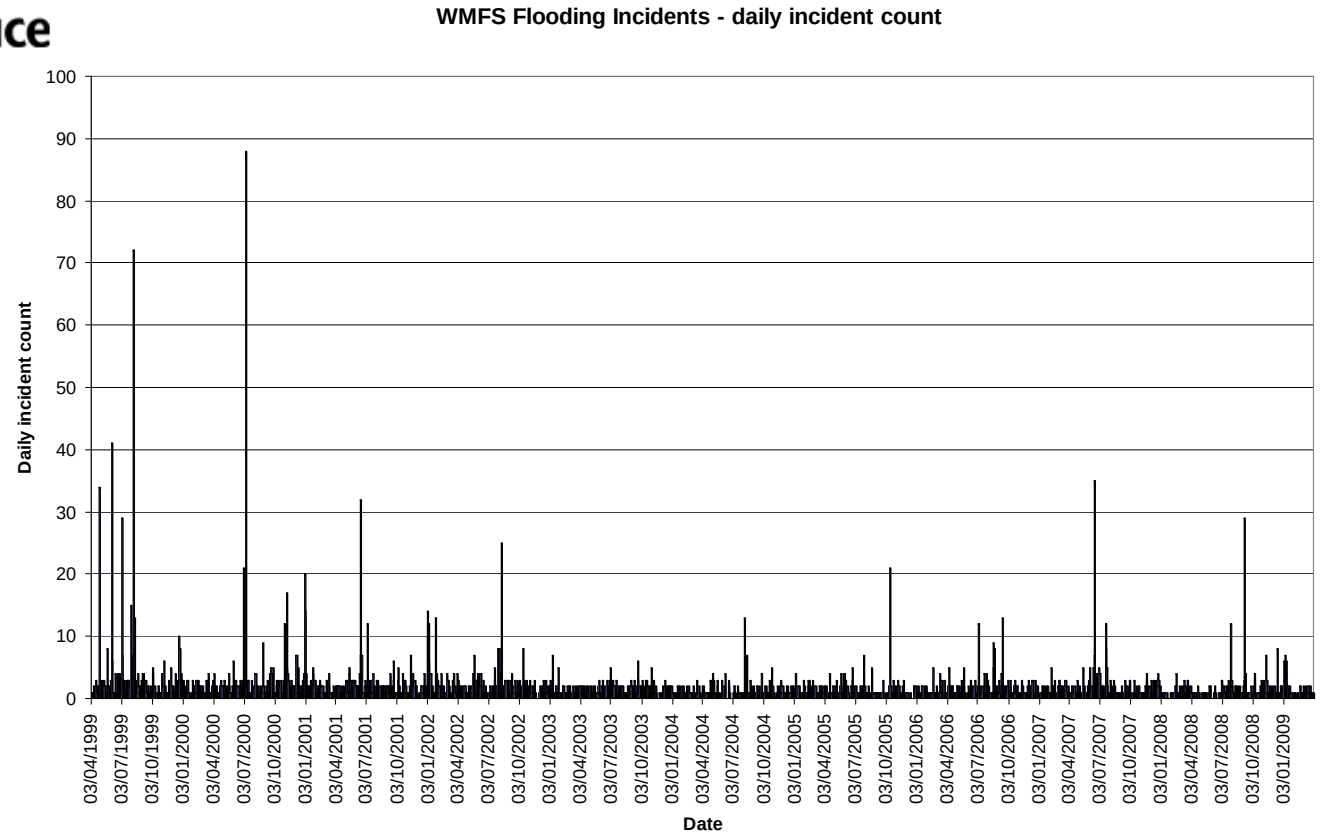
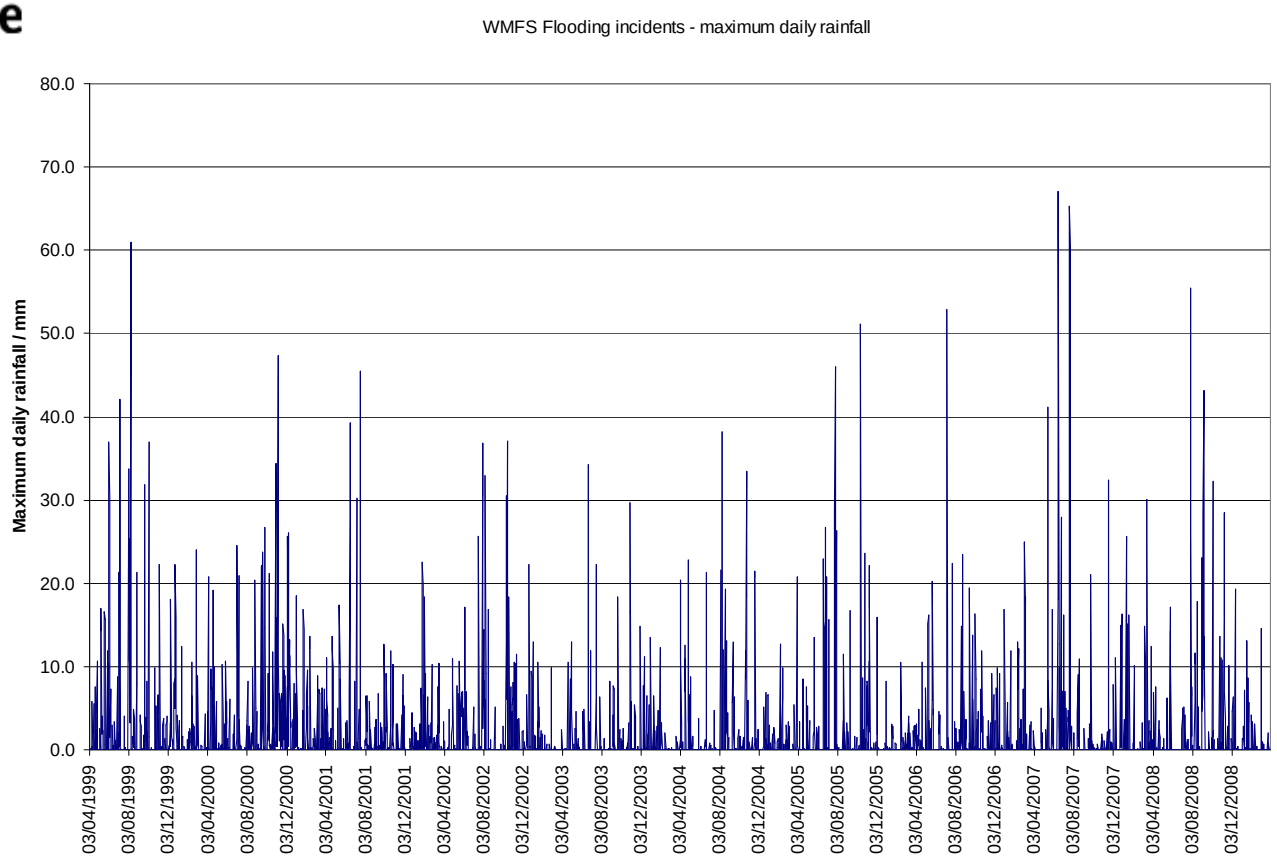
WMFS - flooding overview



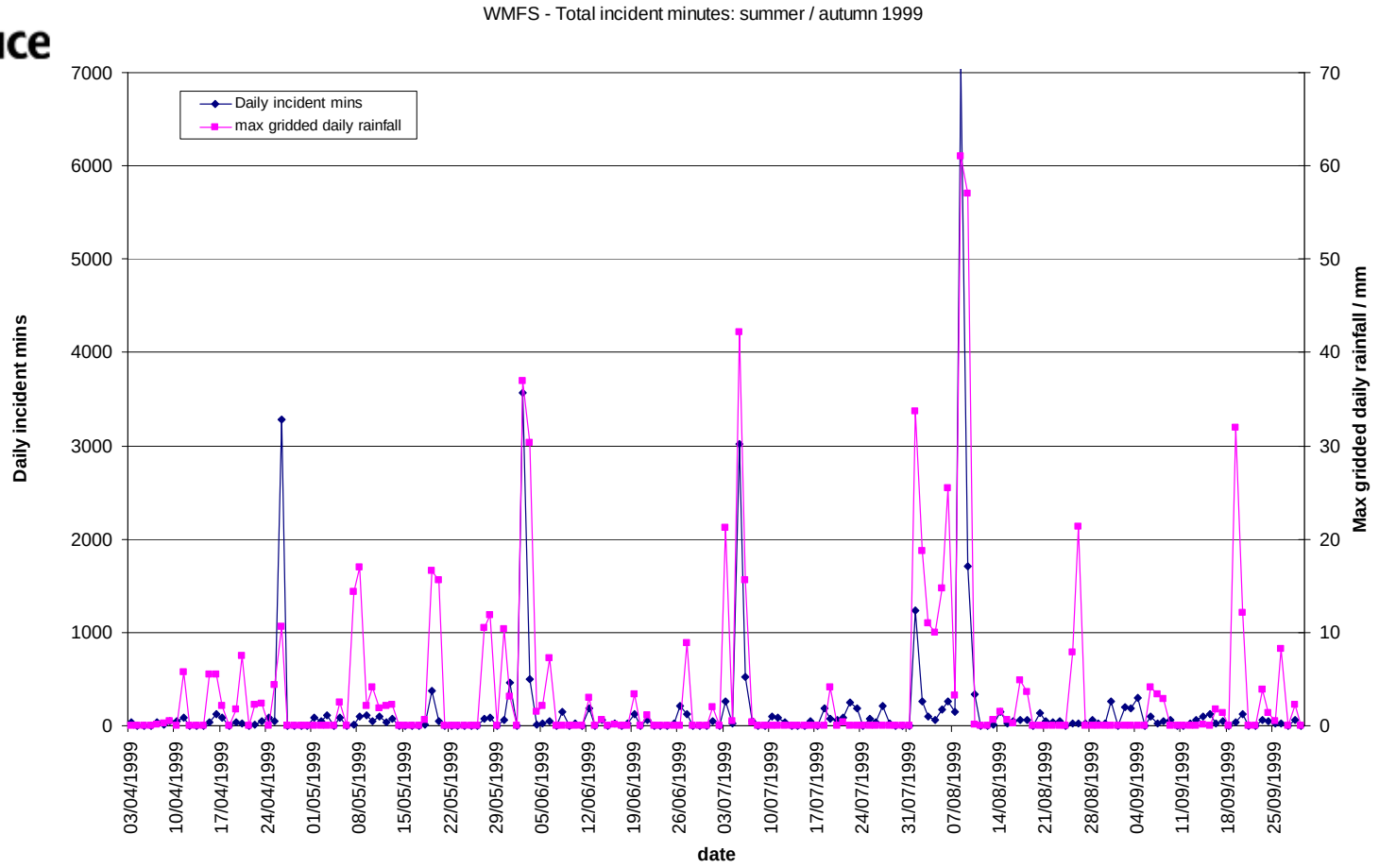
- Limited number of days with very great demand – capacity planning issues
- WMFS – anticipate majority are pluvial events

WMFS - daily rainfall



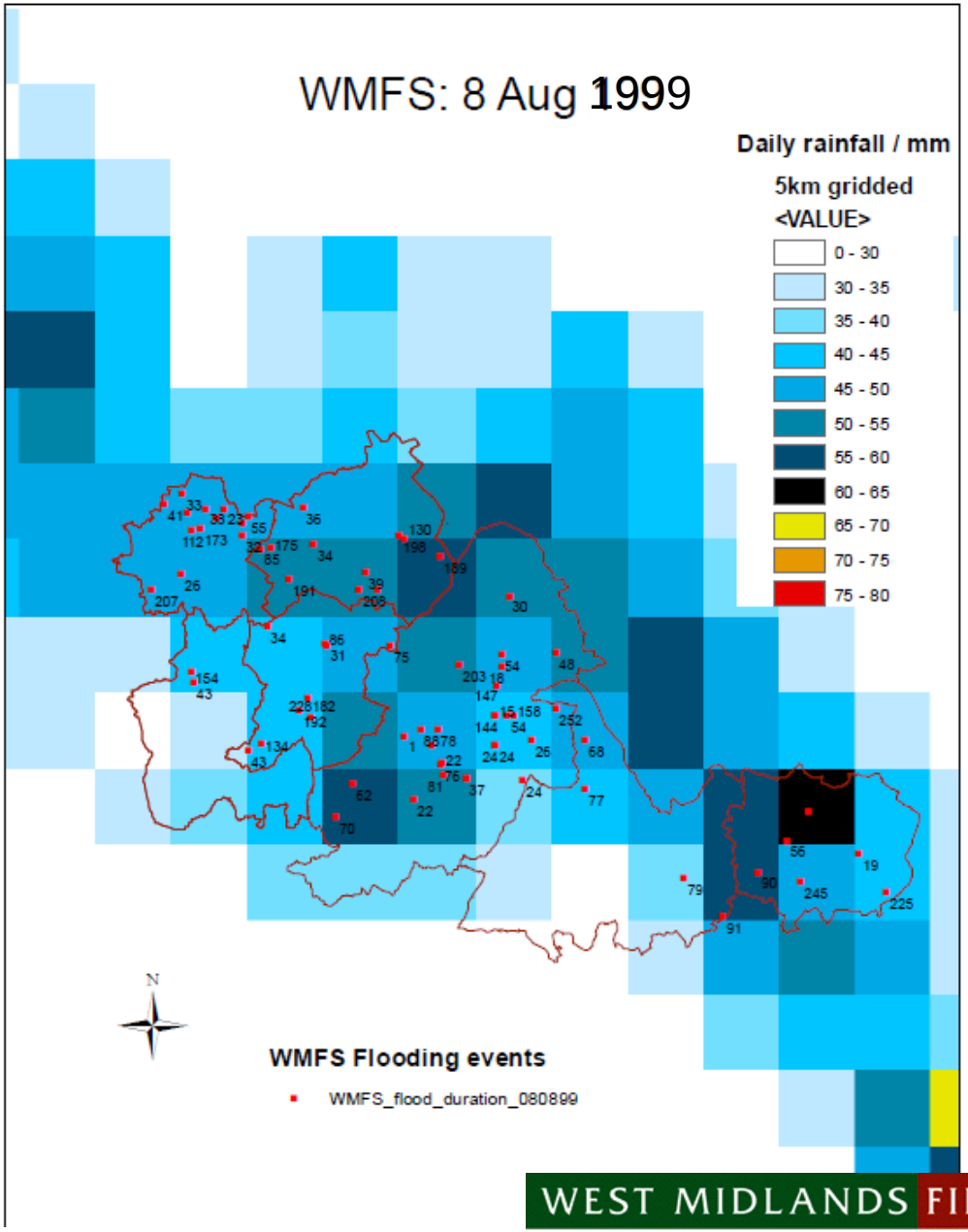
- Summer convective events give highest daily rainfall

WMFS - flooding overview - summer 1999

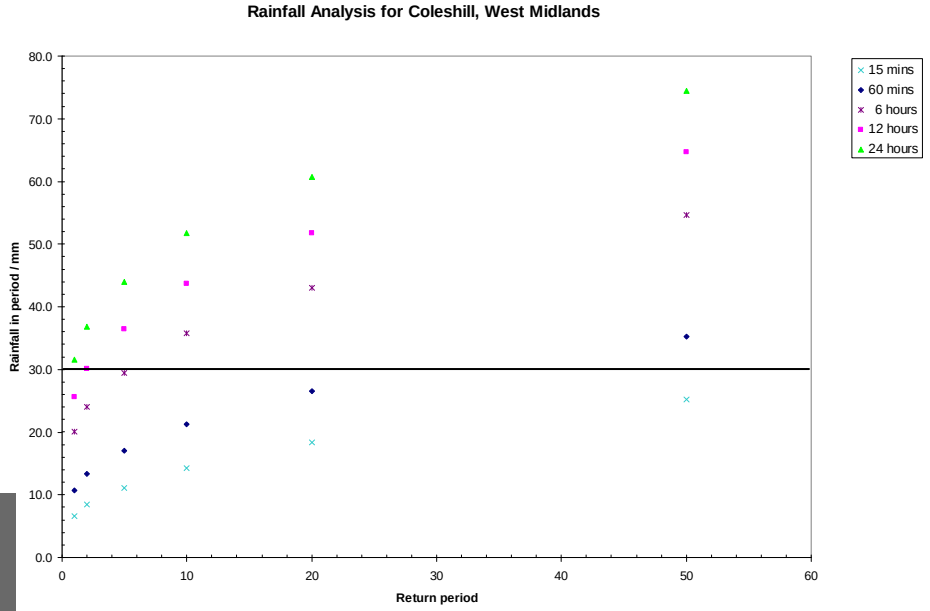


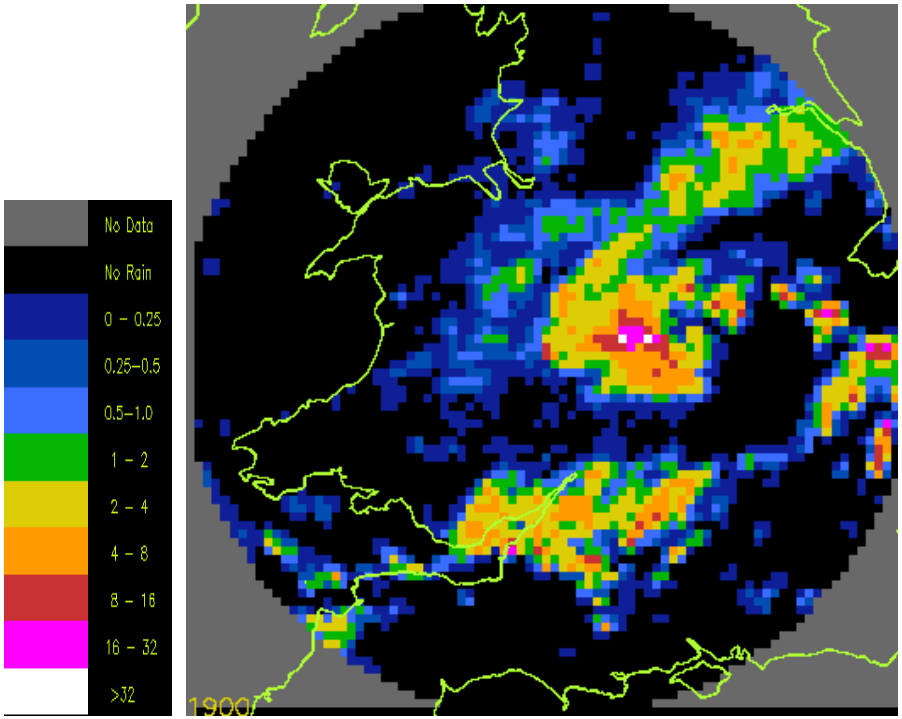
- Summer incidents – convective heavy rainfall events – can be very localised, eg 8/8/99
- When daily rainfall < 20mm, number of incidents can be few – but not always
- What about incidents when hardly any daily rainfall? In-building events or fluvial?
- Sensitivity – some areas have higher pop density; also sewers may be less able to cope with intense events
- Adaptation – sewer upgrades (Severn Trent Water are doing this in Aston area)…

Gridded daily rainfall & incident duration



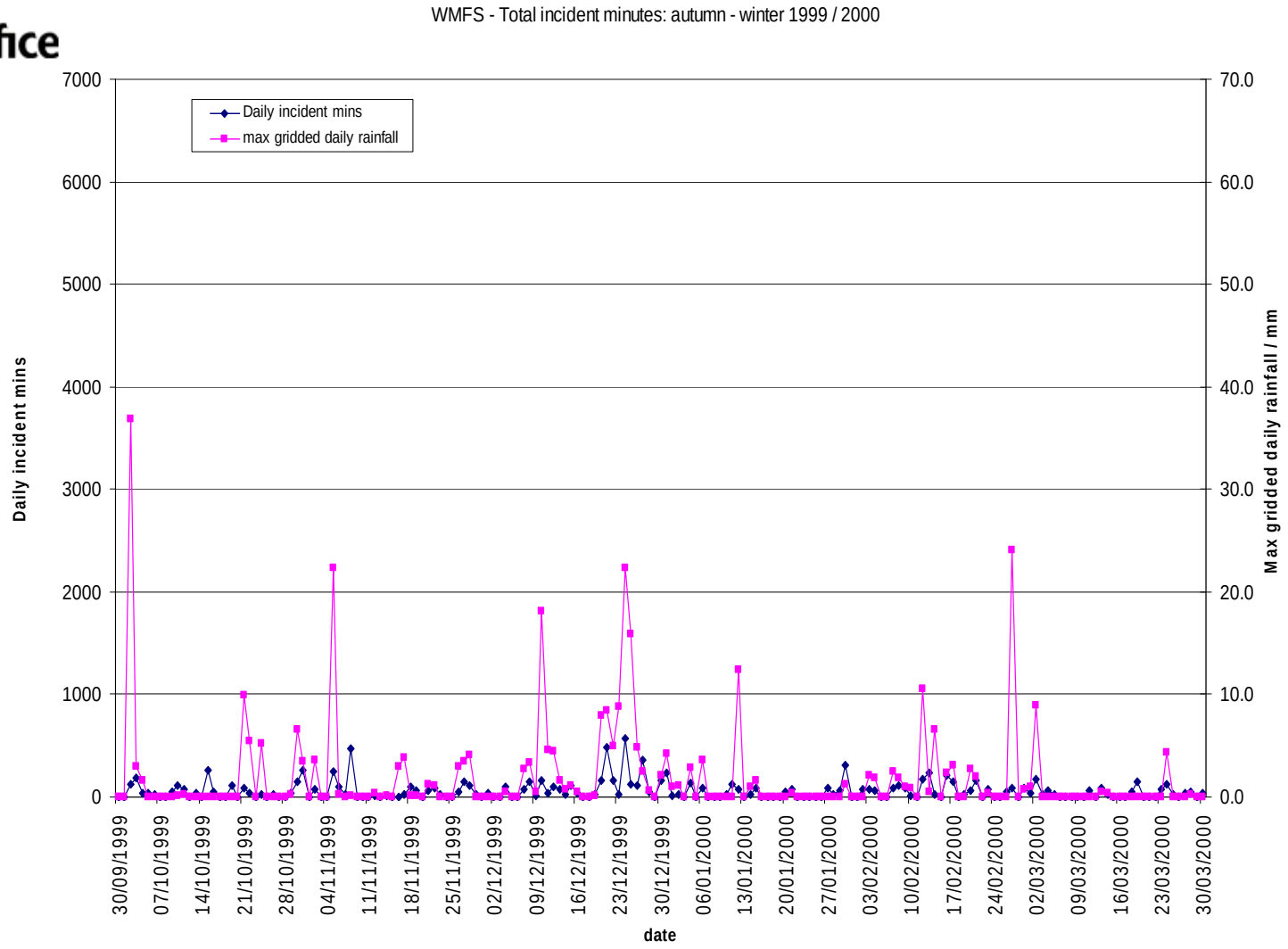
Rainfall analysis



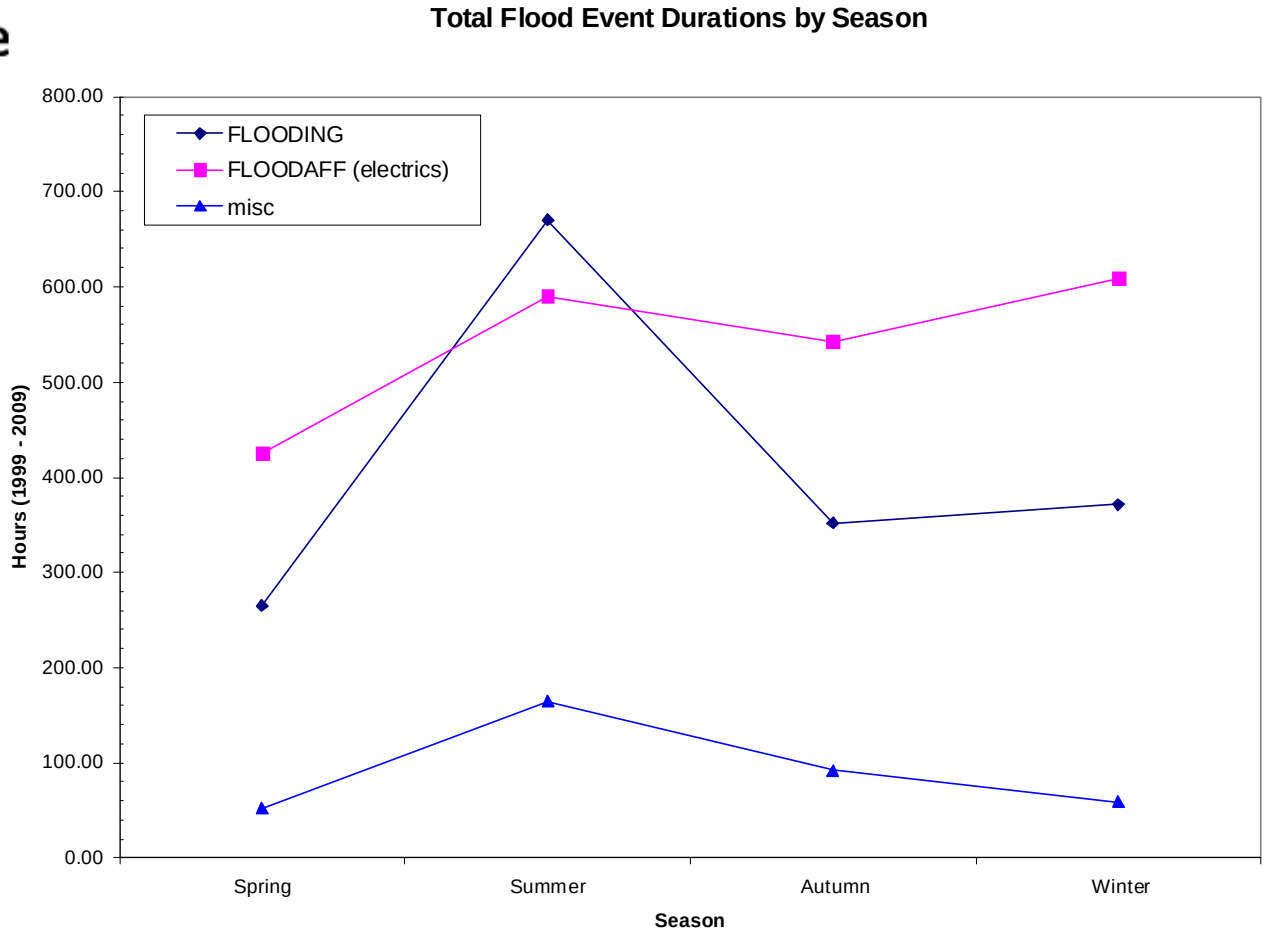


- 30 mm rainfall in 1 hour ~ 1 in 35 years
- 30 mm rainfall in 1 day ~ once per year

WMFS - flooding overview - winter 1999



WMFS - flooding incident codes



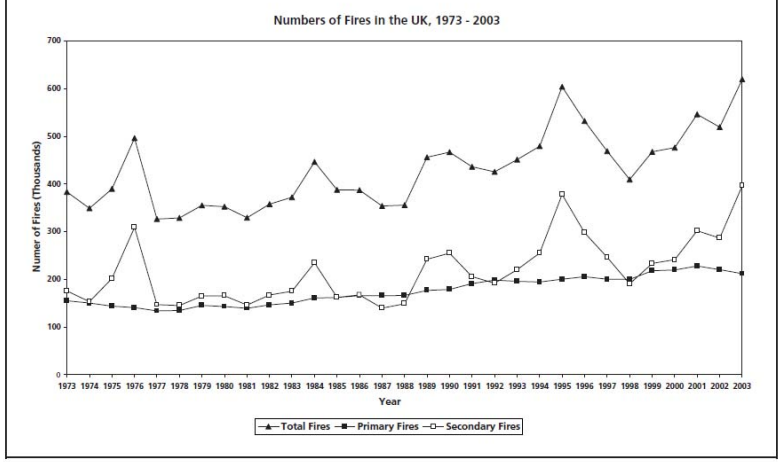
- 2 major codes are used, supplemented by free text with instructions about location or nature of event

An example of incident reports

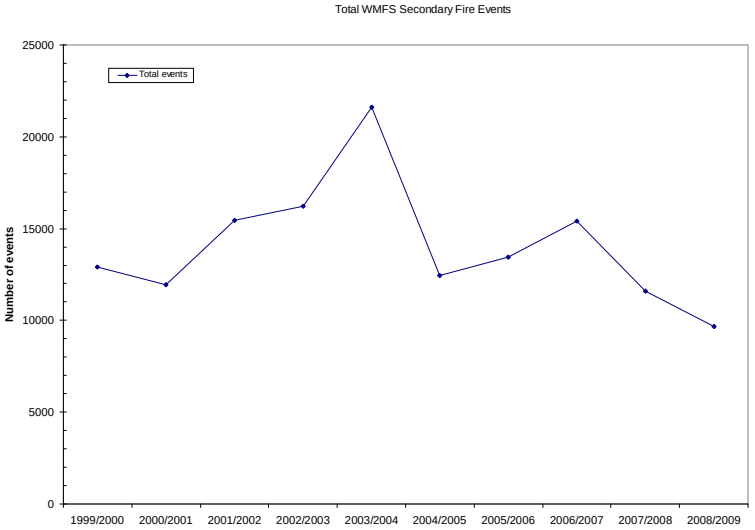
FLOODING	FLOODING	FLOODING THROUGH CEILING POSSIBLY AFFECTING ELECTRICS
FLOODAFF	FLOODING AFFECTING ELECTRICS	C041 ALSO REQUESTED TO ATTEND NUMBER 85 AND NUMBER 23 STATION RD.
FLOODING	FLOODING	
FLOODING	FLOODING	
FLOODING	FLOODING	
FLOODING	FLOODING	OAP
FLOODING	FLOODING	OAP IN A BUNGALOW
FLOODING	FLOODING	STREAM AND CULVERT BURSTING BANKS
FLOODAFF	FLOODING AFFECTING ELECTRICS	
FLOODING	FLOODING	NUMBER 2 --GRD FLOOR FLOODED 5 INCHES DEEP 3 FT DEEP IN BASEMENT
FLOODING	FLOODING	FLOODING FS HAVE ATTENDED - NOWHERE TO PUMP THE WATER TO
FLOODING	FLOODING	SUBSTATION NEXT DOOR 2 FT UNDER WATER, HOUSE 1 FT UNDER WATER
FLOODING	FLOODING	BASEMENT
FLOODING	FLOODING	IN BASEMENT UNDERNEATH COMMS WORKSHOP
FLOODING	FLOODING	
FLOODAFF	FLOODING AFFECTING ELECTRICS	EMPTY HOUSE NR NO 128
FLOODAFF	FLOODING AFFECTING ELECTRICS	OFF CHURCH LANE
FLOODING	FLOODING	FLAT NO 17 COA**
FLOODING	FLOODING	
FLOODAFF	FLOODING AFFECTING ELECTRICS	
FLOODING	FLOODING	OFF SHERLOCK ST
FLOODAFF	FLOODING AFFECTING ELECTRICS	OAP PROPERTY
FLOODING	FLOODING	OAP FLOODED
FLOODAFF	FLOODING AFFECTING ELECTRICS	
FLOODAFF	FLOODING AFFECTING ELECTRICS	
INSP	INSPECTION CALL	CANAL OVERFLOWING - WATER NEAR HOUSE (POSSIBLE FLOODING)

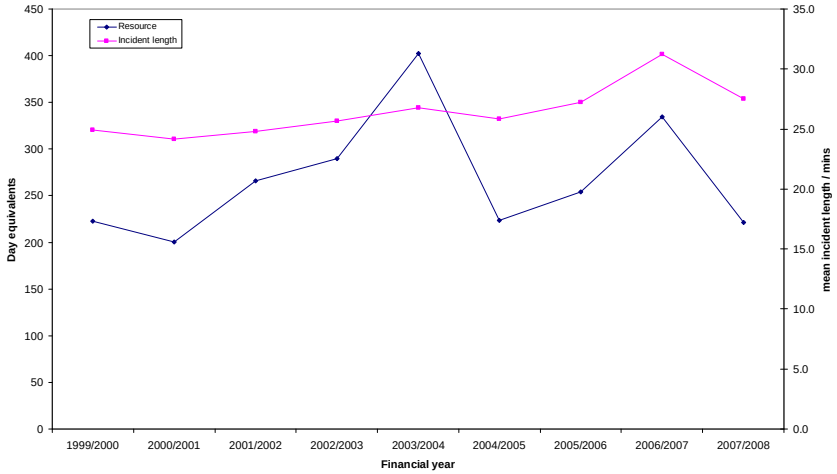
WMFS - secondary fires

Figure 1: **Adapted from: Economic Impacts of the Hot Summer and Unusually Warm Year of 1995[3]** (The figure has been extended to include data from 1995 to 2003)



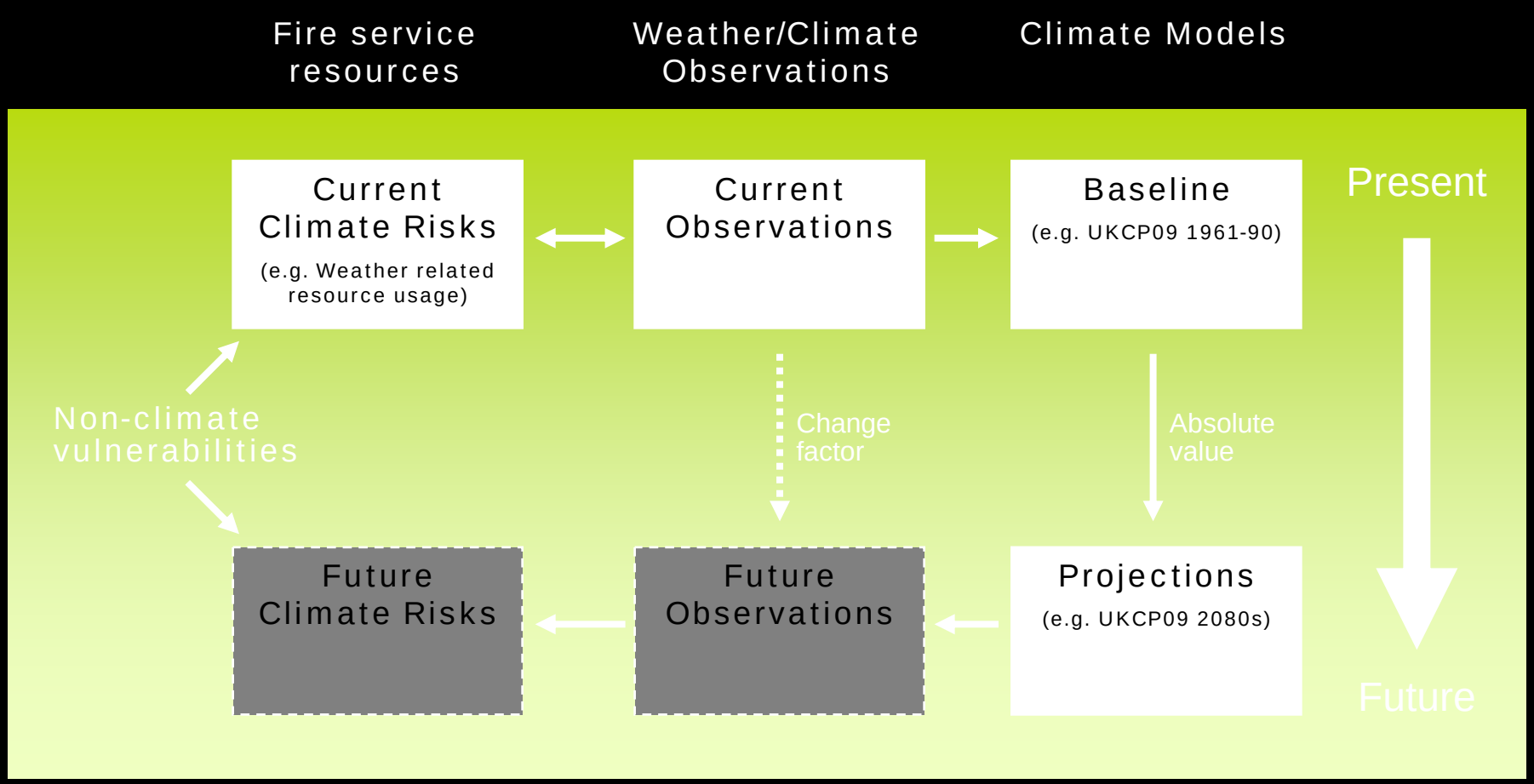
WMFS Secondary fires





- 2003/4 peak related to temps & drought
- Investigate relationships…

Fire Service Climate Risk Assessment: Methodology



IRMP & CIRF

- Fire and Rescue Services need to ensure that robust but flexible response arrangements are in place to deal with the impacts of climate change and associated changing community risks. Issues include
  - Call Demand Levels
  - Appliances and Equipment Availability
  - Training and Development of Staff
  - PPE and Welfare Issues
  - Broadening of Role
- This can be achieved by drawing on available research and climate change expertise, for guidance.

For further information, contact -

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Questions & answers