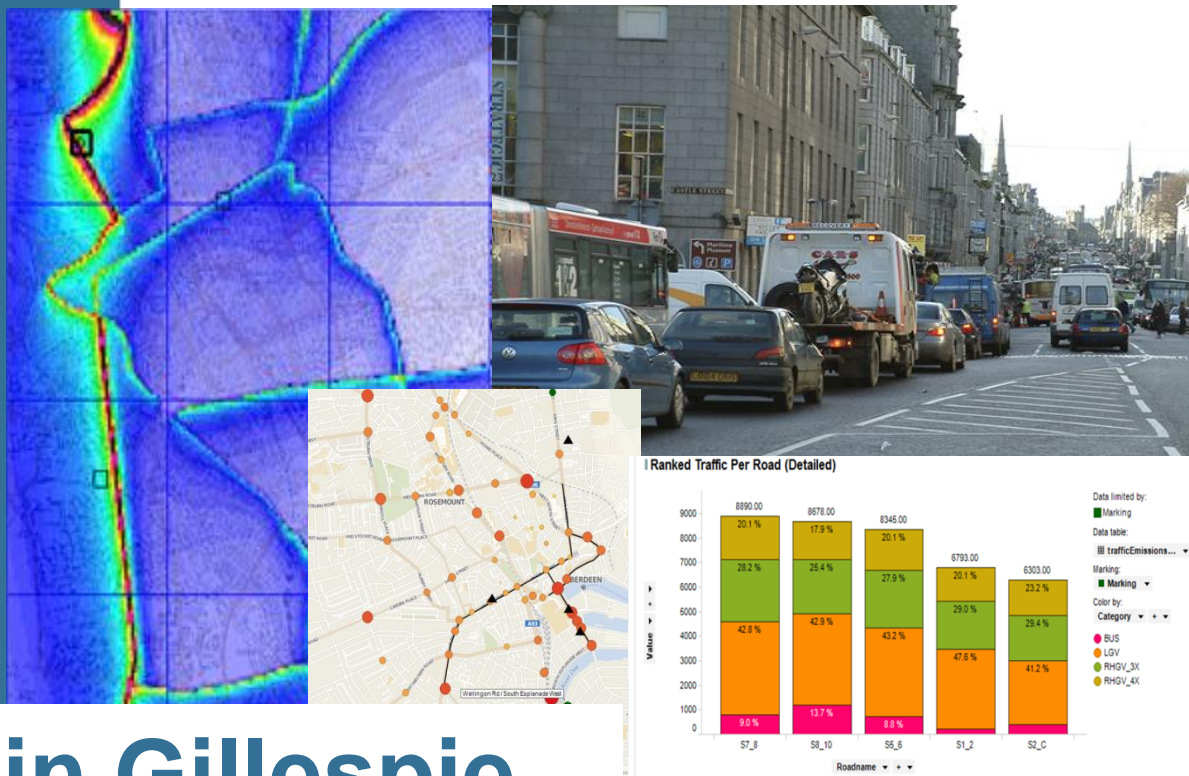
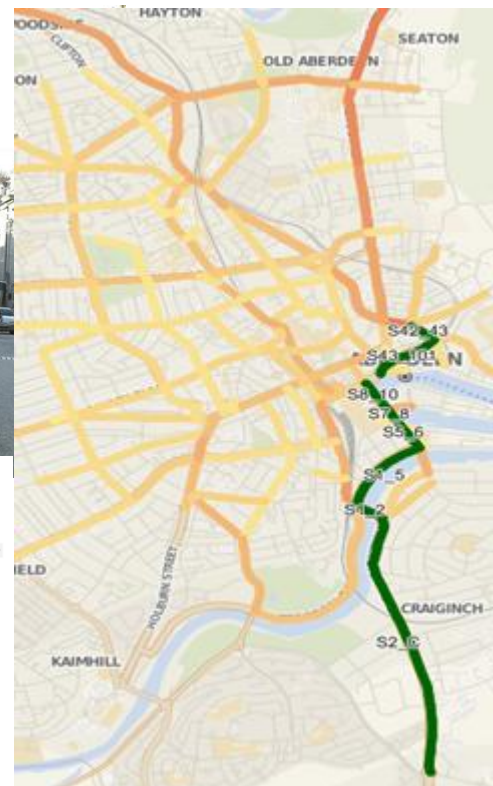


# Enhanced Data Visualisation Tools



**Colin Gillespie**



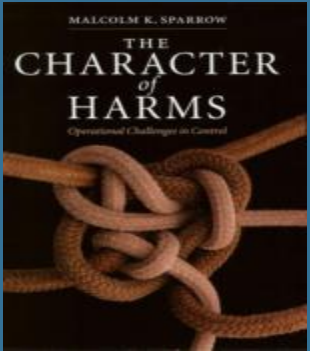
# Presentation Structure

## **Data Visualisation Project:**

- Illustrating SEPA's use of visualisation tools
- Build on the capacity developed within the Aberdeen Pilot Project
- Developing data analysis and visualisation tools for Air Quality in Scotland website
- Stakeholder engagement

## **National Teaching Resource:**

- Citizen Science project – driver for National Teaching Package
- Developing the project and partners involved
- What's in the National Teaching Package



# Problem Solving

- Key Points (Malcolm Sparrow Training)
  - Define the problem to be solved
  - Gather all available data/information and analyse/visualise
  - Identify critical data and address uncertainty
  - Turn data into information

**With support from SG, TS, HPS and LAs SEPA has developed a multi-agency HARMS project – this has allowed specific resources to be allocation.**

# SEPA's Environmental & Spatial Informatics Unit (TIBCO – Spotfire)

Live Applications

Applications (Coming Soon)

Applications (Specialist)

View Your: Recently Used

## App Link

[18-SPRI Sector Verification](#)  
[21-WFD Dashboard](#)  
[22-SPRI Reporting Dashboard](#)  
[26-WFD Classification Verification](#)  
[42-DAVE Spotfire](#)

## Filters

### Application:

Type to search in list

(All) 19 values  
Bathing Waters Dashboard  
Business Dashboard  
CAS Compliance Tool  
Charging Scheme Reporting  
DAVE Ecology

### Function:

Type to search in list

(All) 3 values  
Data Verification  
Analysis and Decision Making  
Reporting and Dashboards

### Theme:

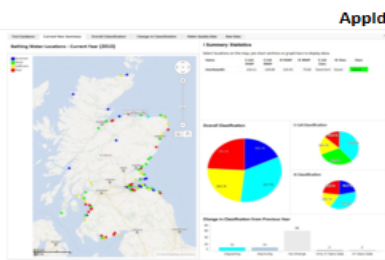
Type to search in list

(All) 7 values  
Better Regulation  
Compliance  
Ecology  
Monitoring  
SPRI

Click on the Application Link column to open the tool you require.

### Application Link

[19-Bathing Waters Dashboard](#)



[37-Business Dashboard](#)



[34-CAS Compliance Tool](#)



[46-Charging Scheme Reporting](#)



### Applid

### Overview

Bathing Waters Dashboard

This tool allows the user to review the EU classification of all designated bathing waters. It now includes 2013 data.

### Function

Reporting and Dashboards

### Theme

Water

Business Dashboard

Retrieves data stored in iOpen (CLAS) and presents reports for New Applications and Environmental Events. It also includes access to the CAS Compliance Tool.

Reporting and Dashboards

Better Regulation

CAS Compliance Tool

Provides reports and analysis of CAS compliance data, as well as displaying available sample data and licence limits.

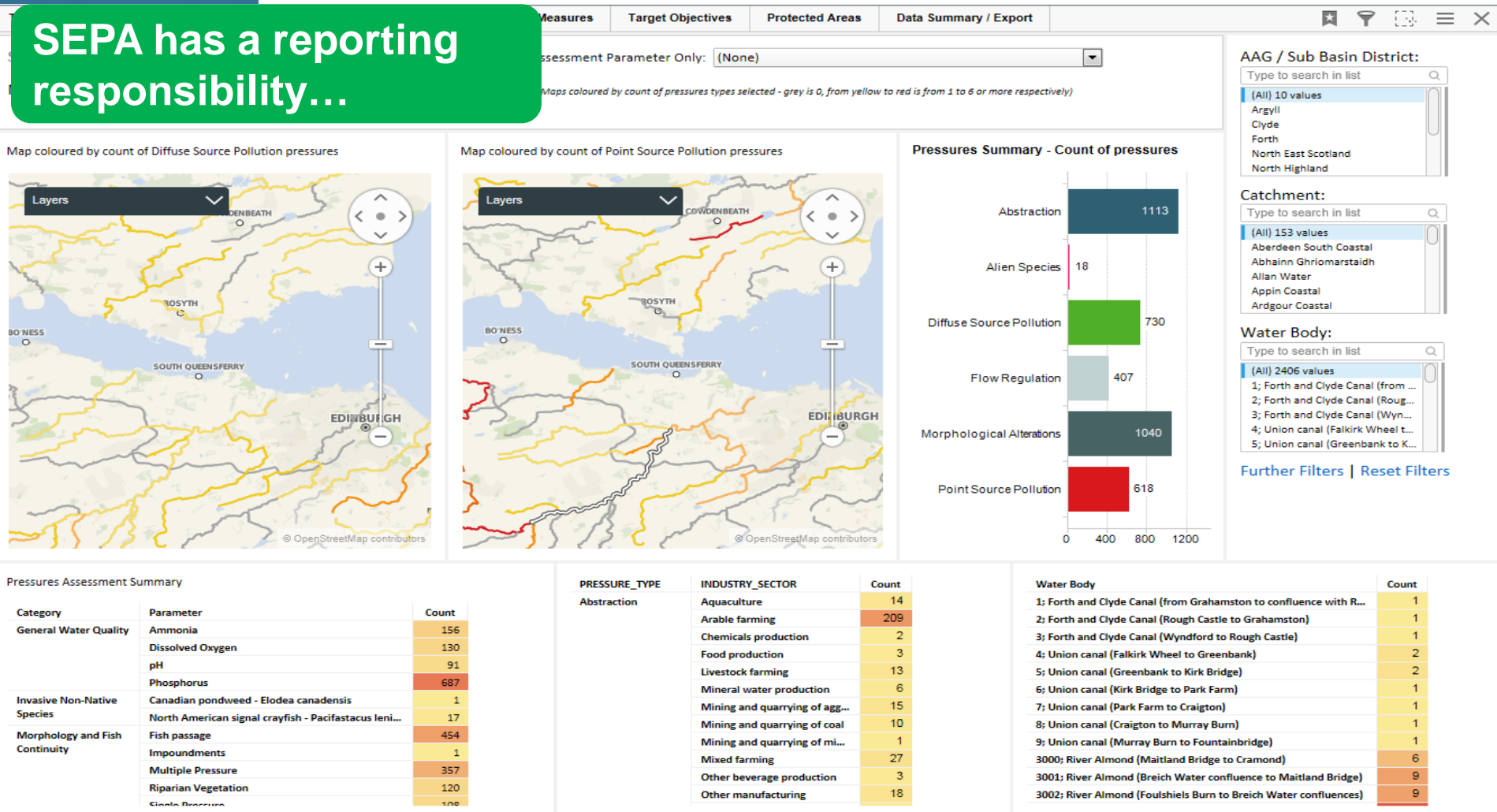
Reporting and Dashboards

Compliance

**SEPA has experience in data analysis – extending Spotfire use**

# Water Framework Directive Dashboard

SEPA has a reporting  
responsibility...

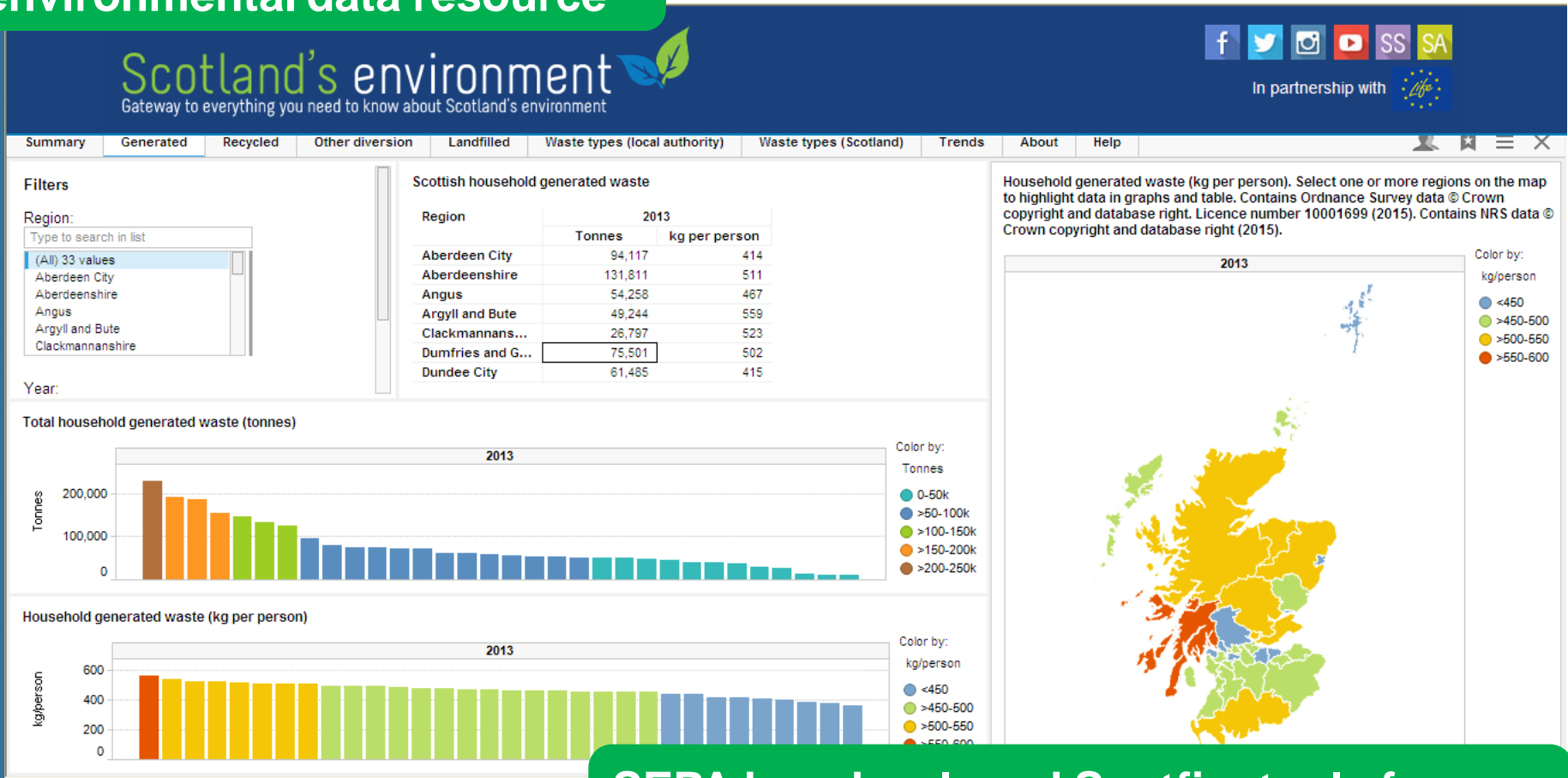


Web Based Interactive Data Analysis/Visualisation



# Using such tools beyond SEWeb

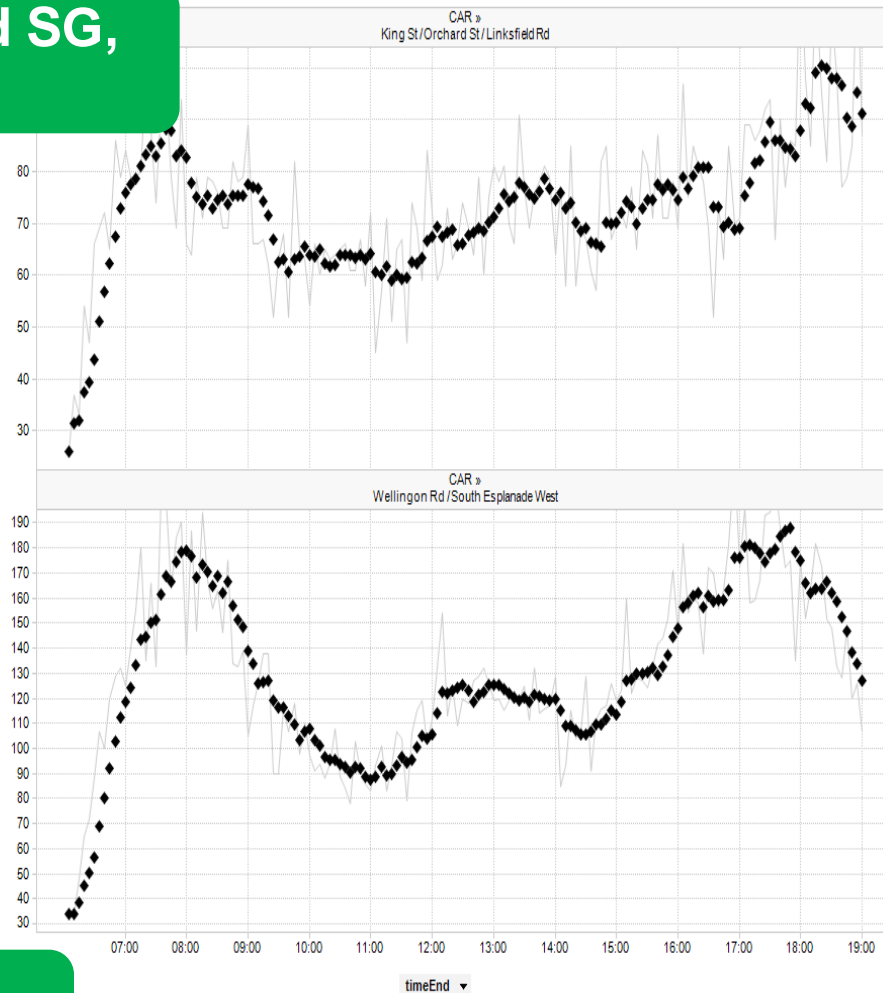
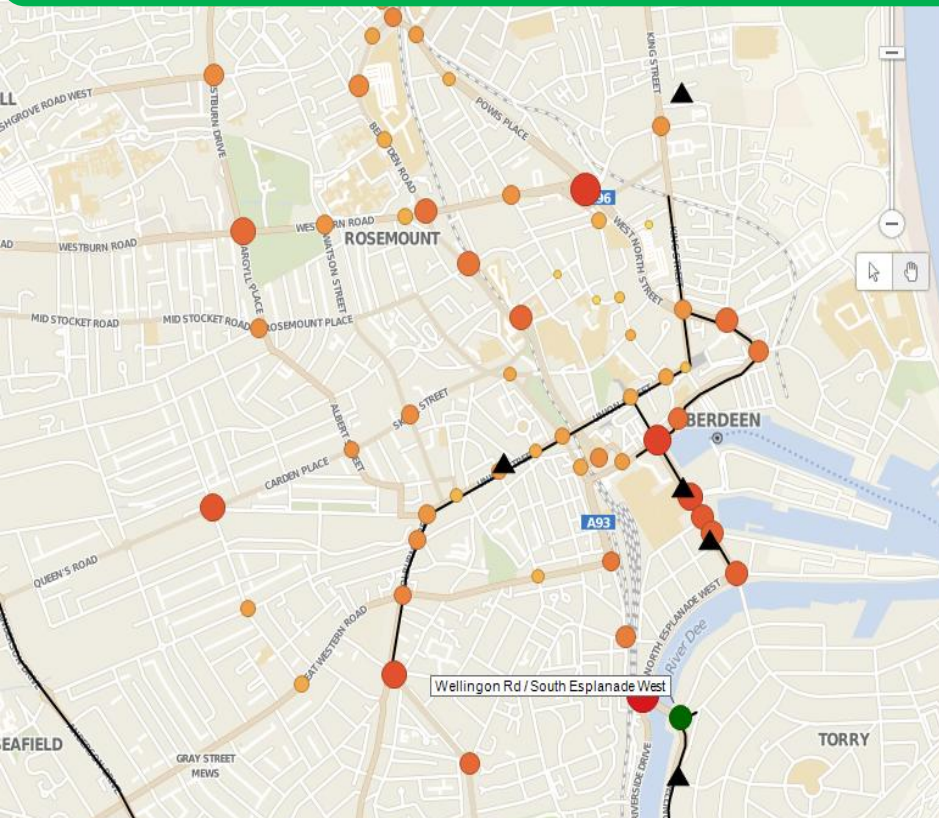
**SEWeb is a multi-agency  
environmental data resource**



**SEPA has developed Spotfire tools for a  
range of environmental data within SEWeb**

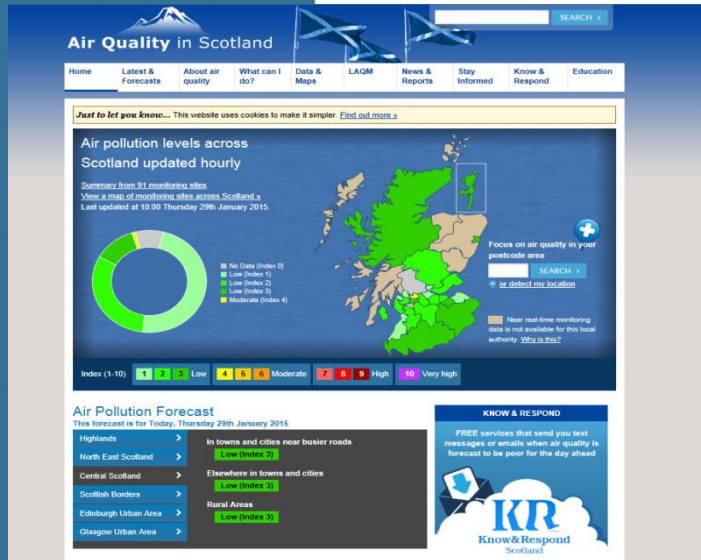
# Extending it to other data sets

With the backing of other agencies and SG, SEPA developed the Aberdeen Project



Spotfire provides an interactive tool with the potential to link wider data sets

# Scottish Air Quality Database Development Project



## Website Development Project:

- Build on the capacity developed within the Aberdeen Pilot Project
- Develop AQ data analysis and visualisation tools for the Air Quality in Scotland website
- Enhancements will assist Local Authorities in their air quality duties (including additional requirements introduced through the LES)
- Providing appropriate information for the general public



# What are we planning next...

- Working with wider stakeholders and other agencies, LAs and Ricardo-AEA
- Ensuring that we deliver LAs requirements now and in to the future
- Developing different levels of tools, looking at different reporting requirements

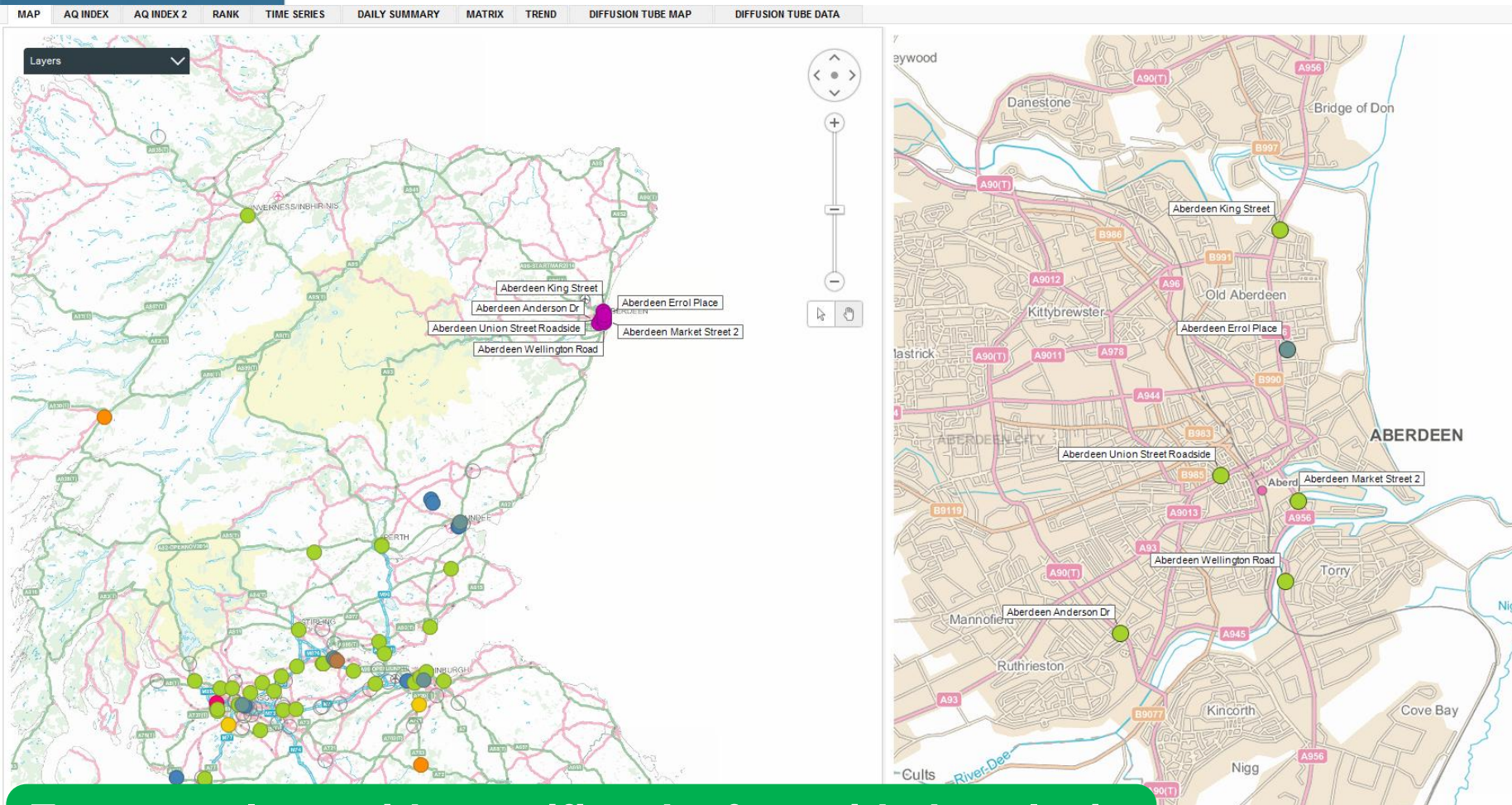
**General  
Public  
Tools**

**Specialist  
Reporting  
Tools**

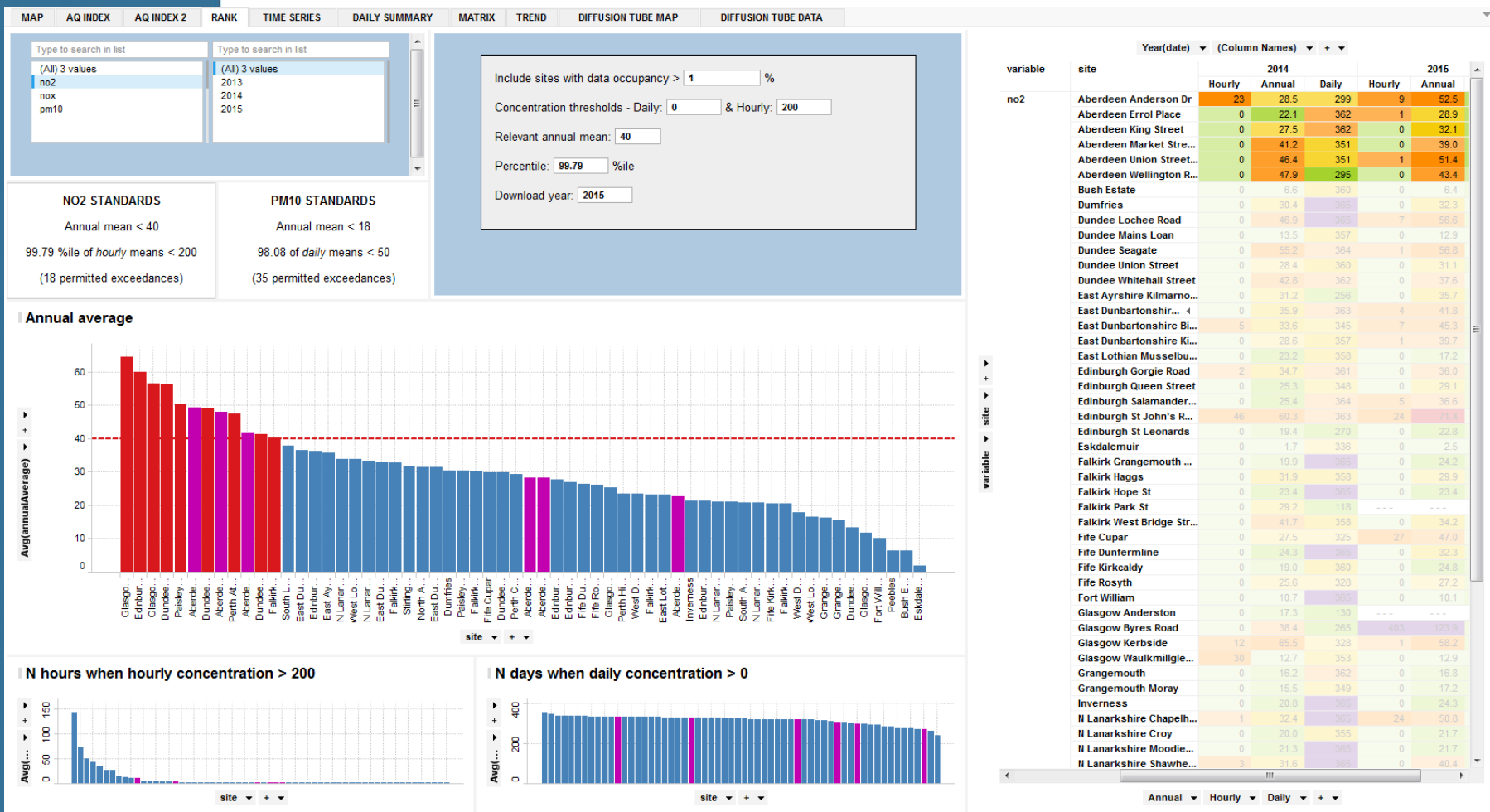
**Spatial  
Analysis  
Tools**

- All fully interactive...

# General Public Tools



# General Public Tools



Select and rank historic and live data, highlighting where selected sites sit nationally

# Specialist Reporting Tools

MAP VIEW and mark data ZOOM to marked data DOWNLOAD latest data

Type to search in list  
(All) 3 values  
no2  
**nox**  
pm10

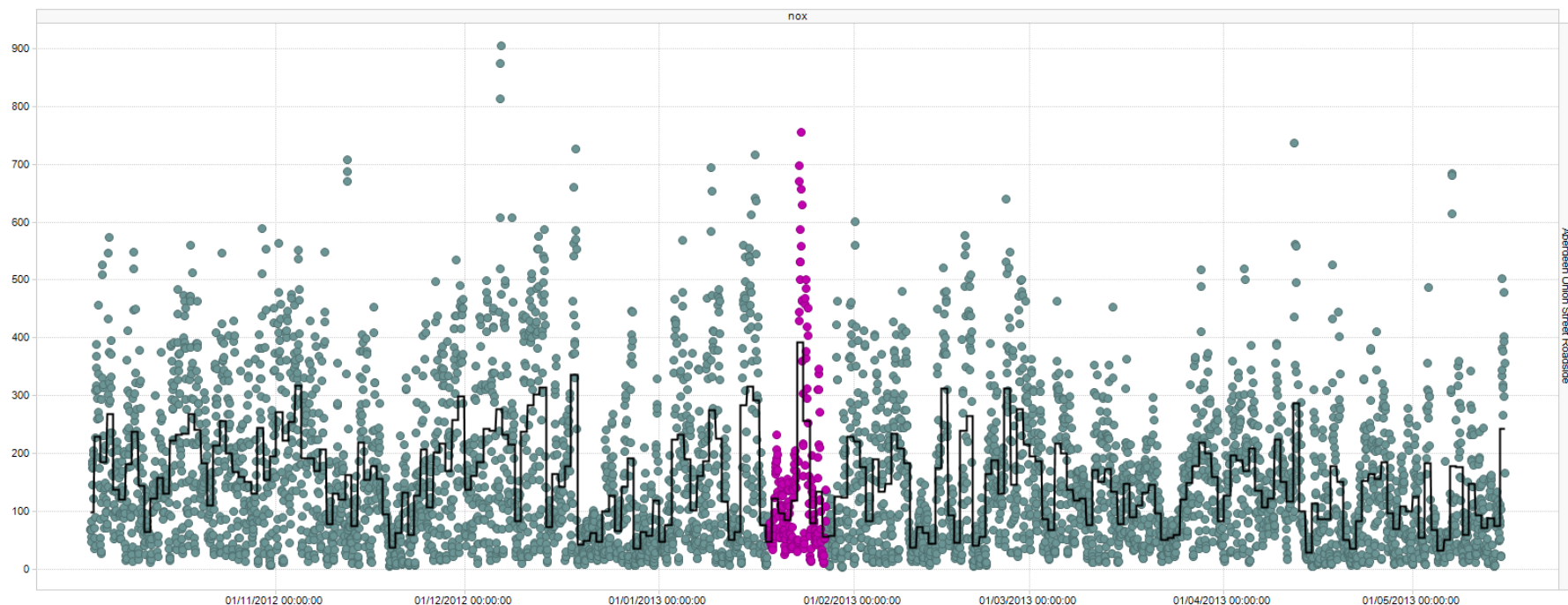
Type to search in list  
(All) 7 values  
Aberdeen Anderson Dr  
Aberdeen Errol Place  
Aberdeen King Street  
Aberdeen Market Street 2  
Aberdeen Union Street Roadside

Marker size: 1.50

Start: 24/12/2010 ---  
End: 10/02/2011 ---

02/10/2012 09:04:51  
Date filter:

15/05/2013 18:48:38

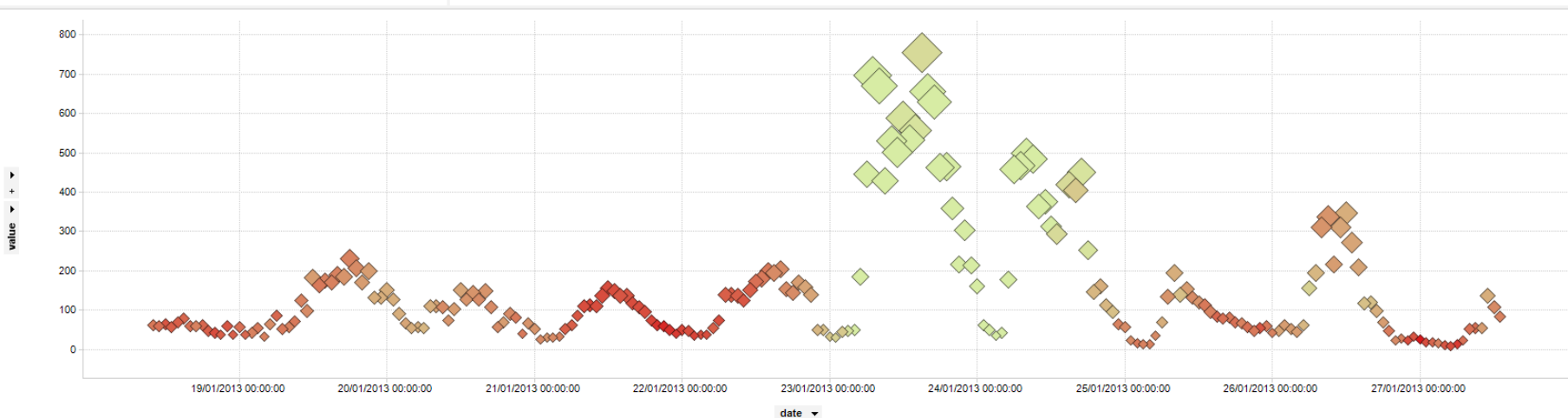
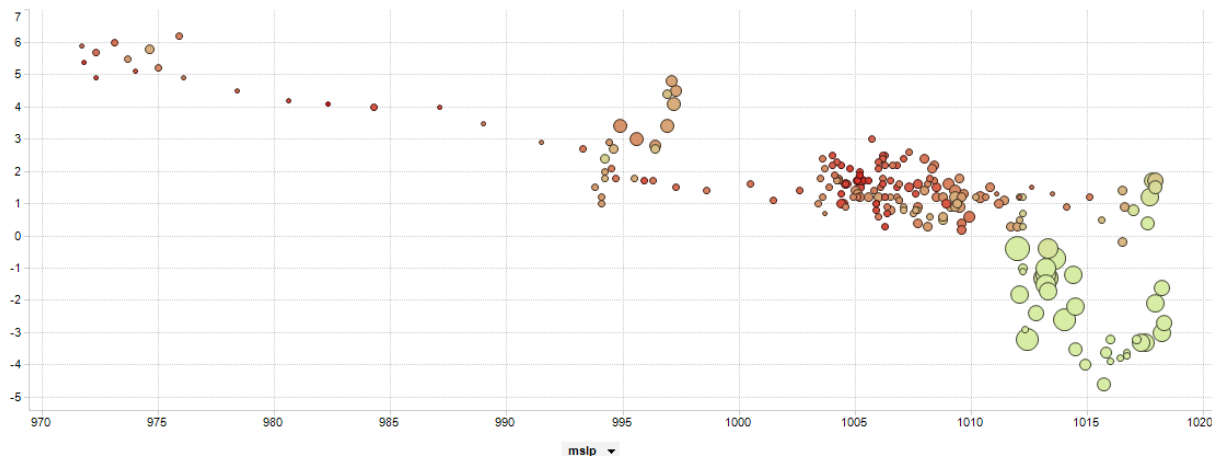
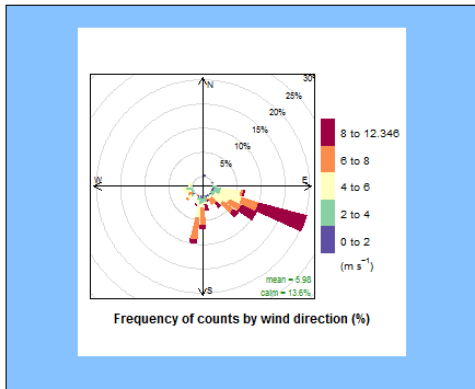


Select individual sites, data sets, looking at national, regional and local pollution events



# Specialist Reporting Tools

MAP VIEW and mark data ZOOM to marked data DOWNLOAD latest data



**Start to link with other data sets, including weather and OpenAir to create a versatile interactive tool**

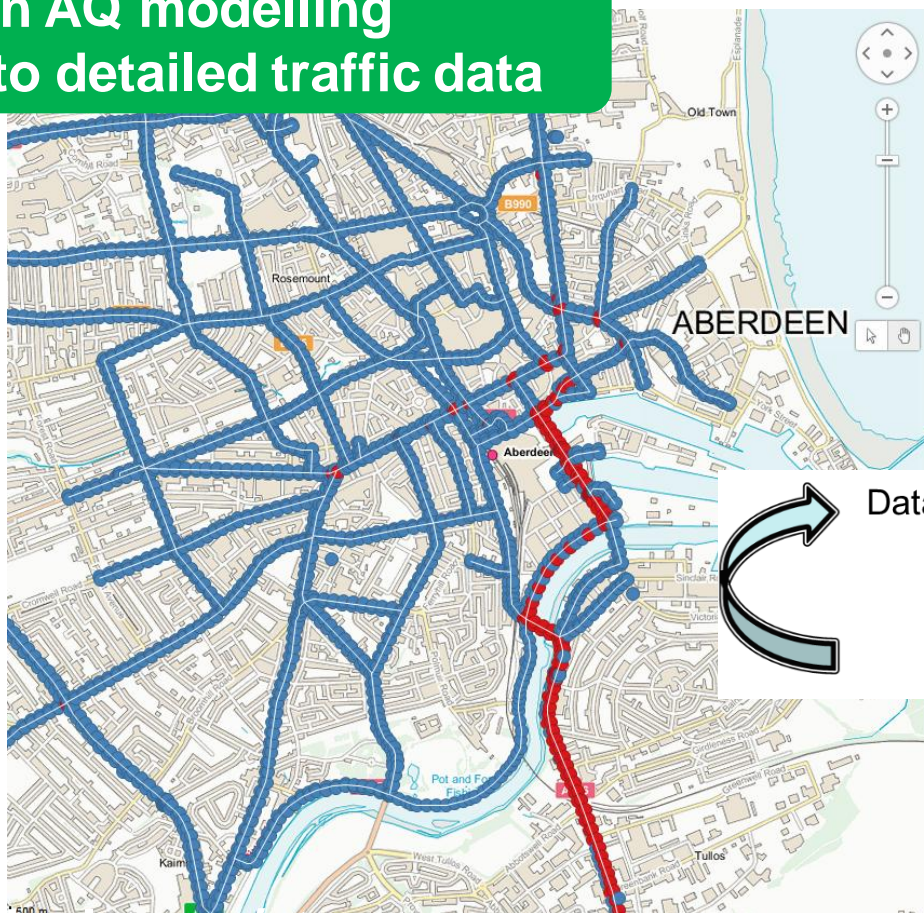
# Specialist Reporting Tools



**Pull out specific events to illustrate transboundary issues rather than local sources**

# Spatial Analysis Tools

Ability to bring in AQ modelling  
outputs linking to detailed traffic data



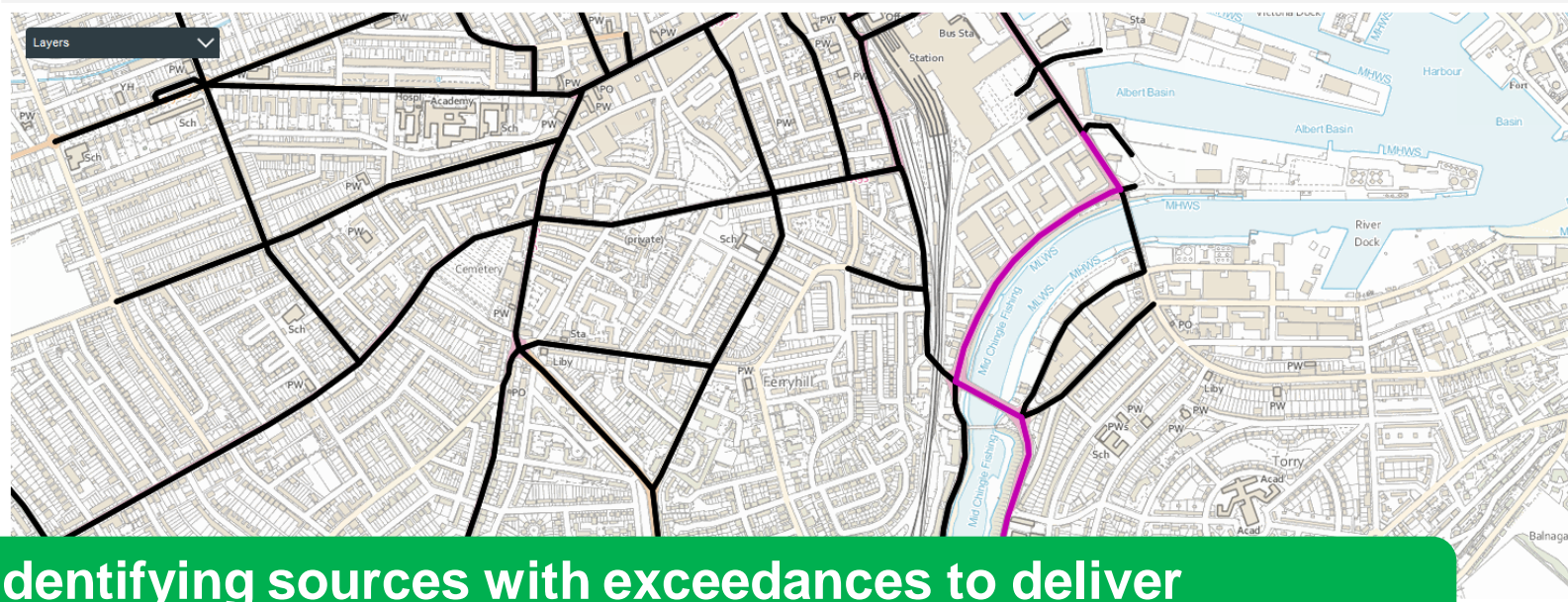
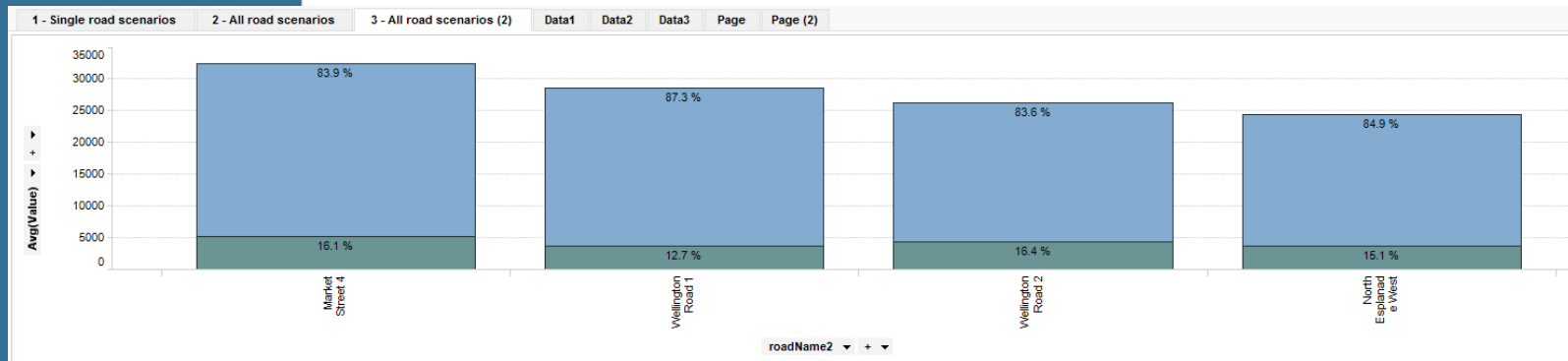
Data Analysis/Visualisation

Modelling

Selecting individual areas/streets to generate  
scenario testing tools for reduction  
measures



# Spatial Analysis Tools



**Identifying sources with exceedances to deliver reductions towards compliance across individual streets**



# Stakeholder Engagement

SAQDDP 24.4 Stakeholder Engagement	2014/15			2015/16												2016/17
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	
Stakeholder Engagement Strategy	Baselined Document															
Stakeholder Workshops		Prep	Workshop	Follow up				Prep	Workshop	Follow up			Prep	Workshop	Follow up	
SAQDDP Webpages Launch													Engagement with the media			April 2016 Go Live
Individual Stakeholder Meetings/Webinars	Transport Scotland	Date Provider Meetings	SUAQ Steering Group			SUAQ Steering Group			Tool Demo Webinars	SUAQ Steering Group			SUAQ Steering Group	Tool Demo Webinars		Lessons Learned
SEPA Internal Communications			Internal Bulletin on Project Scope		"Good News" internal repository in place				"Good News" tools for reviewing						Internal Bulletin on Project Launch	"Good News" webpages live

- Go Live April 2016
- 3 main stakeholder workshops at key milestones: requirements, tools demo, launch
- **1<sup>st</sup> Stakeholder Workshop – 14<sup>th</sup> May**
- Engagement with Scottish Urban Air Quality (SUAQ) Steering Group throughout development/implementation phase
- Continual engagement with stakeholders...