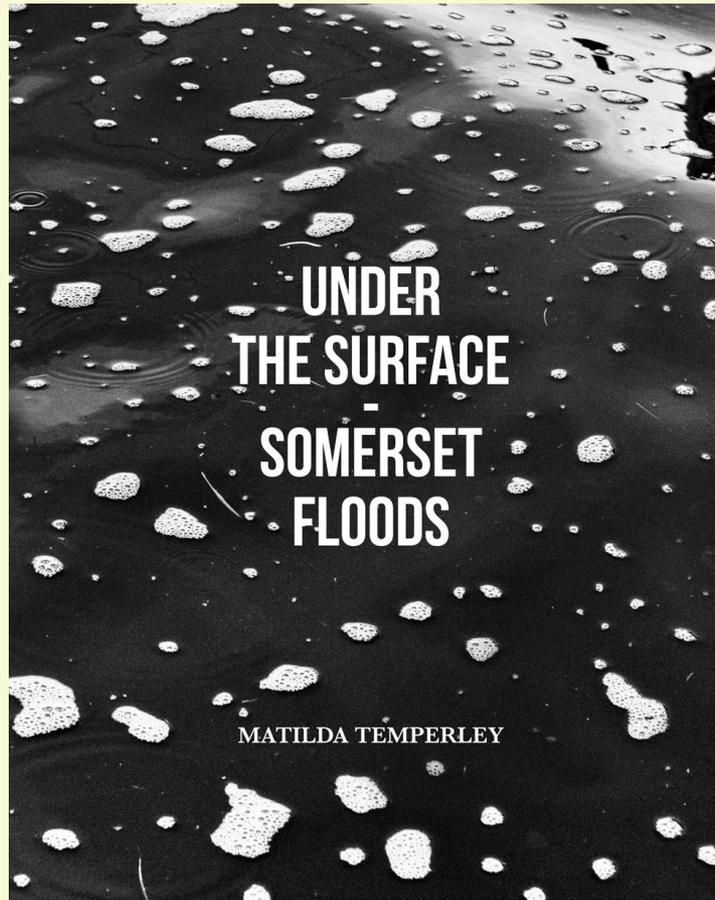


Flooding on the Levels Action Group (FLAG) also call for the rivers Tone and Parrett to be dredged

- Highly critical of EA position that dredging would make no difference to flooding of the Somerset Levels
- Use their website, Facebook, Twitter, sale of 'Stop the Flooding' merchandise to raise awareness of issue.
- Facebook group also functions as a forum for people to discuss Flood-related issues and to provide support for affected communities
- 31 October 2014 – dredging of these rivers is completed by agencies working for EA



Matilda Temperley uses Kickstarter to crowdfund her book of photographs taken during the Somerset Floods

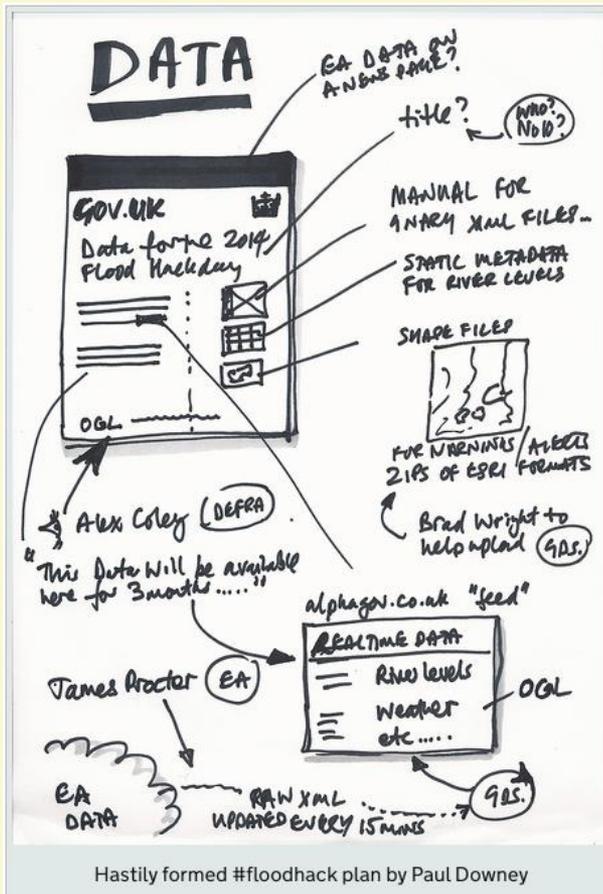


UK Government instigate a Flood Hack event in TechCity, London (17 Feb 2014)

- A group of 200 developers met to ‘hack’ apps and solutions that could help flood response (using open source data)
- 16 teams pitched apps to a Cabinet Office judging pane, many of which link to Flood Volunteers or EA data
- 8 winners chosen including Don’t Panic (system that enables people to make requests for help via SMS, voice call or social media) and UK Floods Alert (mobile alert system for flooded roads/paths etc.)



UK Prime Minister David Cameron “Great to see the UK’s digital community coming together to develop tech solutions to respond to flooding.”



However, few of these applications are eventually released due to lack of funding

“Yeah we didn’t release. We didn’t go that far, unfortunately.”

(Rich Caudle, creator of Don’t Panic)

“Once the immediate issue went and the floods weren’t a problem any more people weren’t interested in pushing it and I think the same thing will probably happen next time”

(Rob Cresswell, creator of UK Flood Alerts)

Conclusion:

- Key agencies used social media (Twitter especially) to reassure members of the public in flood-affected areas
- Nevertheless, local radio and television was still perceived by these agencies to be the most effective channel (due to its perceived trustworthiness)
- Social media empowered citizens to provide support for those affected by the floods (e.g. Flood Volunteers, #foreageaid)
- Social media also helped mobilise activists (e.g. FLAG) who supported the dredging rivers on the Somerset Levels
- Floodhack showed how open data sources could help flood response and recovery – but, is financial and political support necessary in order for these apps to come into existence?

References:

- Environment, Food and Rural Affairs Committee, (2013), *Managing Flood Risk: Government Response to the Committee's Third Report of Session 2013-14*, House of Commons, London, 16 October.
- O'Neill, M; O'Neill, J; Lindley, S; Kandeh, J; Lawson, N; Christian, R. (2011) *Justice, Vulnerability and Climate Change: An Integrated Framework*, Joseph Rowntree Foundation, Available at: <http://www.jrf.org.uk/sites/files/jrf/climate-change-justice-vulnerabilityEBOOK.pdf> (accessed 20 December 2014)
- The Met Office and the Centre for Ecology and Hydrology (2014) *The Recent Storms and Floods in the UK*, Available at: http://www.metoffice.gov.uk/media/pdf/n/i/Recent_Storms_Briefing_Final_07023.pdf (accessed 20 December 2014)