



Public Health
England

Protecting and improving the nation's health

Setting operational thresholds for Heat Early Warning Systems Lecture 3 – Working together

Ross Thompson & Carolina Cerrudo

June 02, 2020 – GHHIN Masterclass series

Overview

- Partnerships - ways of working
- Thresholds
 - What type of system?
 - What data metrics to use?
 - Consensus
- Examples from Argentina and England
- How such systems fit into Heat Health Action Plans

Partnerships

Heat Health Alert

Tel: 0370 900 0100 www.metoffice.gov.uk

NHS (Ref: MO43)

Forecast Issued on Monday, 22 July 2019 at 09:2


Heat Health Watch

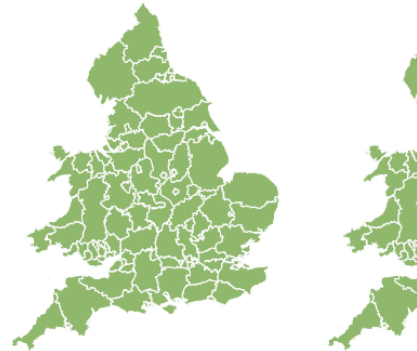
Level 3 - Heatwave Action

<https://www.metoffice.gov.uk/public/weather/hea>

There is a 90 % probability of heat health crit Friday in parts of England.

FLOODFORECASTING

a working partnership between  Environment Agency



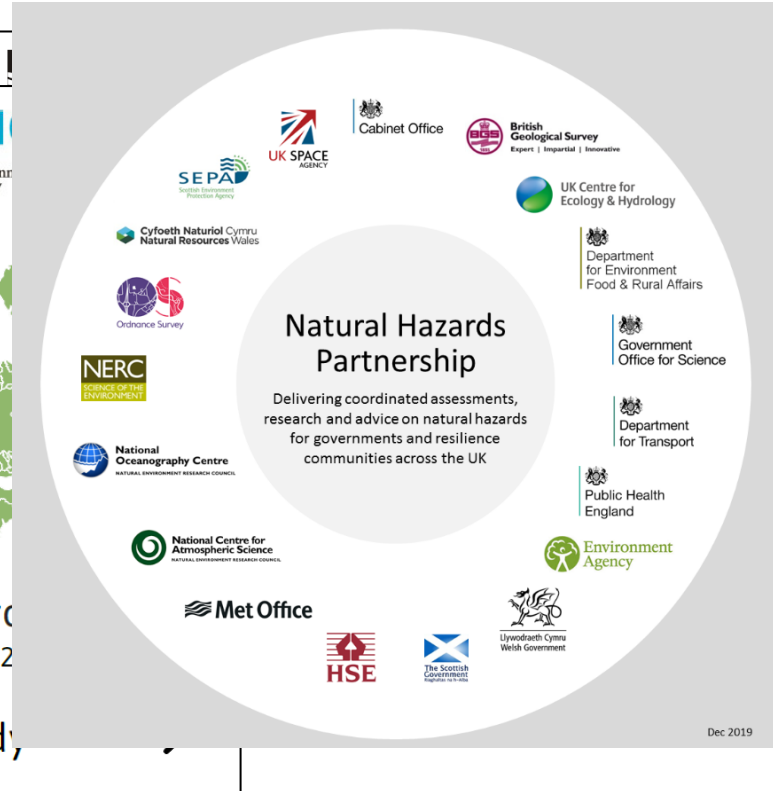
Friday
22 May 2020

Steady



Saturday
23 May 2020

Steady



Setting thresholds - 1

Two key questions:

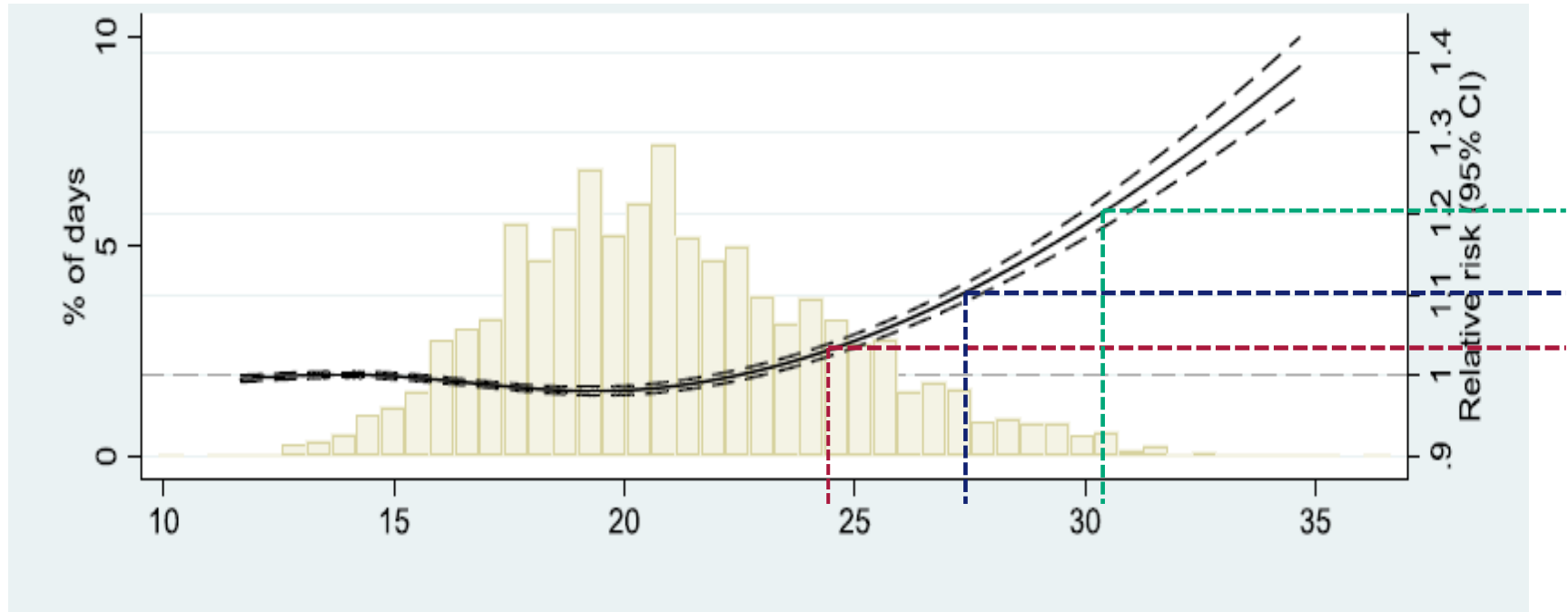
1. What type of warning system is suitable?
2. Which metrics should be used?

Dependant on one dominant variable = **DATA AVAILABILITY**

- spatial and temporal resolution of the data
- How current the data is
- Operational issues such as processing time, system requirement etc

Setting thresholds - 2

Understanding the risk - risk appetite



Setting thresholds - 3

Consensus is key to setting thresholds - expert and professional judgment is required from:

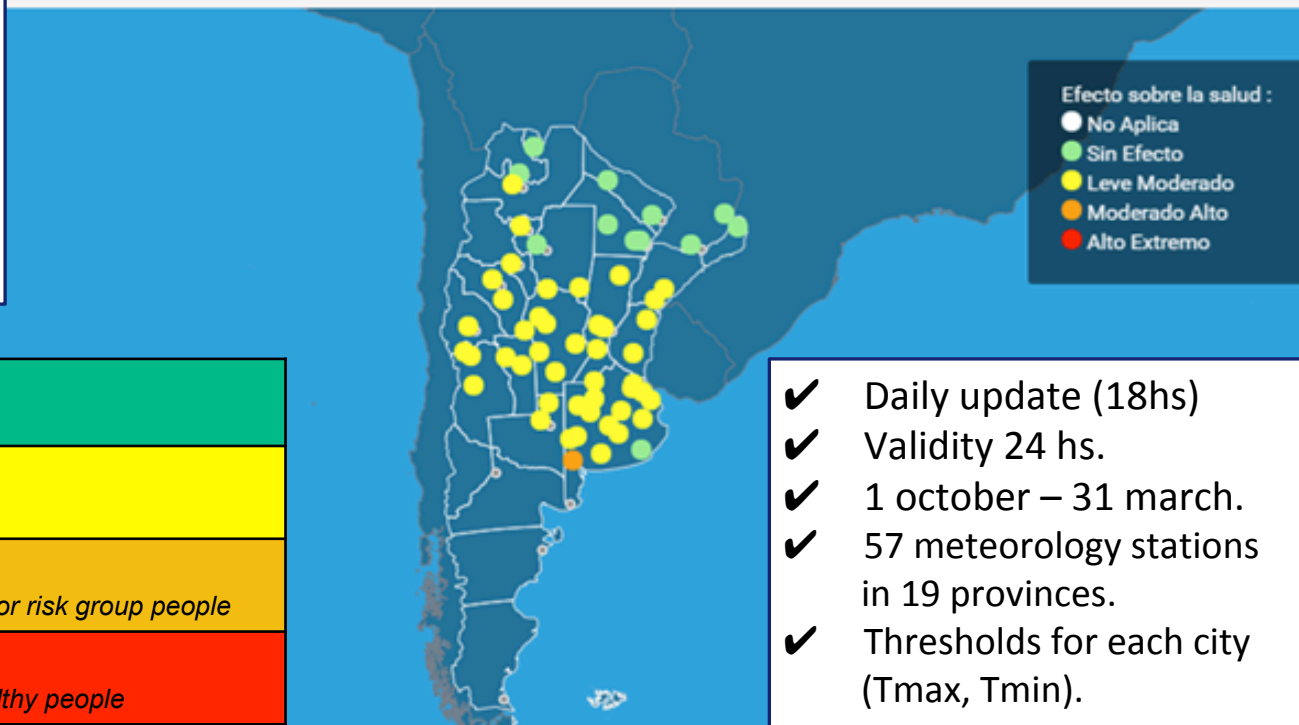
1. Public health practitioners and experts
2. Met services
3. Academic experts
4. Other sectors (depending on ambition or use)
5. Government civil contingency policy



Argentina heat health warning example - tbr

- ✓ Combination of climatology percentiles and mortality.
- ✓ Codesigned with Ministry of health.
- ✓ Includes recommendations of health organism.

Emisión: 18/02/2019 18:00hs - Vigencia 24hs.



Green	No effect on health
Yellow	Slight – moderate effect <i>Specially for risk group people</i>
Orange	Moderate – high effect <i>Might be very dangerous, specially for risk group people</i>
Red	High – extreme effect <i>Very dangerous. Might affect all healthy people</i>

- ✓ Daily update (18hs)
- ✓ Validity 24 hs.
- ✓ 1 october – 31 march.
- ✓ 57 meteorology stations in 19 provinces.
- ✓ Thresholds for each city (Tmax, Tmin).

UK heat health warning example

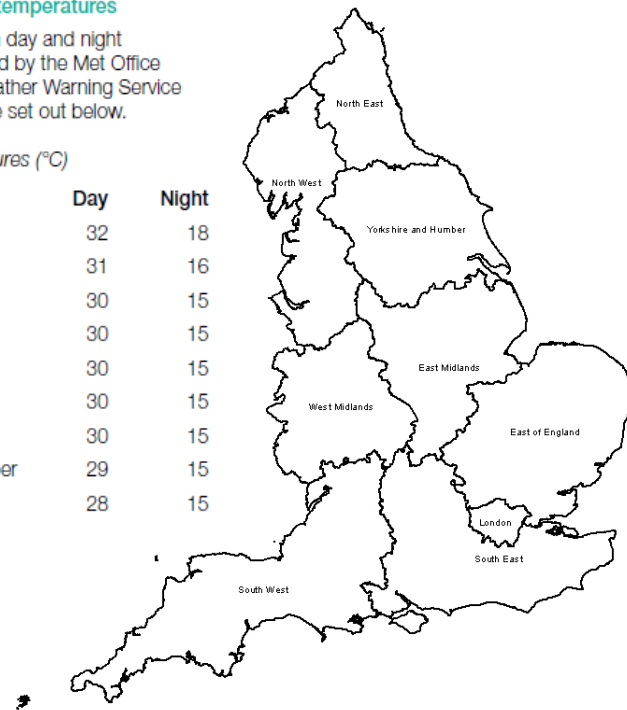
Level 0	Long term planning <i>All year</i>
Level 1	Heatwave and Summer Preparedness Programme <i>1 June – 15 September</i>
Level 2	Heat episode is forecast – Alert and readiness <i>60% risk of reaching thresholds within next 2-3 days</i>
Level 3	Heatwave action <i>Thresholds reached in one or more regions</i>
Level 4	Major incident – Emergency response <i>Declared by central government</i>

LOCAL Threshold temperatures

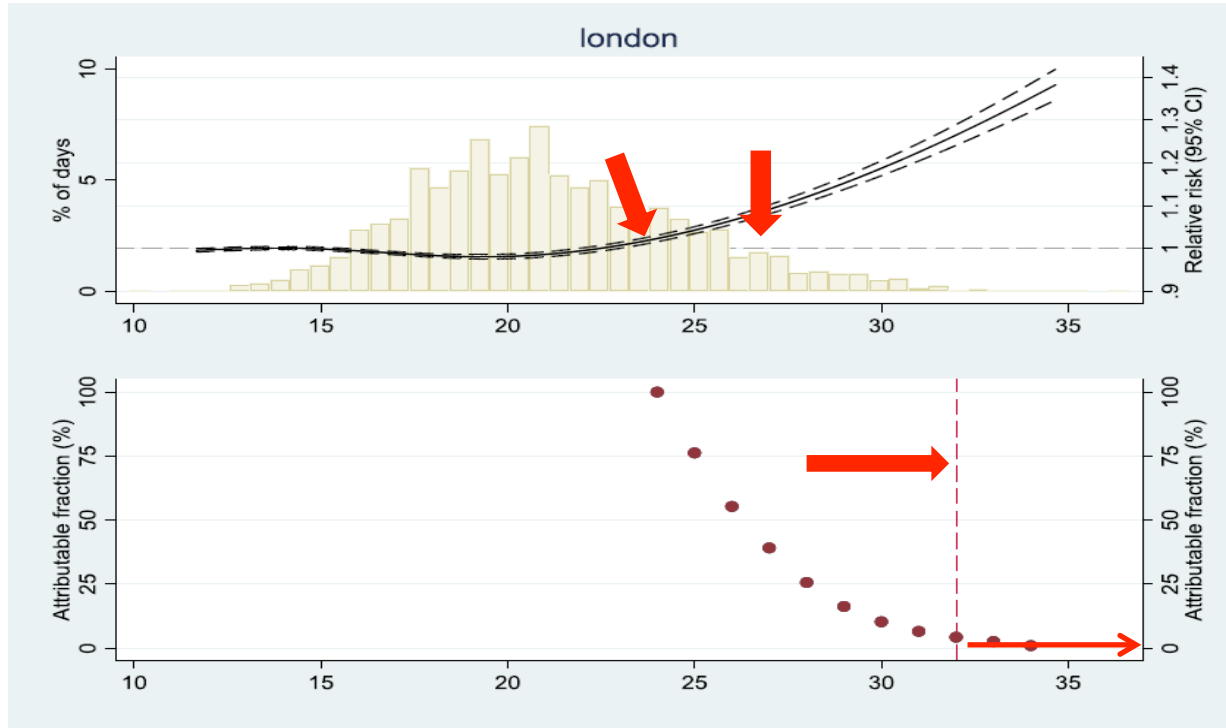
Threshold maximum day and night temperatures defined by the Met Office National Severe Weather Warning Service (NSWWS) region are set out below.

Maximum temperatures (°C)

NSWWS Region	Day	Night
London	32	18
South East	31	16
South West	30	15
Eastern	30	15
West Midlands	30	15
East Midlands	30	15
North West	30	15
Yorkshire and Humber	29	15
North East	28	15

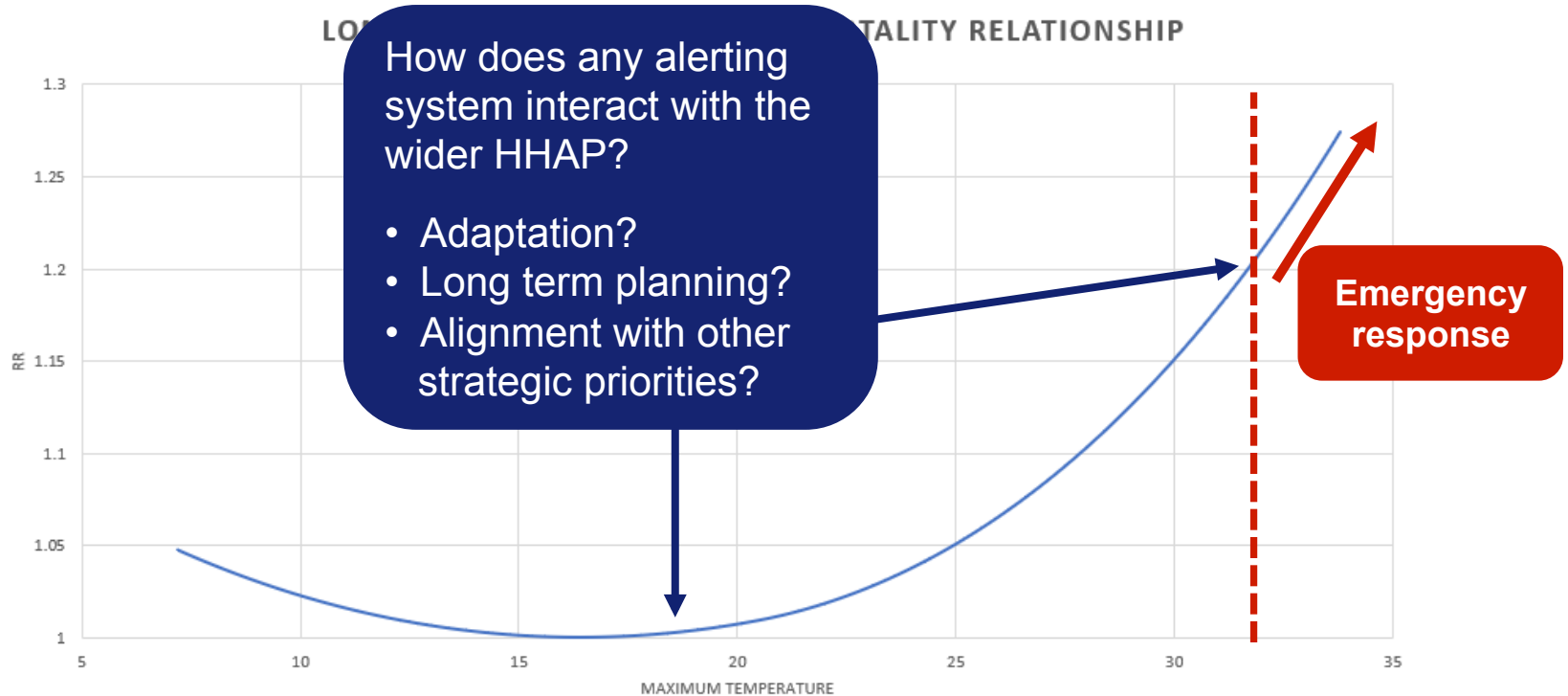


Not just about the extremes



Source: PIRU Evaluation of the implementation and health-related impacts of the Heatwave Plan for England (DRAFT) Final report (2019)

Not just about the extremes



Summary

Partnerships are key in developing a heat health warning system

There are many ways of working, and this may depend on the overarching aim of the system

Data availability will limit what type of system you can aim for, start where you can and work with partners to improve the data situation and eventually the warning system

Consensus among partners is key

Its not just about the extremes, the biggest health burden is seen at more moderate temperatures