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A new approach to decision-making with IoT sensors

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29th April 2025

BirminghamLive NEWS WHAT'S ON BLACK COUNTRY VILL

BUY A PAPER FUNERAL NOTICES JOBS ADVERTISE WITH US VOUCHER CODES

B > News > Midlands News > Birmingham Snow

12 counties in England face 'three inch per hour' snow after UK heatwave hits

Advanced modelling, which uses Met Desk data, shows snow across 45 counties in the UK - stretching from flurries in England and Wales to Scotland and Northern Ireland, too.

NEWS By James Rodger Content Editor

06:37, 28 Apr 2025

Delegates will be immersed in stage-style ‘TED’ talks

DECENTLAB

IoT Sensors Compared to Weather Stations

IoT Sensors

- Cost-effective
- Easier to install and maintain
- More flexibility on location
- The latest technology-reference level
- Provides RST forecast equivalent accuracy to weather stations

IoT Sensors

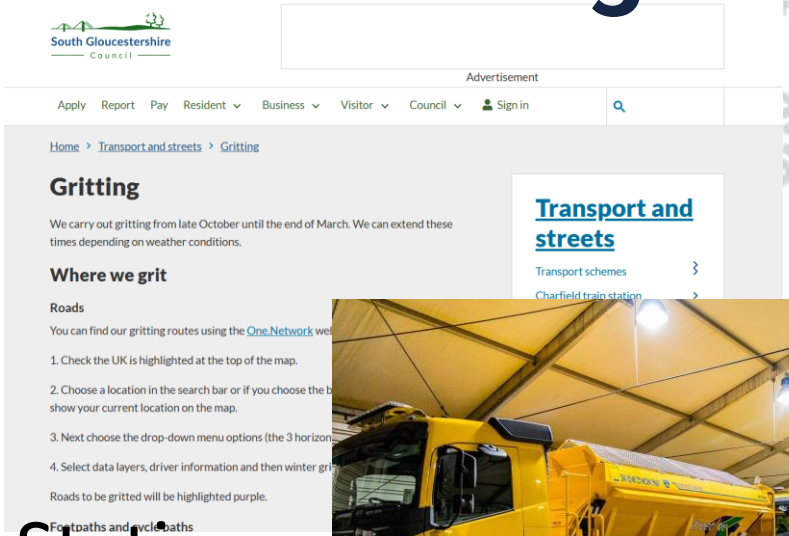
- Limited observation parameters
- Battery life
- Additional data interpretation, change to established practices

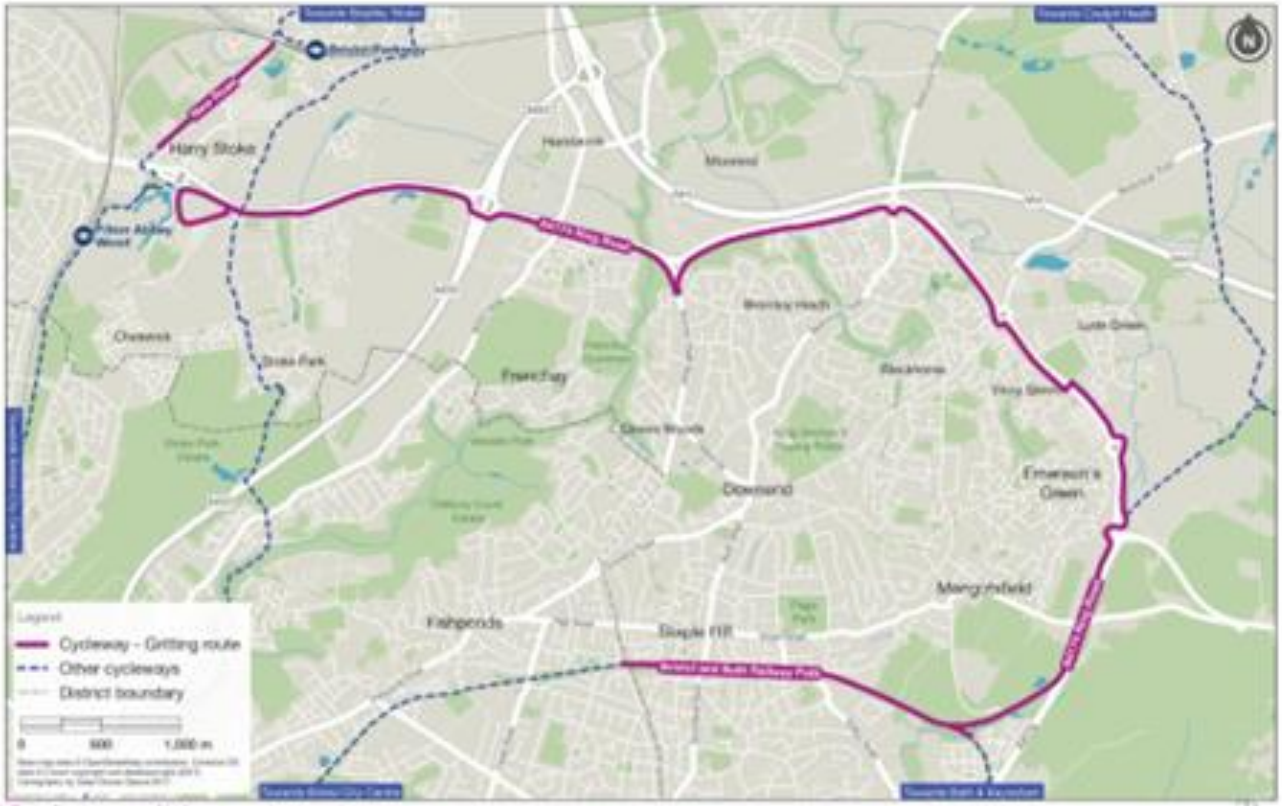
Emerging Use Cases

1. No existing weather station infrastructure – IoT only
2. Existing weather station Infrastructure –
   - Hybrid – IoT and Weather Station (+ mobile sensors)
   - IoT when Weather Station end of life

South Gloucestershire Background

- 318 Miles P1 30%
- 55 miles P2 6%
- 9 Routes
- 2019 – 3 Weather Stations
- One Out - All Out



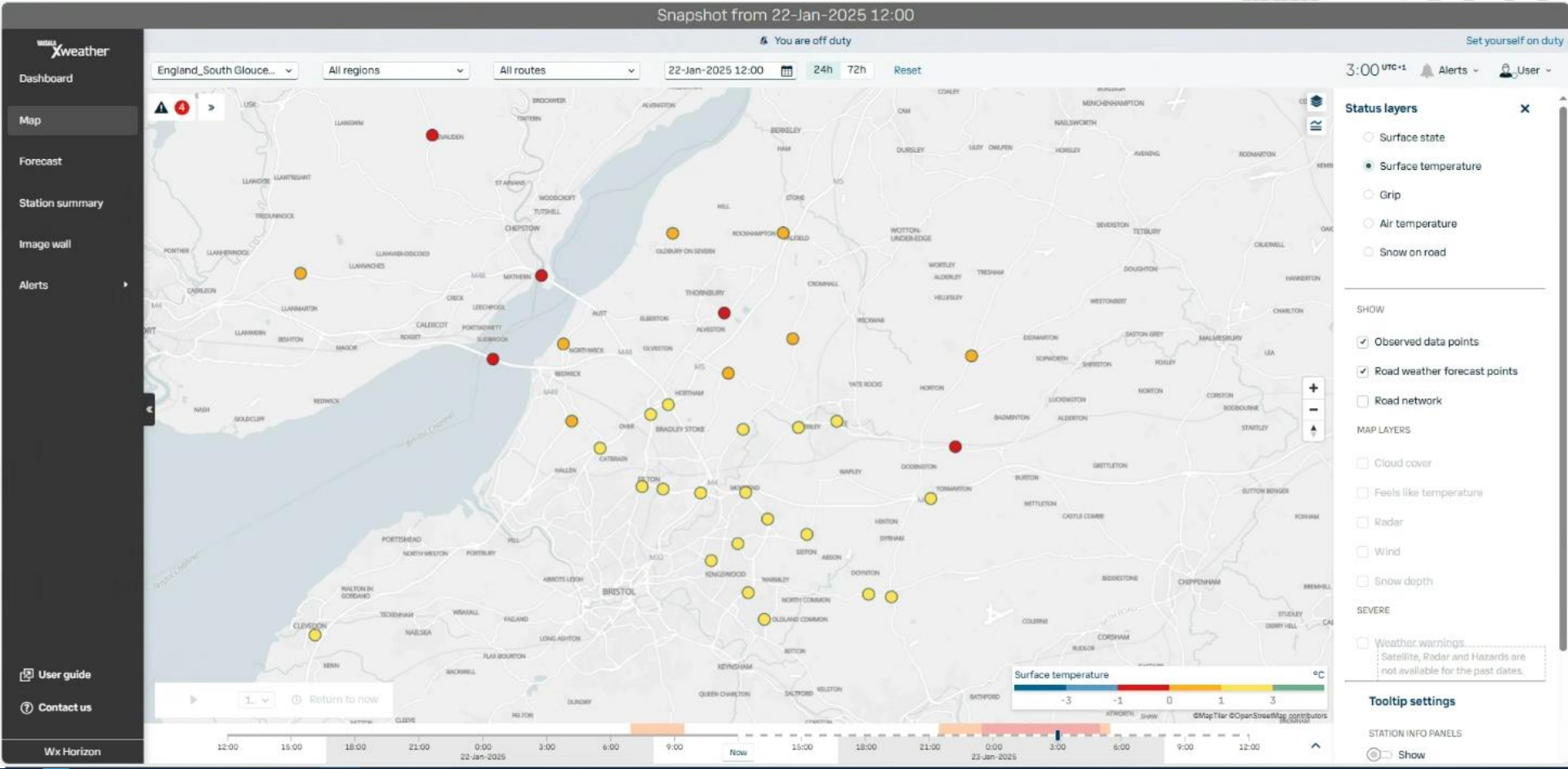


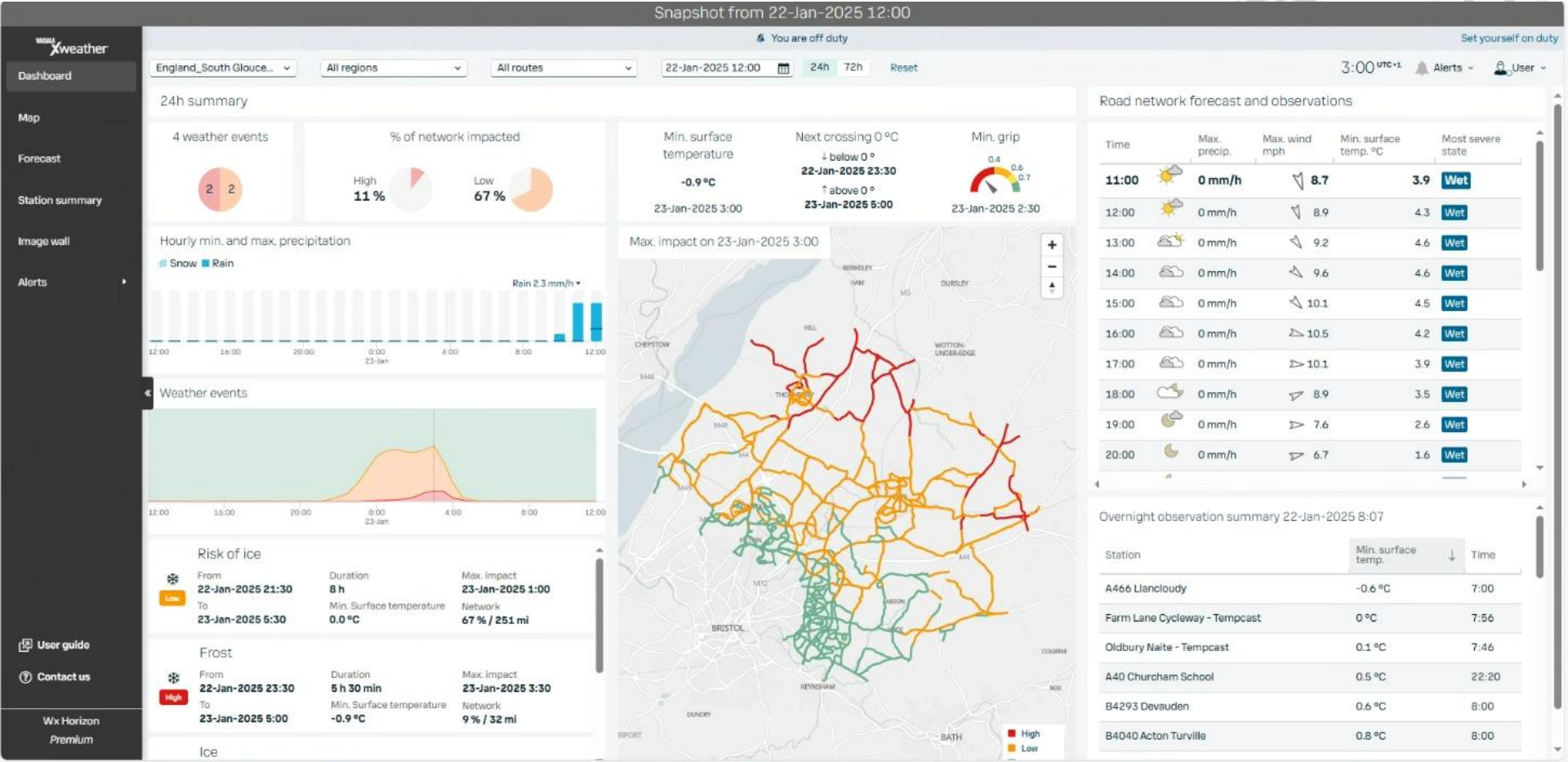
Cycleway gritting route

South Gloucestershire Council

Solution

- Cycleway - 6 IoT sensors (3 embedded and 3 mast-mounted)
- Road – 15 IoT mast-mounted sensors
  - Every route has multiple data points


Snapshot from 22-Jan-2025 12:00
Vaisala Xweather
Dashboard
Map
Forecast
Station summary
Image wall
Alerts
User guide
Contact us
Wx Horizon
You are off duty
Set yourself on duty
England_South Glouce...
All regions
All routes
22-Jan-2025 12:00
24h
72h
Reset
3:00 UTC+1
Alerts
User
Status layers
Surface state
Surface temperature
Grip
Air temperature
Snow on road
SHOW
Observed data points
Road weather forecast points
Road network
MAP LAYERS
Cloud cover
Feels like temperature
Radar
Wind
Snow depth
SEVERE
Weather warnings
Satellite, Radar and Hazards are not available for the past dates.
Tooltip settings
STATION INFO PANELS
Show
Surface temperature °C
-3 -1 0 1 3
©MapTiler ©OpenStreetMap contributors
Return to now
12:00 15:00 18:00 21:00 0:00 3:00 6:00 9:00 Now 15:00 18:00 21:00 0:00 3:00 6:00 9:00 12:00
22-Jan-2025
23-Jan-2025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22-Jan-2025 12:00
24h
72h
Reset
3:00 UTC+1
Alerts
User
24h summary
4 weather events
2 2
% of network impacted
High 11 %
Low 67 %
Min. surface temperature
-0.9 °C
23-Jan-2025 3:00
Next crossing 0 °C
↓ below 0 °
22-Jan-2025 23:30
↑ above 0 °
23-Jan-2025 5:00
Min. grip
0.4
0.6
0.7
23-Jan-2025 2:30
Hourly min. and max. precipitation
Snow
Rain
Rain 2.3 mm/h
12:00
16:00
20:00
0:00
23-Jan
4:00
8:00
12:00
Weather events
Max. impact on 23-Jan-2025 3:00
BRISTOL
BATH
High
Low
Road network forecast and observations
Time
Max. precip.
Max. wind mph
Min. surface temp. °C
Most severe state
11:00 0 mm/h 8.7 3.9 Wet
12:00 0 mm/h 8.9 4.3 Wet
13:00 0 mm/h 9.2 4.6 Wet
14:00 0 mm/h 9.6 4.6 Wet
15:00 0 mm/h 10.1 4.5 Wet
16:00 0 mm/h 10.5 4.2 Wet
17:00 0 mm/h 10.1 3.9 Wet
18:00 0 mm/h 8.9 3.5 Wet
19:00 0 mm/h 7.6 2.6 Wet
20:00 0 mm/h 6.7 1.6 Wet
Risk of ice
Low
From 22-Jan-2025 21:30
To 23-Jan-2025 5:30
Duration 8 h
Min. Surface temperature 0.0 °C
Max. impact 23-Jan-2025 1:00
Network 67 % / 251 mi
Frost
High
From 22-Jan-2025 23:30
To 23-Jan-2025 5:00
Duration 5 h 30 min
Min. Surface temperature -0.9 °C
Max. impact 23-Jan-2025 3:30
Network 9 % / 32 mi
Ice
Overnight observation summary 22-Jan-2025 8:07
Station
Min. surface temp.
Time
A466 Llancloudy -0.6 °C 7:00
Farm Lane Cycleway - Tempcast 0 °C 7:56
Oldbury Naite - Tempcast 0.1 °C 7:46
A40 Churcham School 0.5 °C 22:20
B4293 Devauden 0.6 °C 8:00
B4040 Acton Turville 0.8 °C 8:00

Next Steps

- Build Confidence
  - Comparison scenarios
- Implementation, policy change
- Further refinement

Transport

Fleet of new gritters ready to launch in South Gloucestershire

18th November 2022

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