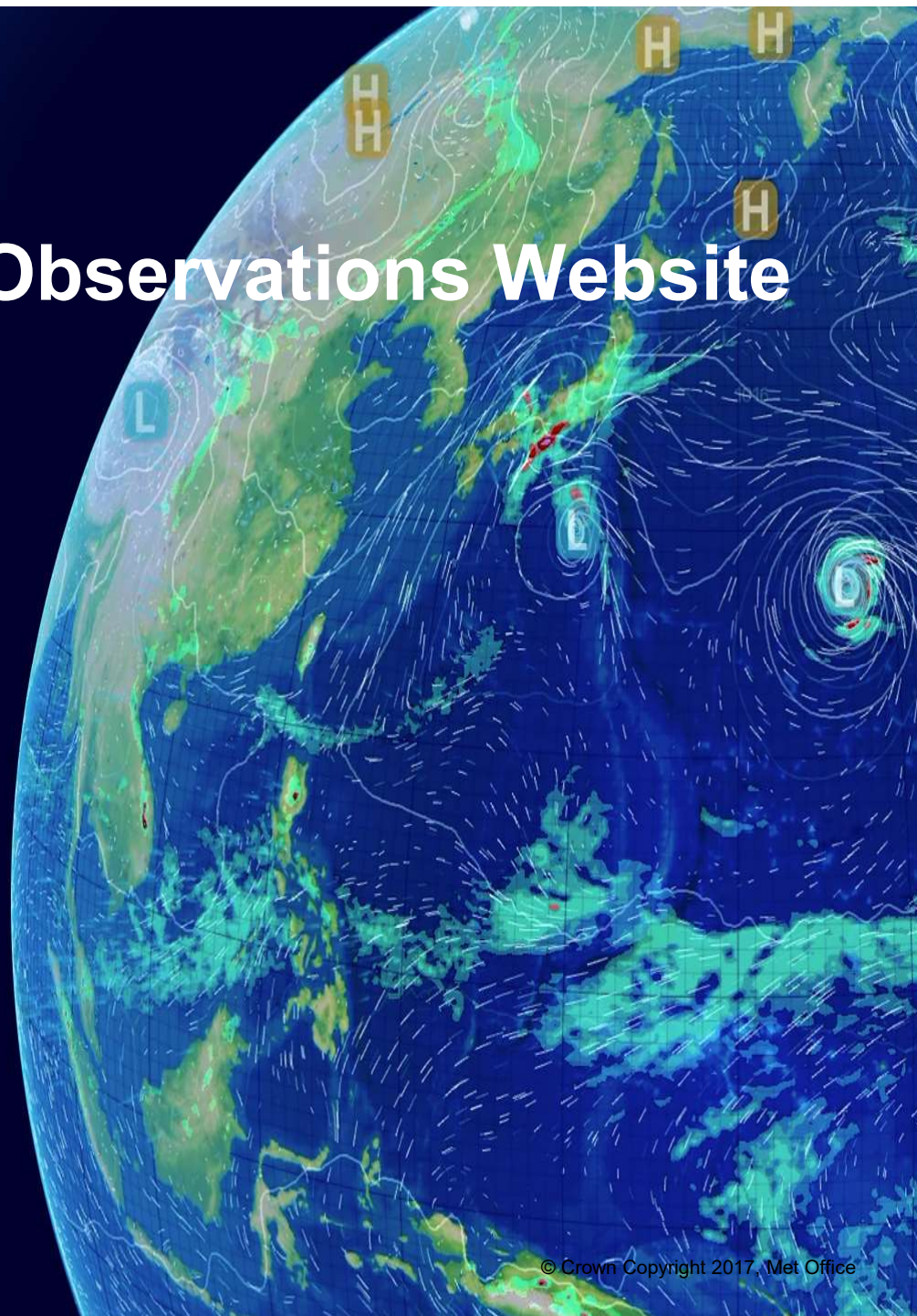


# WOW: Weather Observations Website

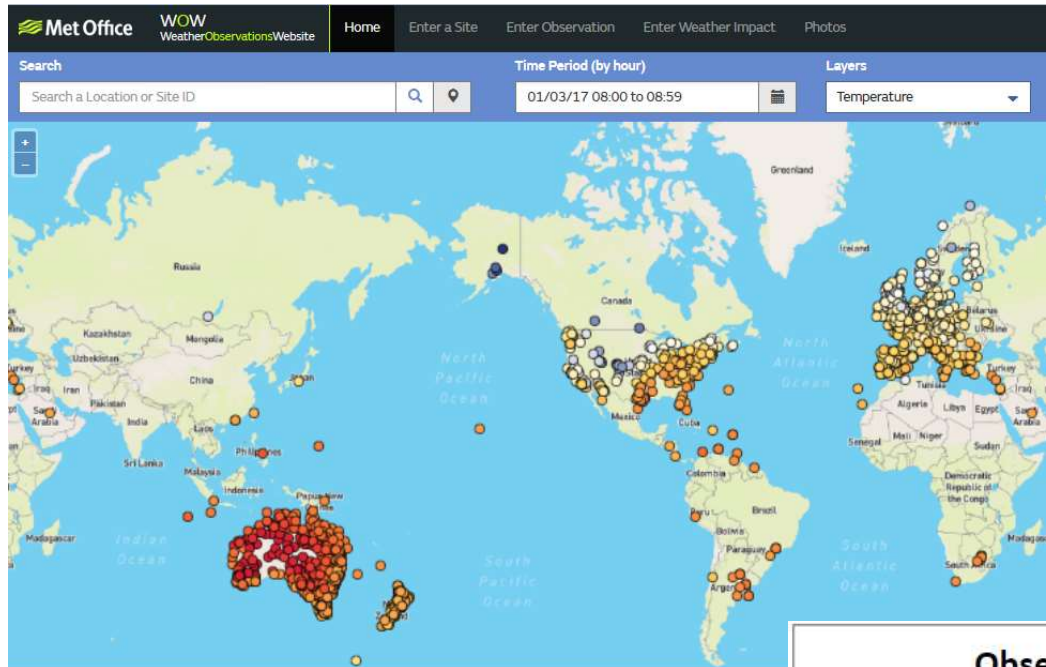
20<sup>th</sup> November 2017



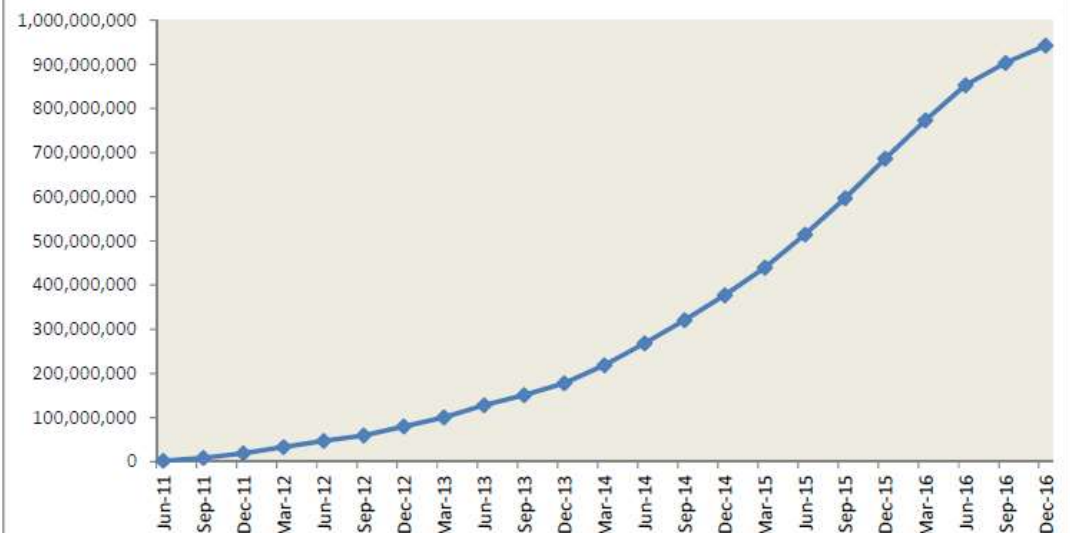
# Overview:

- What is WOW?
- Background
- Present
  - Weather Impacts
  - WOW Partners
  - WOW Engine
  - Current uses of data
- Car observations:
  - Technical feasibility
  - Data utility
  - Trial
  - Affordability
- Future
- Questions & Discussion

# Weather Observations Website

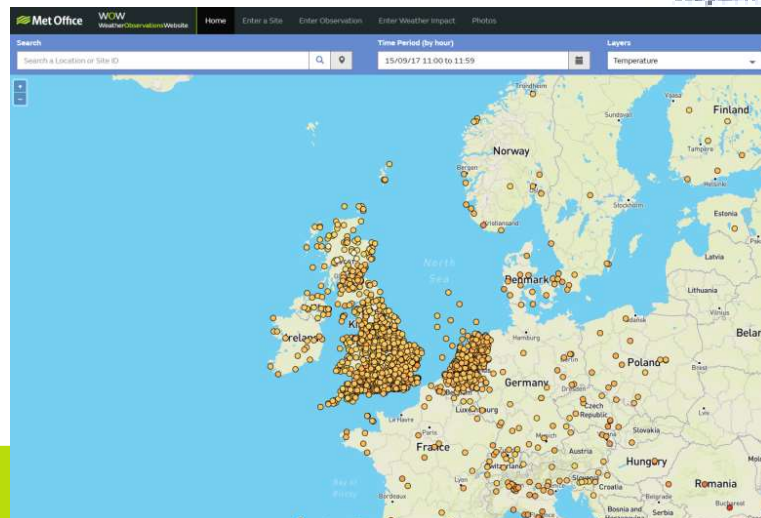
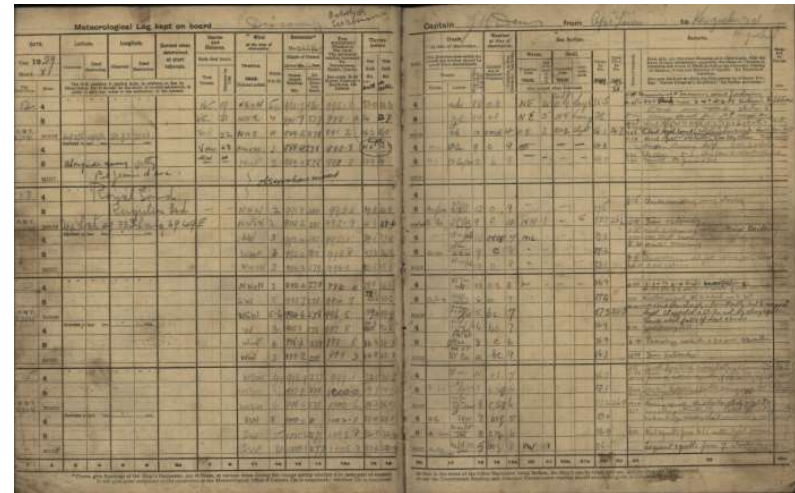


**Observations submitted to WOW: 2011 - 2017**

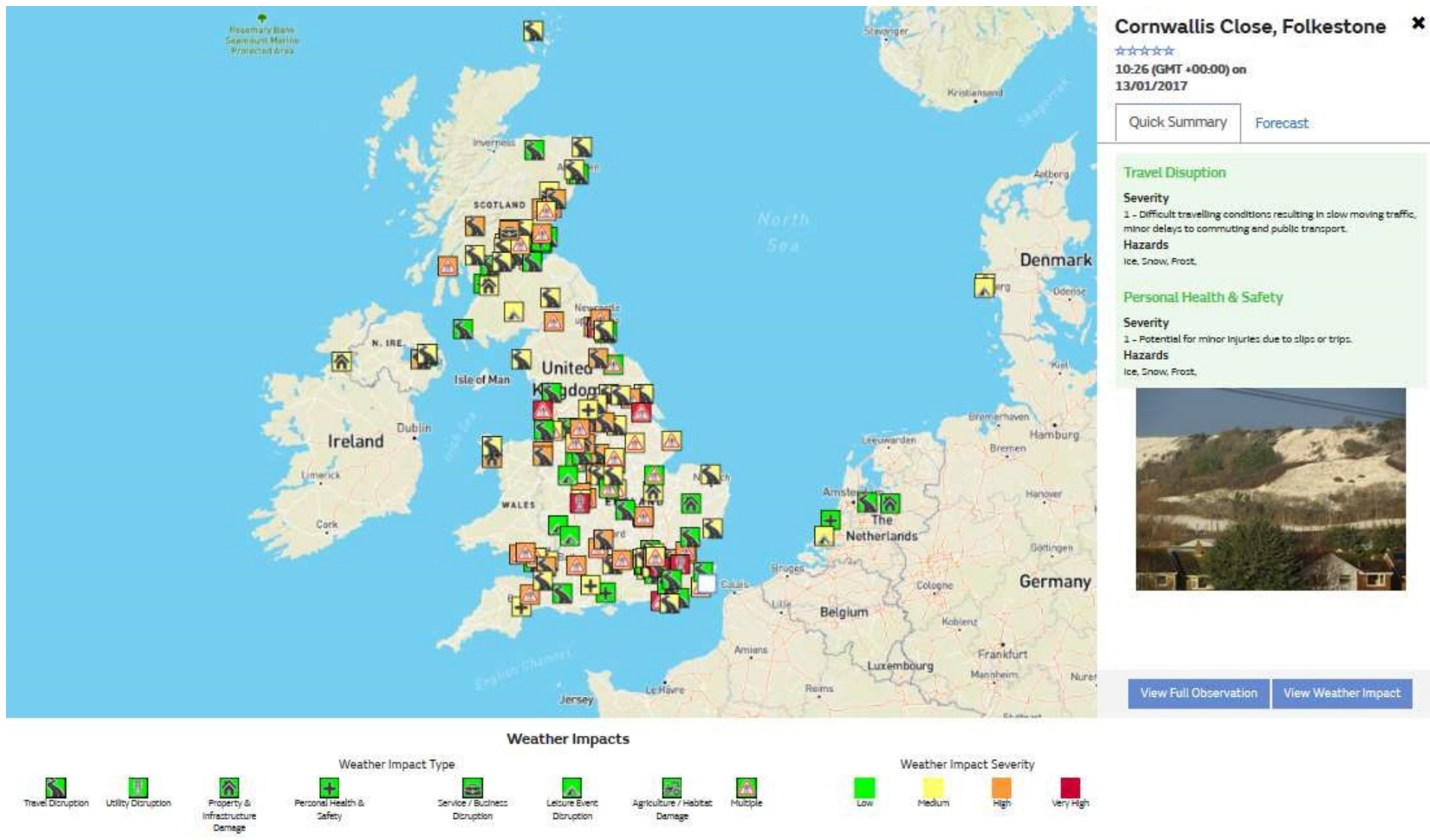




# WOW: Background



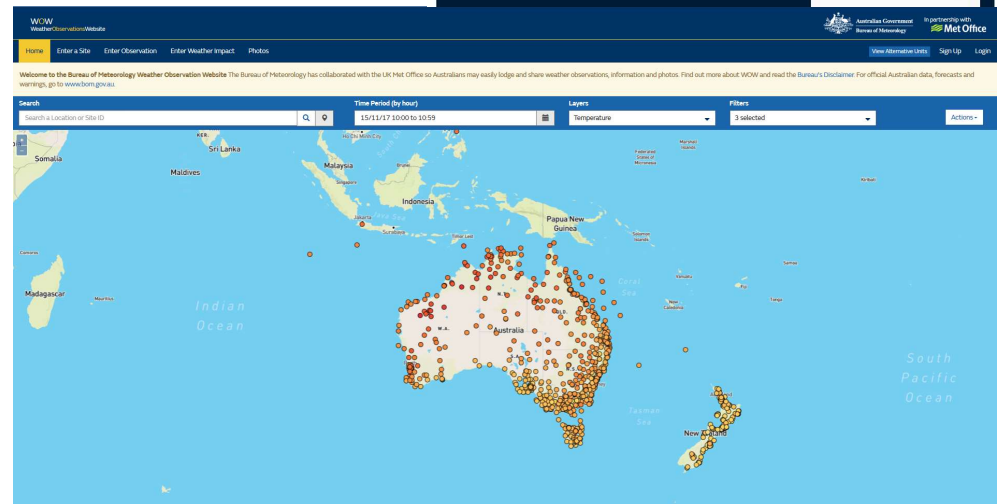
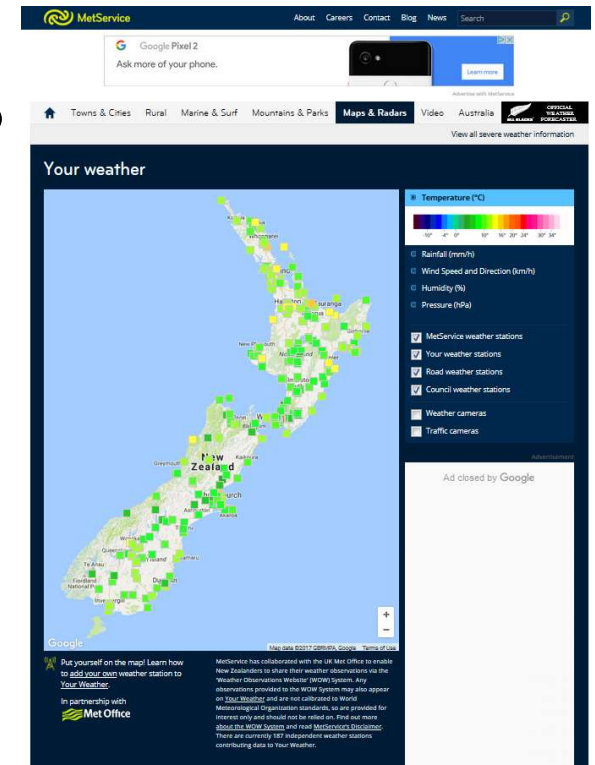
# WOW: Weather Impacts



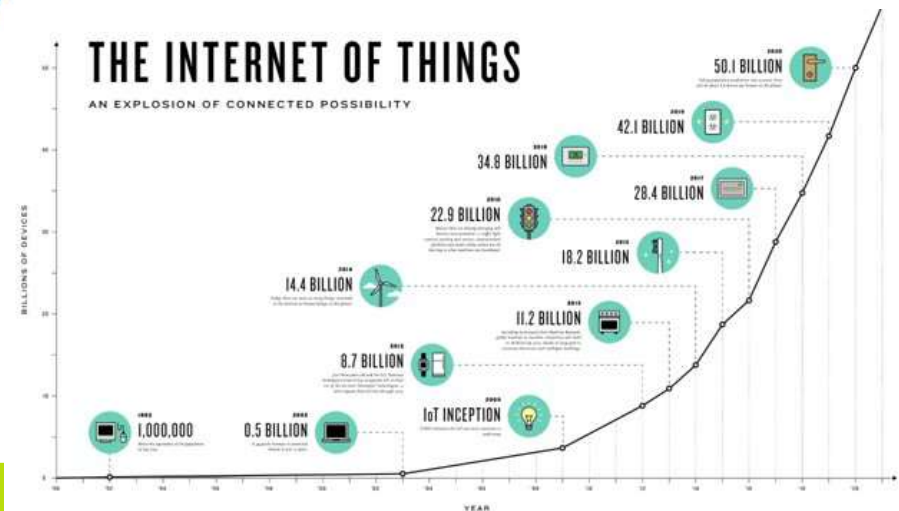
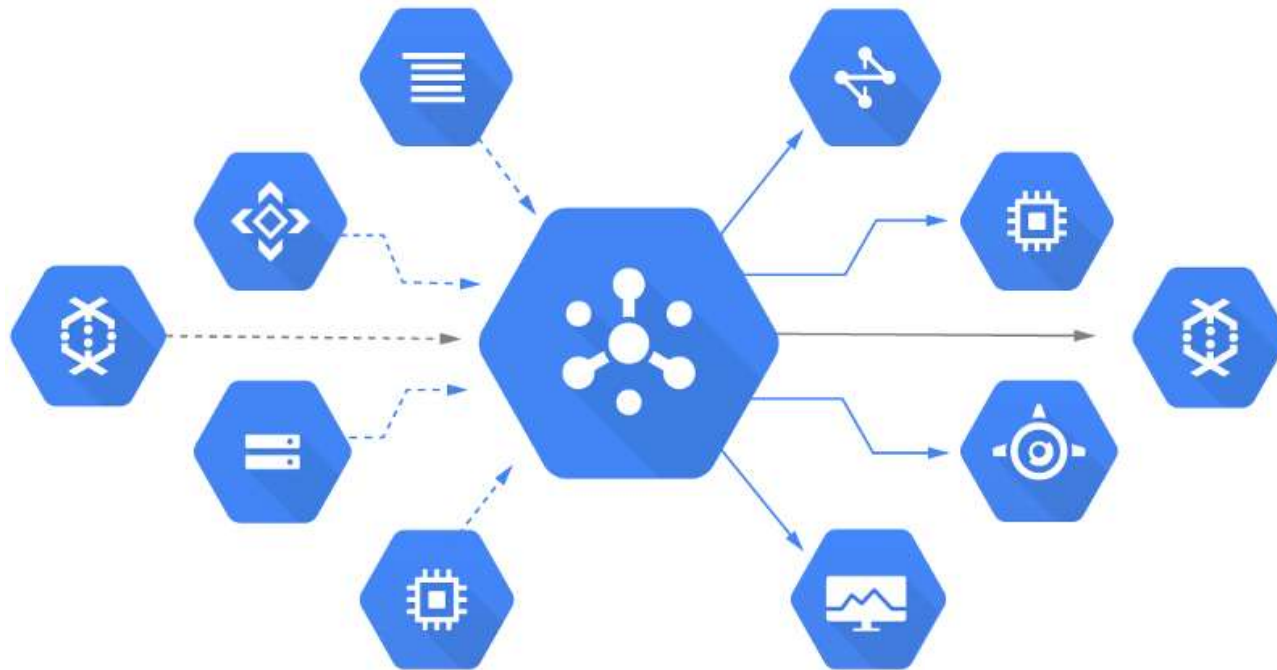


# WOW: Partnerships

Very positive collaborations with National Meteorological Services of Australia, New Zealand and the Netherlands



# WOW Engine





# WOW Data: Current use within Met Office

- Observations easily available internally
- Not currently assimilated into NWP
- Used for verification purposes, especially weather impact reports
- Available to forecasters via forecaster workstation
- Flexible platform for hosting novel sources of observations
- Potential for use in climate monitoring and understanding of fine scale meteorology



## Crowd-sourced Temperature Data from Cars



## Technical Feasibility



Interface to  
engine  
management  
system



Driver's phone



Cloud service  
(WOW)

Similar to.....



DEVELOPER  
PROGRAM **OpenXC**



Microsoft Azure MyDriving



## Data Utility

~20M cars in the UK have a reasonable quality air temperature sensor and ~1M of these are on the road at any time.

Data from ~ 5% of drivers who have a weather app. on their phones would yield ~ 50k extra observation points.

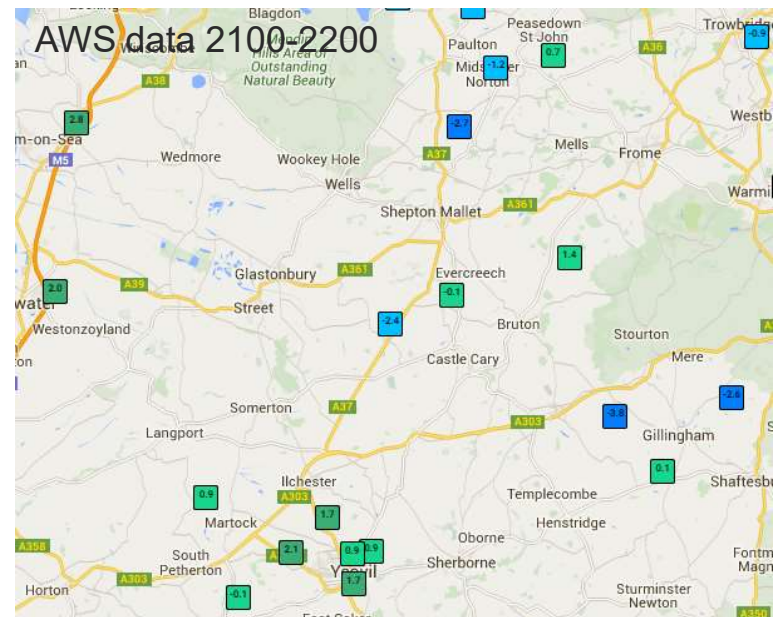
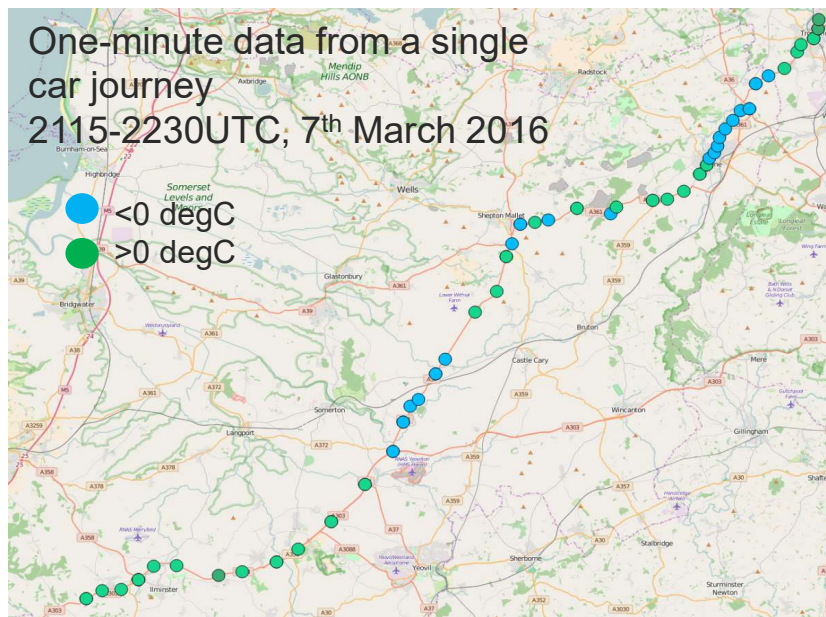
Compared to ~ 300 professional and ~1000 amateur AWS observations.

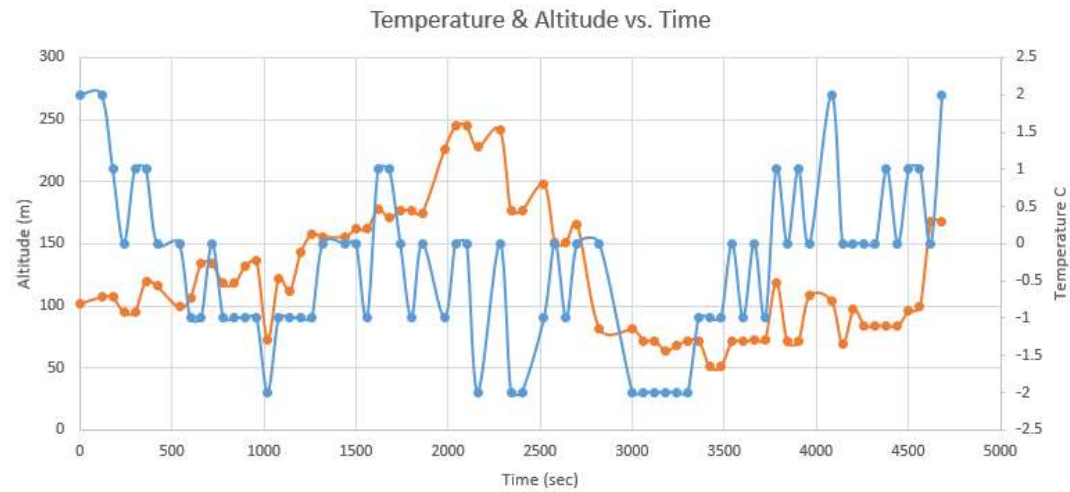
...but data precision is 1degC (and 10hPa for pressure)





Trial Feb/March 2016. Open source app, Met Office cars and 16 volunteer staff





Not all the variation in temperature (blue) is explained by the variation in altitude (red)

# Affordability

Hardware cost <£5 per vehicle  
Negligible communications cost



Potential 'take-up' unknown as yet



# WOW: The future

- Extension of platform to new partners
- Research to make better use of existing data
- Horizon scanning for new sources of observations

Thank you

Any questions?

[wow.metoffice.gov.uk](http://wow.metoffice.gov.uk)