

# Storm Desmond and flash flooding in Lancashire

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# Introduction to flood risk in Lancashire

3 main sources of flood risk in Lancashire:



# Rapid Response catchments

Key features of flash flooding include:

- short lead in time
  - short duration of flooding
  - link to heavy rainfall
  - the volume and velocity of water involved
  - the danger presented by debris
  - the potential to cause material damage
  - the urgent threat to life.
- 
- There are 38 rapid response catchments in Lancashire

# Lancaster District

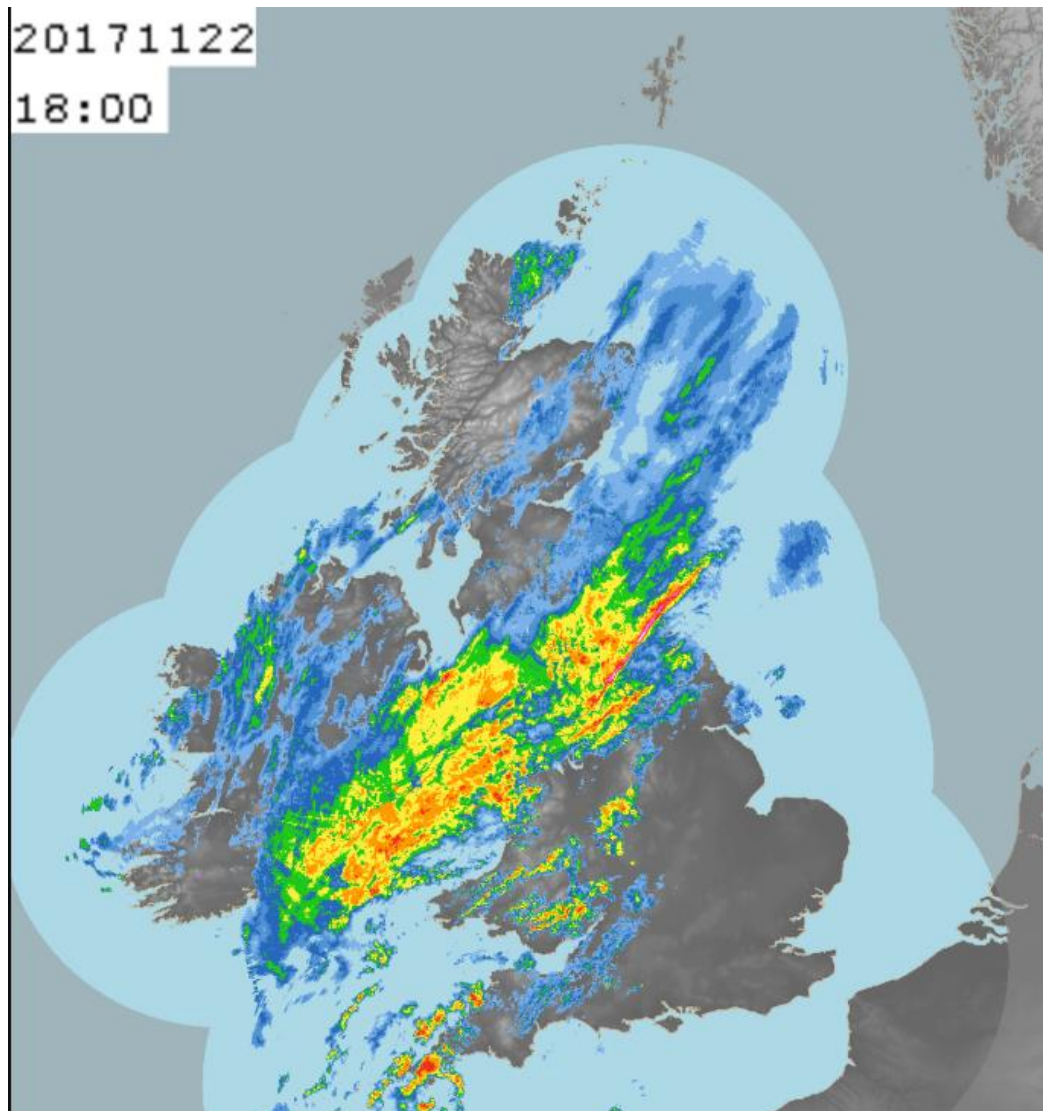




# Case study: Flash flooding in Galgate, Lancaster. November 2017.



# Rainfall Radar 1800hrs 221117



# River Conder at Galgate

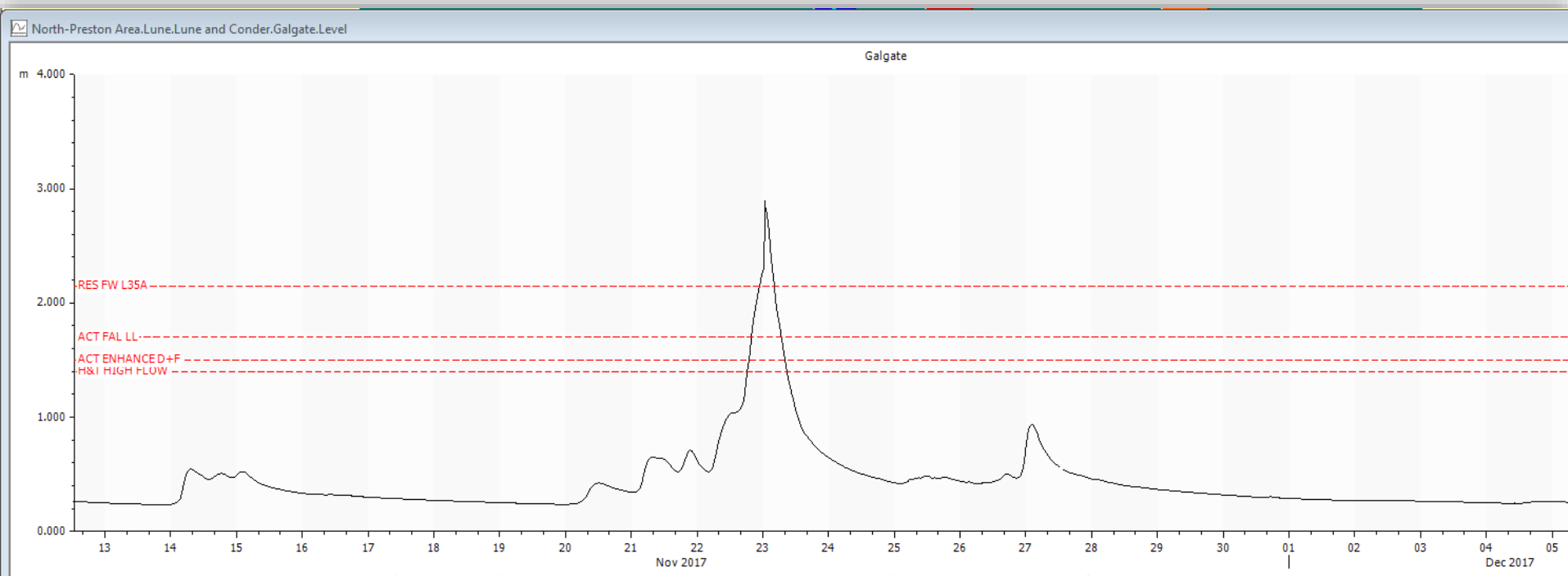
Routine flow



High flow



# River level at the 'River Conder at Galgate' gauge November 2017





# November 2017 key figures

- 103 properties confirmed flooded in Galgate alone on 22/11/2017.
- Many more properties reported flooded but unverified.



# Storm Desmond December 2015 – Headlines

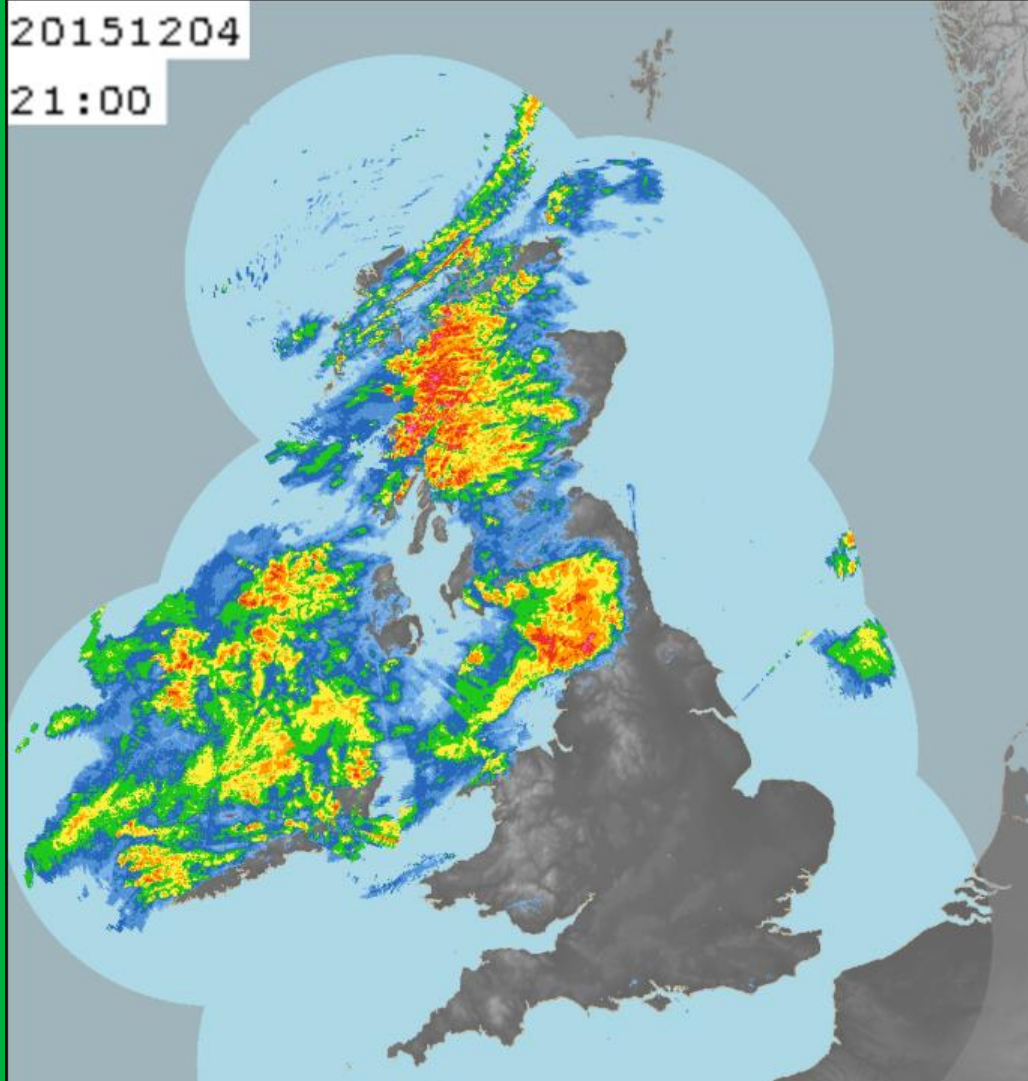
December 2015: **wettest and warmest** on record in the UK.

**2340 properties** flooded in Lancashire in December 2015.

**Record peak flows** on the River Lune— around 1700 cumecs (cubic metres per second)

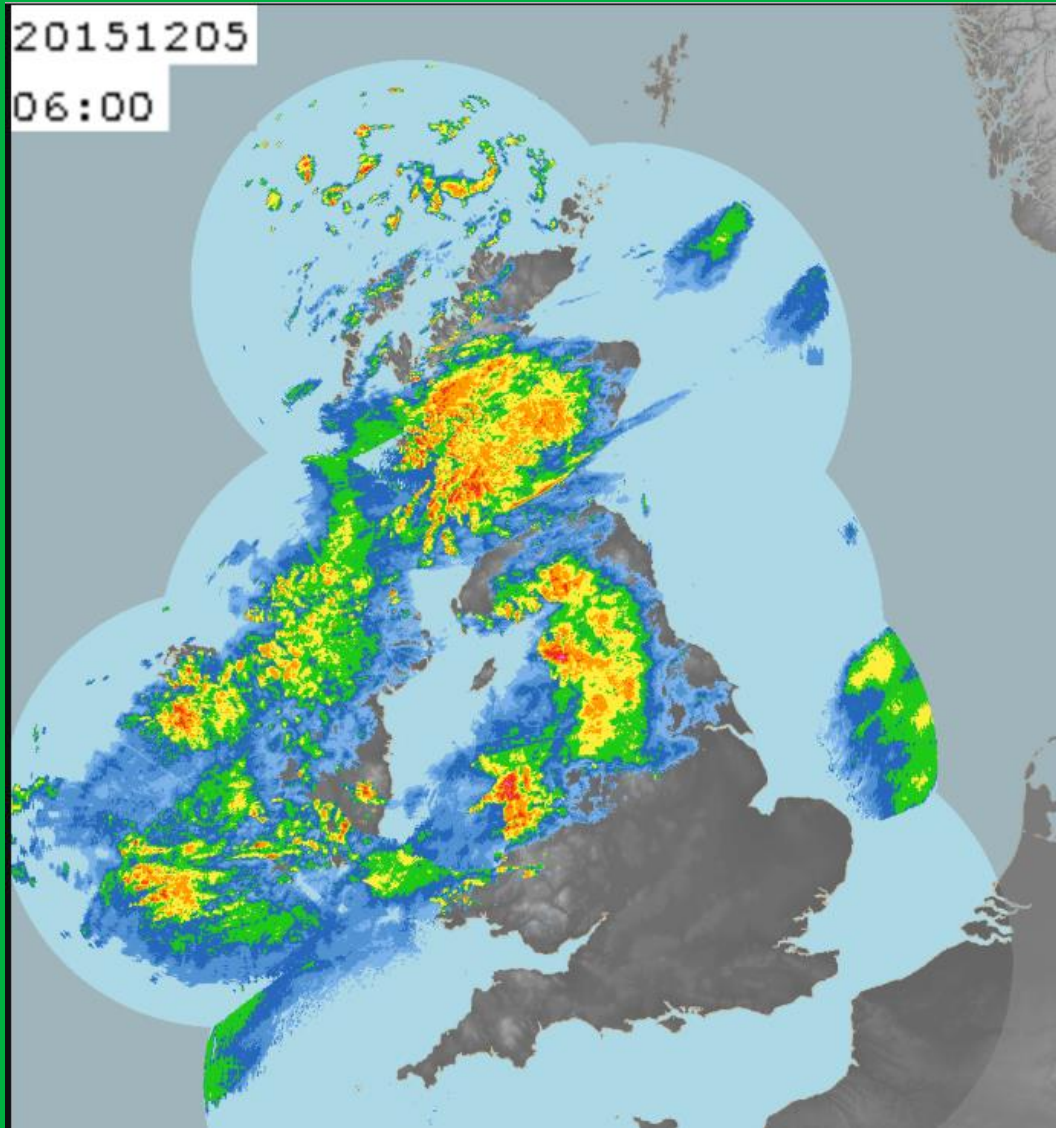
20151204

21:00



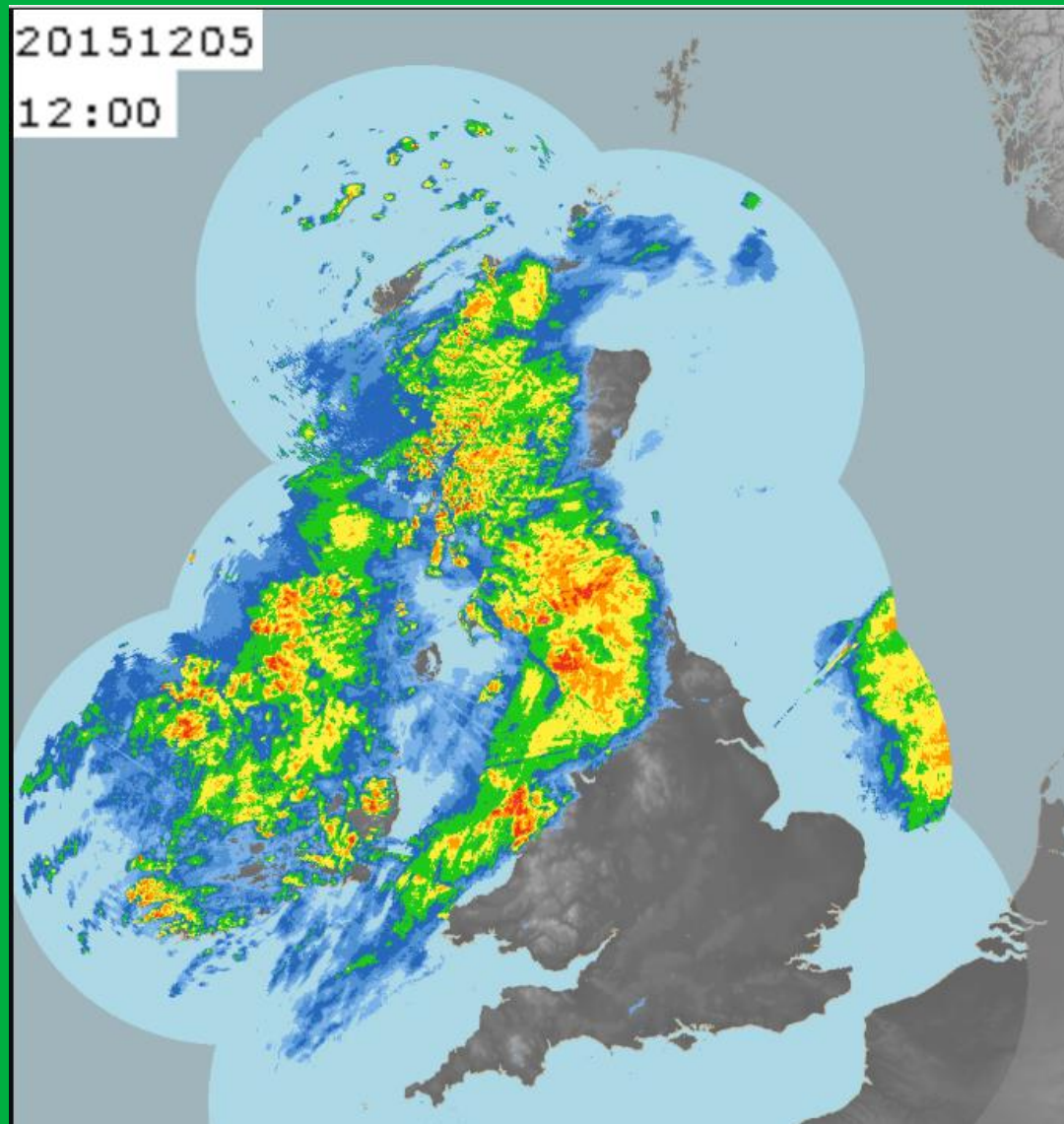
20151205

06:00



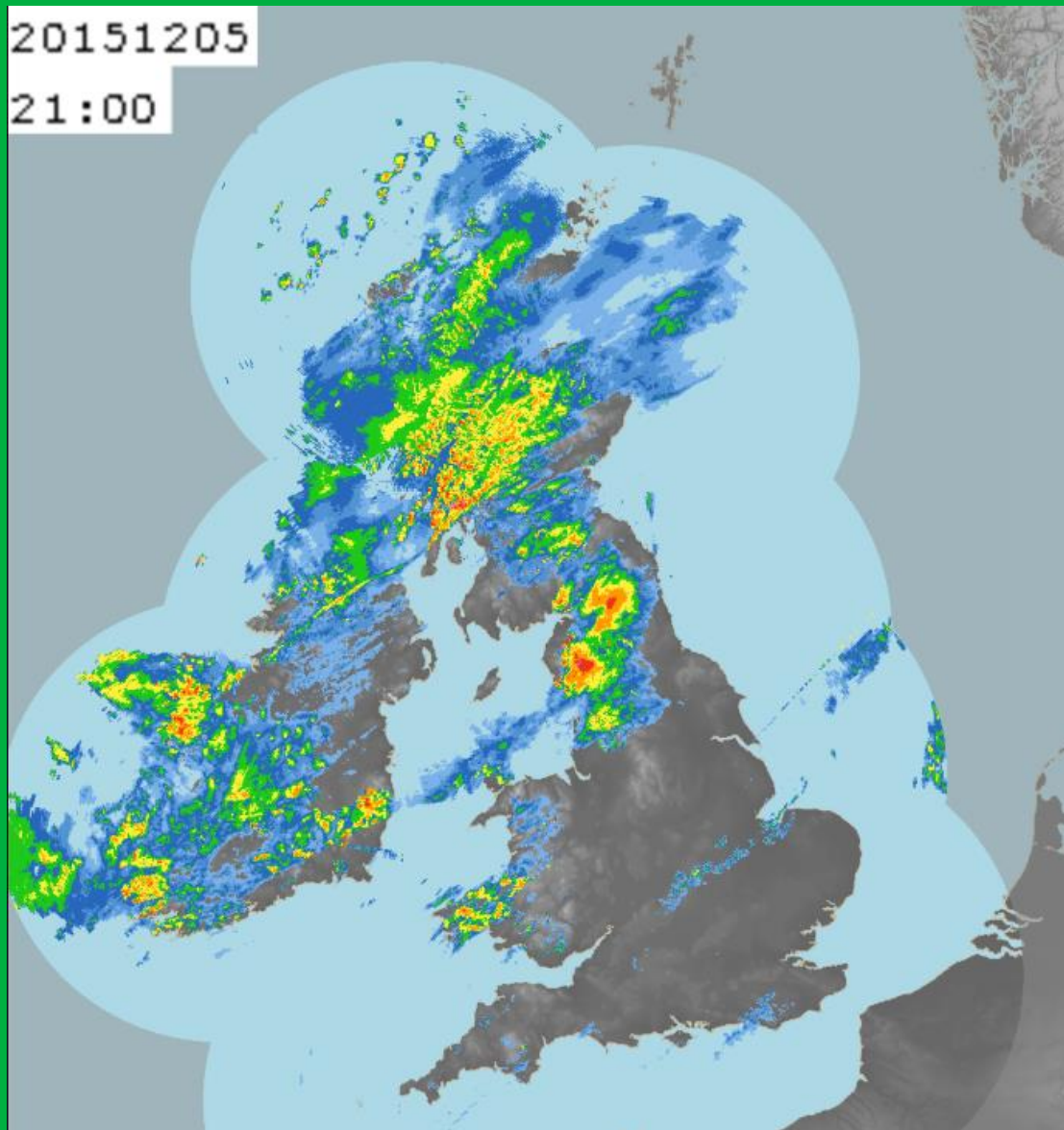
Environment  
Agency





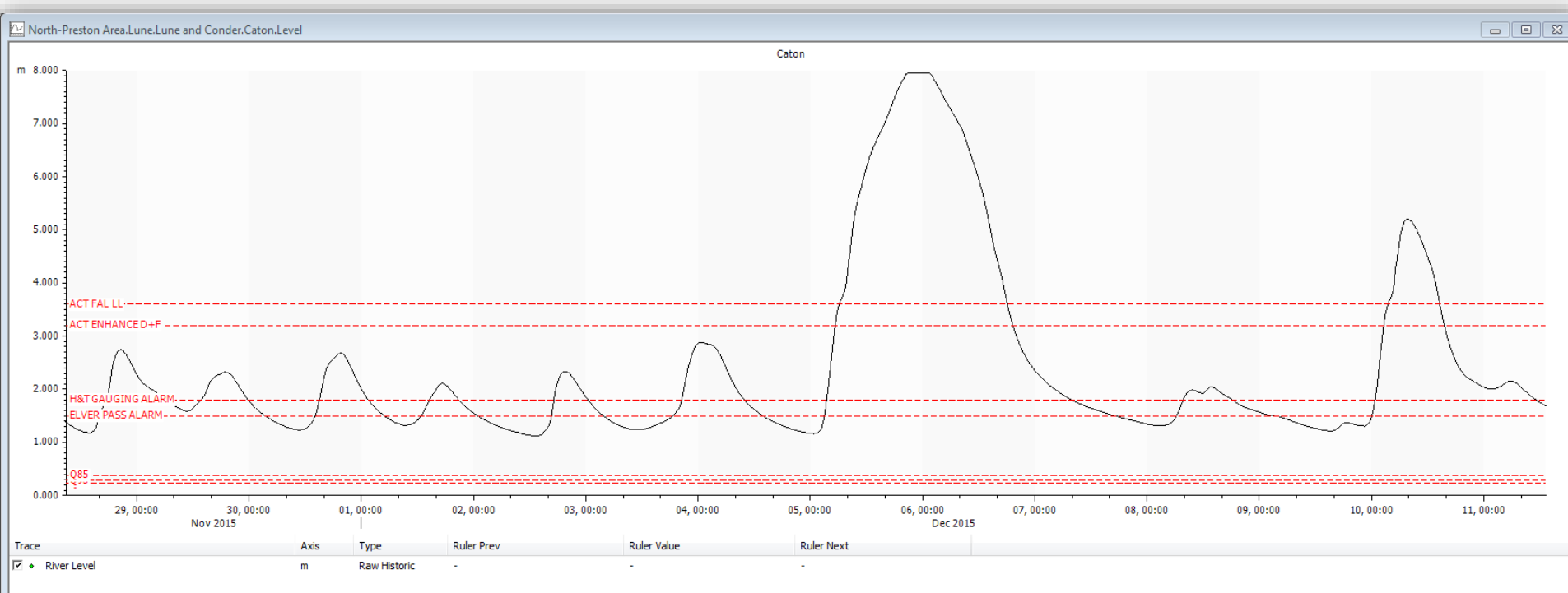
20151205

21:00



# Storm Desmond

Peak river level at Caton on the River Lune, December 5<sup>th</sup> – 6<sup>th</sup> 2015.





River Lune, 6<sup>th</sup> December 2015





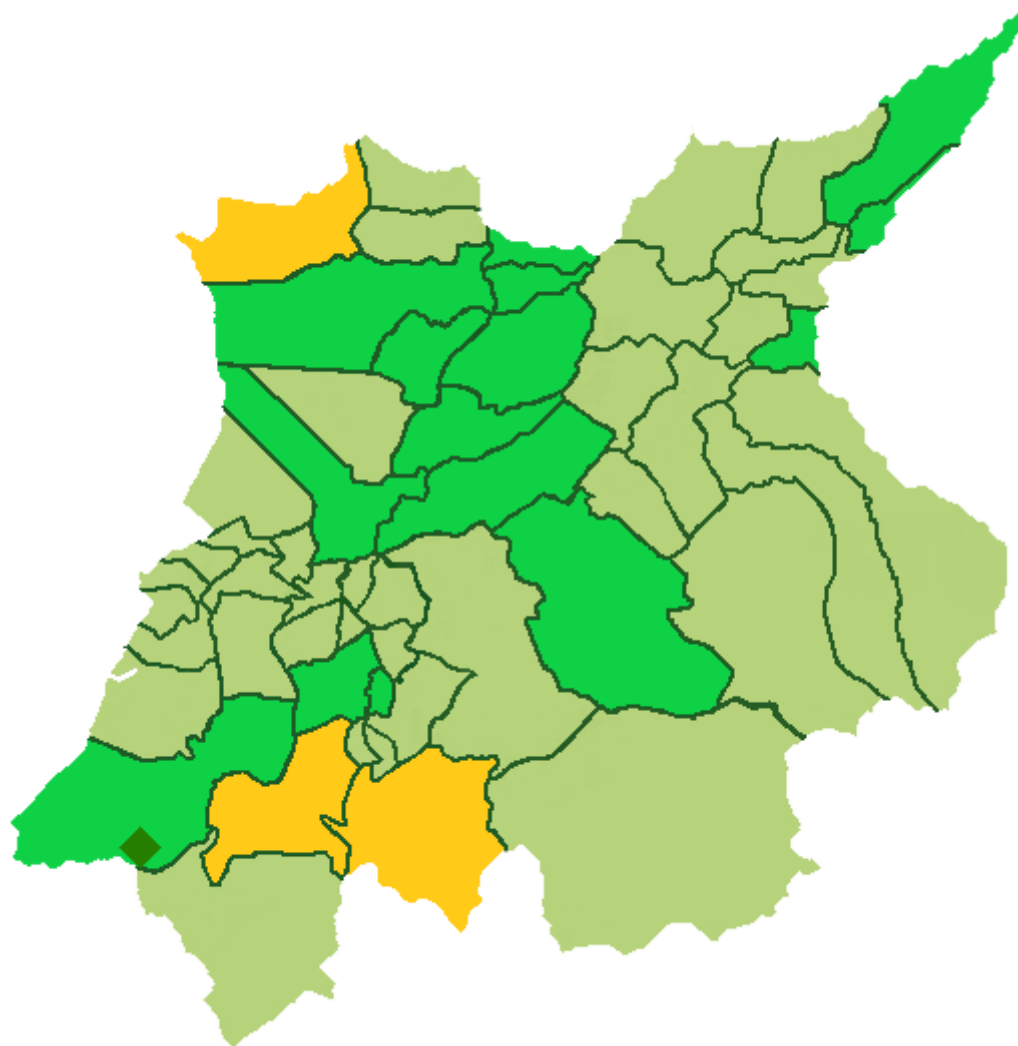
# Caton Road substation following flooding on 5<sup>th</sup> December 2015



# Caton Road substation in 2017

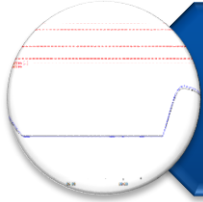


# Community Emergency Plans – Lancaster District





# Telemetry network: the benefits



Near real-time data



Data gathered increases knowledge of risk



Flexible solutions to suit budget and needs



Data available to customers & partners





# Telemetry: the limitations



Potentially high initial cost



Ongoing cost of maintenance & decommission



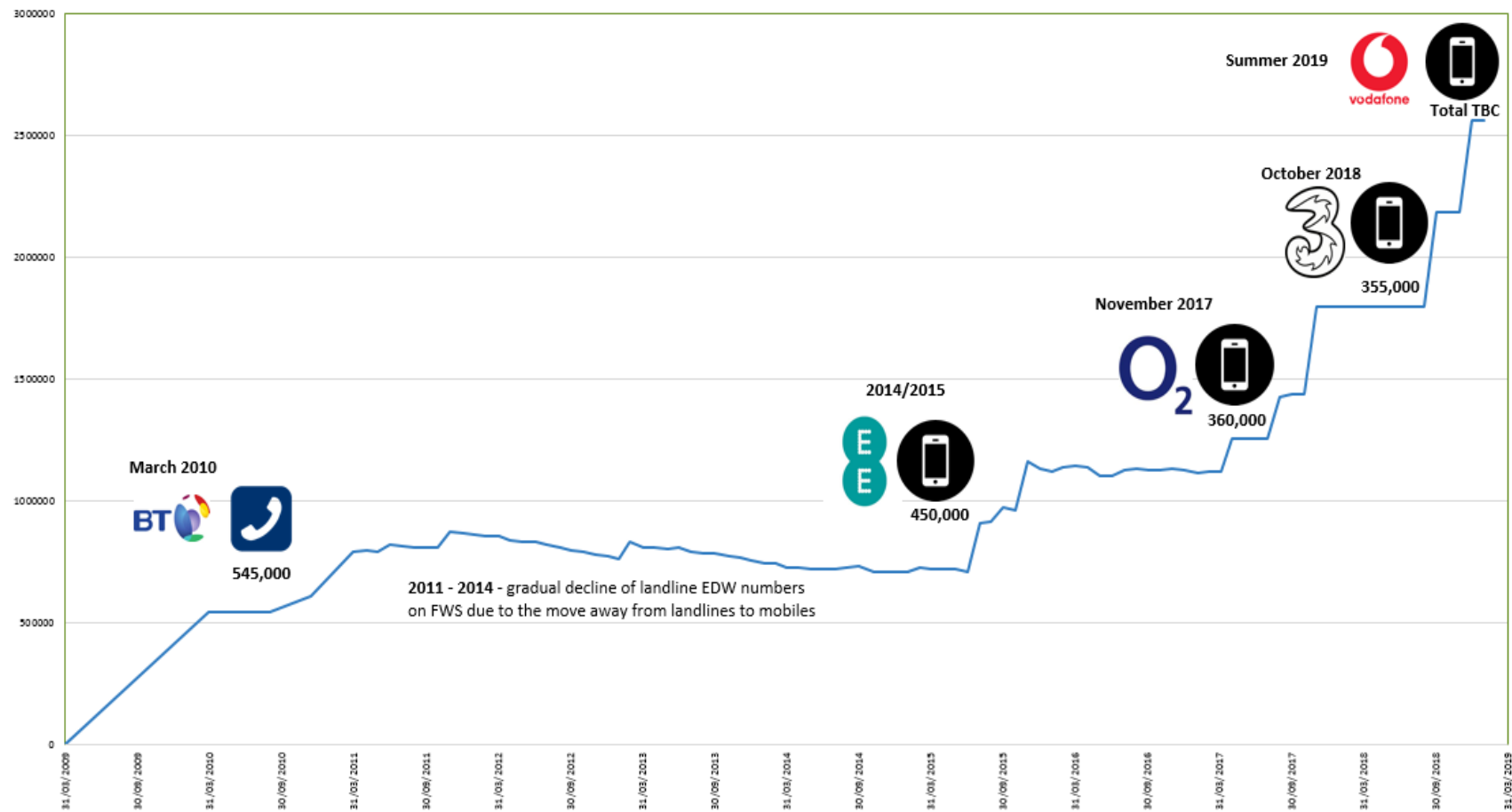
Specialist skills needed for maintenance



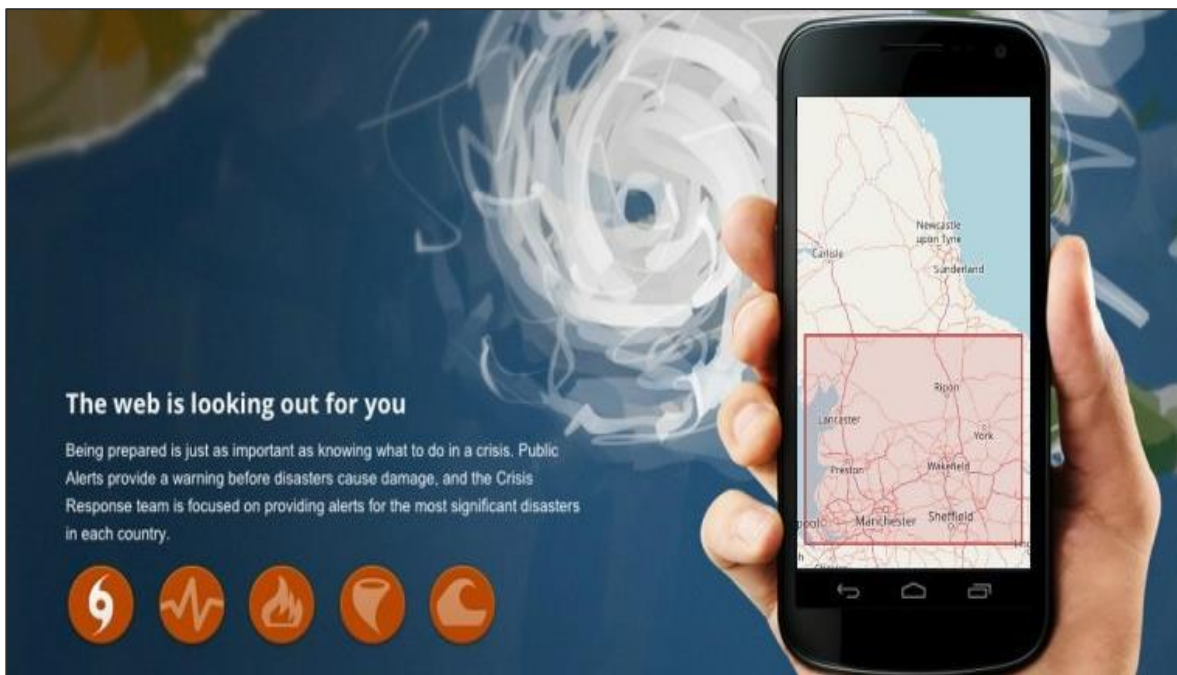
Vulnerability of assets



# Future ways of warning people: Growth of 'opt-out' warning



# Future ways of warning people: reaching those at greatest risk

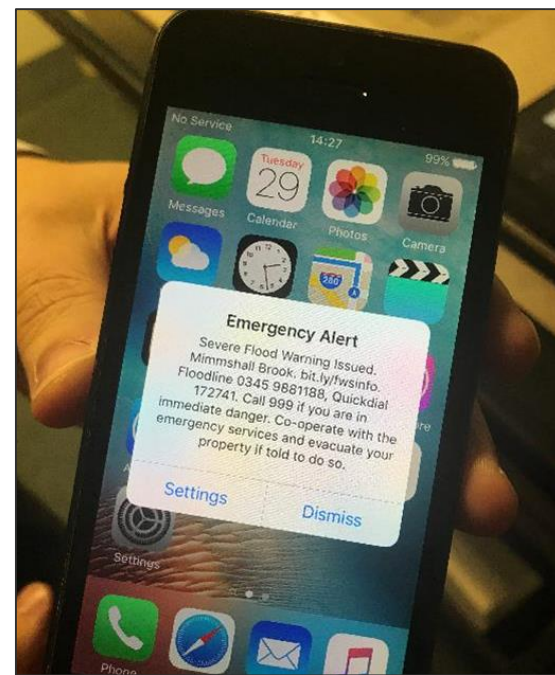


The web is looking out for you

Being prepared is just as important as knowing what to do in a crisis. Public Alerts provide a warning before disasters cause damage, and the Crisis Response team is focused on providing alerts for the most significant disasters in each country.

Icons representing various disaster types: a lightning bolt, a heart rate line, a flame, a water drop, and a wave.

Google Public Alerts



Emergency Alert

Severe Flood Warning Issued.  
Mimmshall Brook. [bit.ly/fwsinfo](http://bit.ly/fwsinfo).  
Floodline 0345 9881188, Quickdial  
172741. Call 999 if you are in  
immediate danger. Co-operate with the  
emergency services and evacuate your  
property if told to do so.

Settings Dismiss

Cell broadcasting



# Summary and close

