

E-GNSS services at the benefit of environmental applications

Hans Dufourmont, Colin Nugent, Contança Belchior, Jan Bliki
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The European Environment Agency's mission

What?

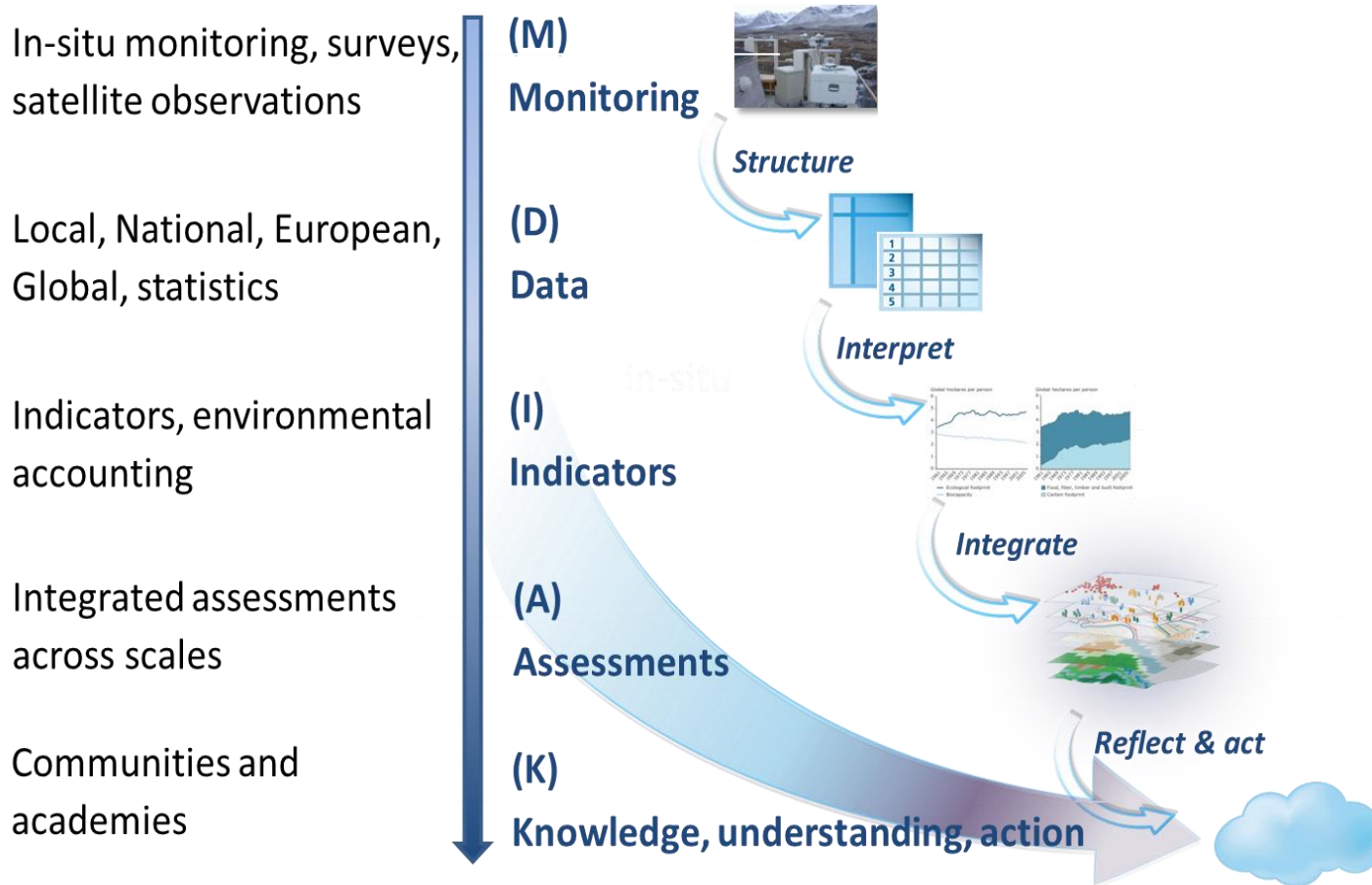
The provision of relevant, reliable, targeted and timely information to policy-making agents and the public.

Why?

To help achieve significant and measurable improvements in Europe's environment and to support sustainable development.

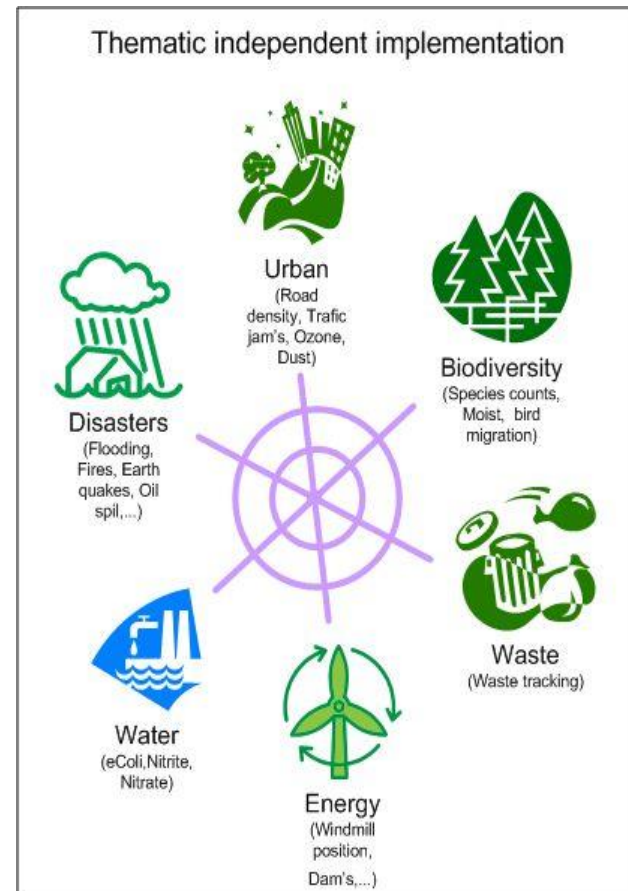


Knowledge management at the EEA



Challenges

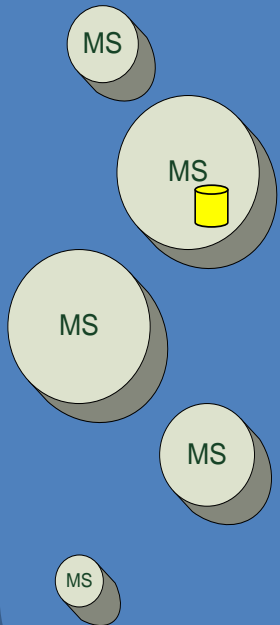
- Increased **demand** for near real time data
- **More** data required - high quality
- **Quality** control
- More **timely** data
- More **efficient** monitoring
- High level of **interoperability**
- **Integration** between in-situ and satellite
- Data **re-use**
- Higher **efficiency**
- Thematic **independency**
- Improved and **flexible** access
- Less **ressources** to maintain multiple flows
- **SEIS** compliancy



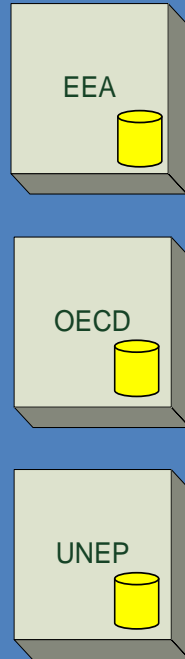
Transition scenarios

The current data flows

Member states

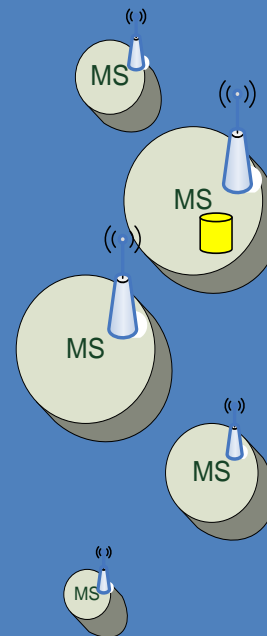


Organisations

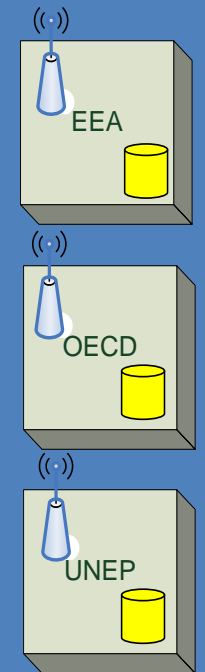


NRT Information Systems

Member states



Organisations



Knowledge management at the EEA



In-situ monitoring, surveys, satellite observations

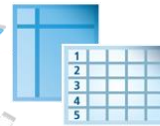
(M)
Monitoring



Structure

Local, National, European, Global, statistics

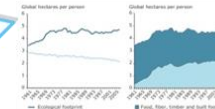
(D)
Data



Interpret

Indicators, environmental accounting

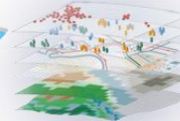
(I)
Indicators



Integrate

Integrated assessments across scales

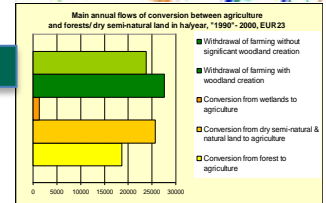
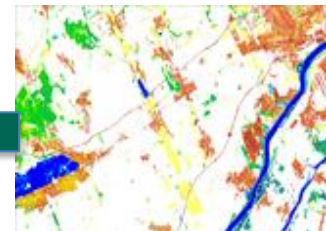
(A)
Assessments



Reflect & act

Communities and academies

(K)
Knowledge, understanding, action



Ozoneweb

- Since 2006
- 1200 stations
- 70 data providers
- 30.000+ measures per day
- Near real time data - hourly



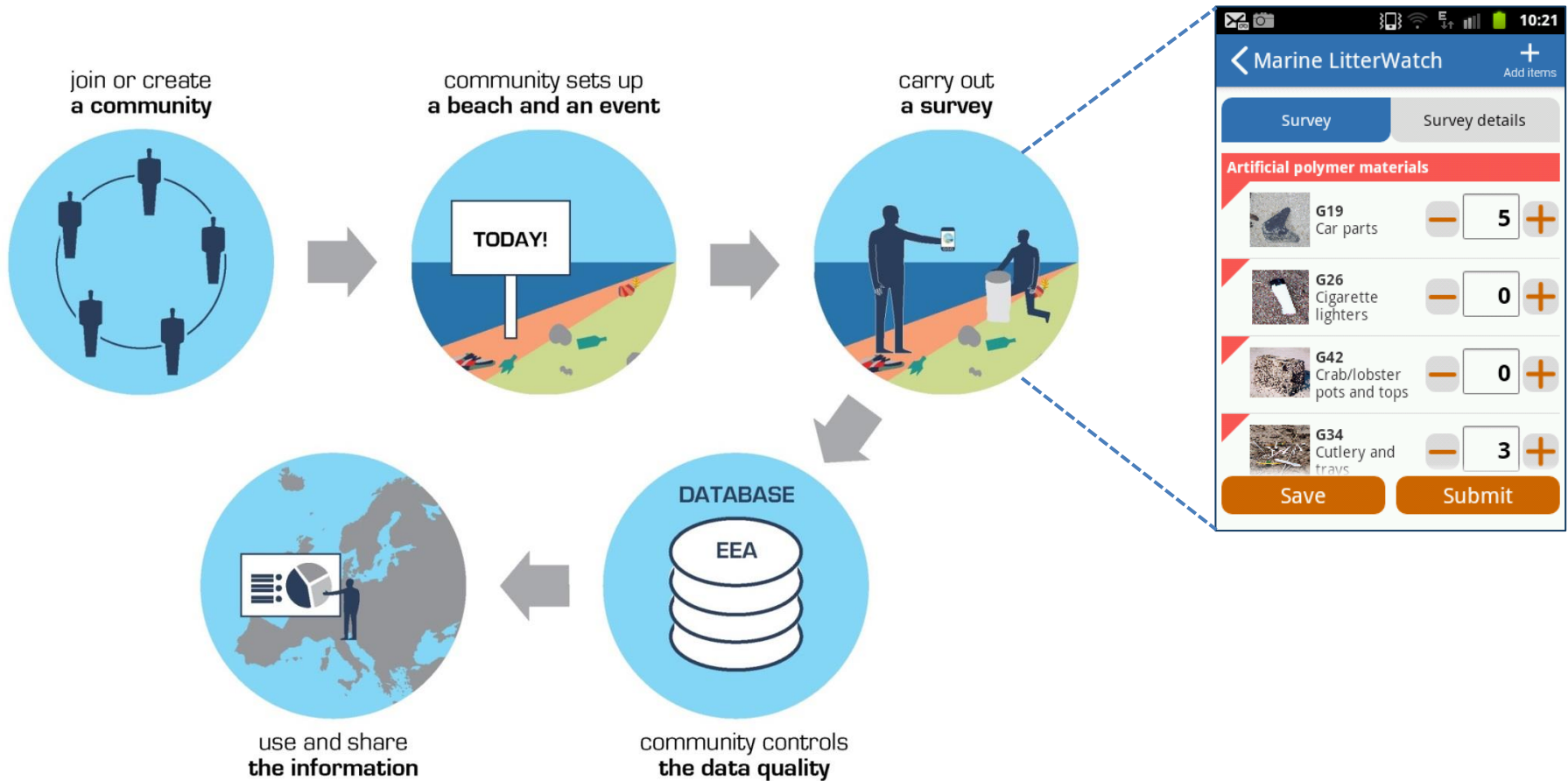
Marine Litter-watch



Participants 4 regional seas



How does it work?



Progress so far



Communities: >20

Total events: 507

Events 2015: 346

Total items
collected: 320 511

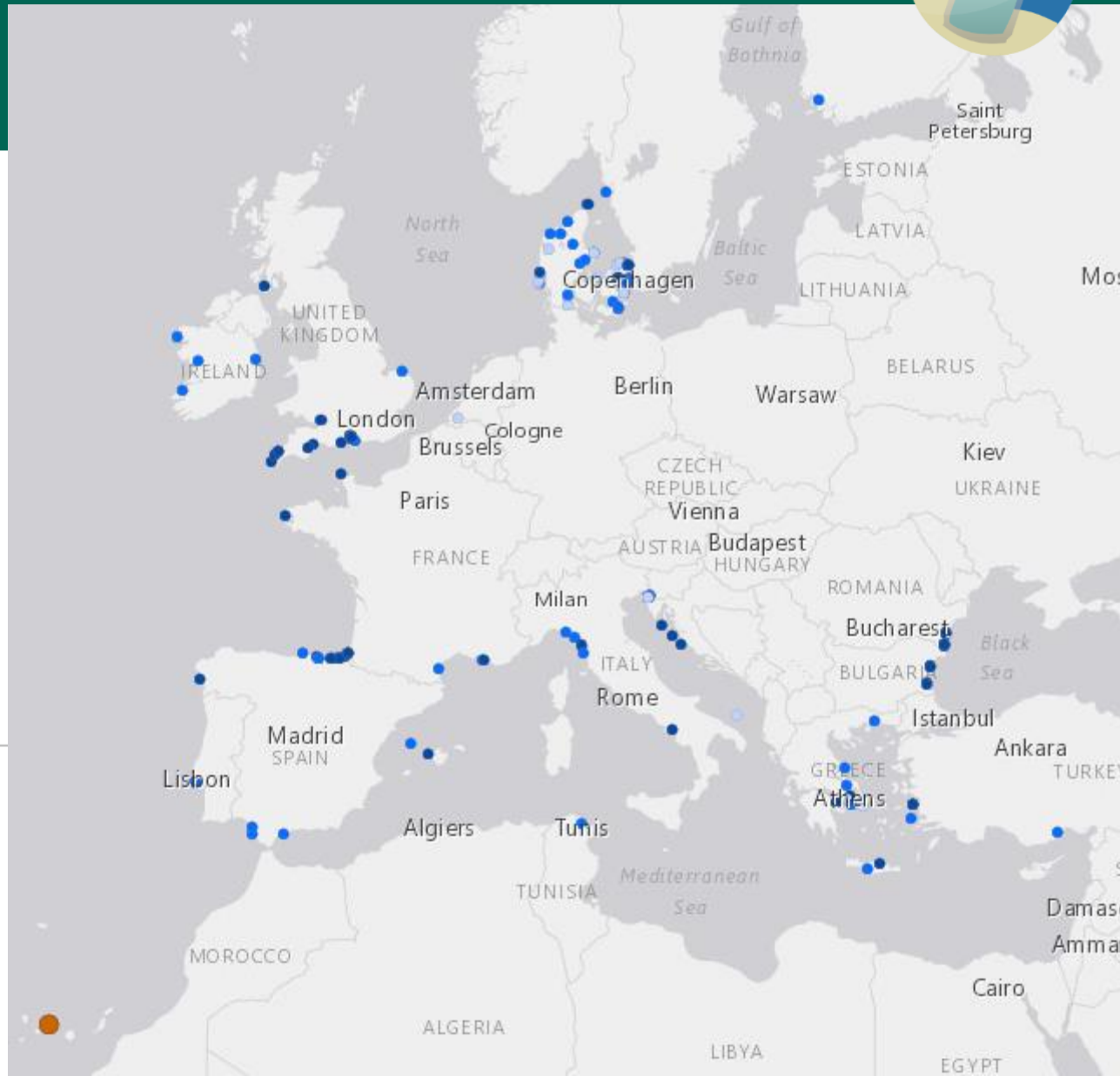
Legend

Past events (1:2.000.000-)

- 2015
- 2014
- 2013

Upcoming events

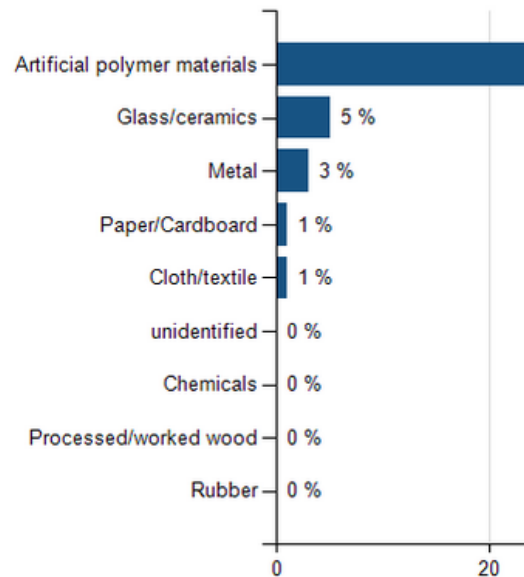
- Upcoming event



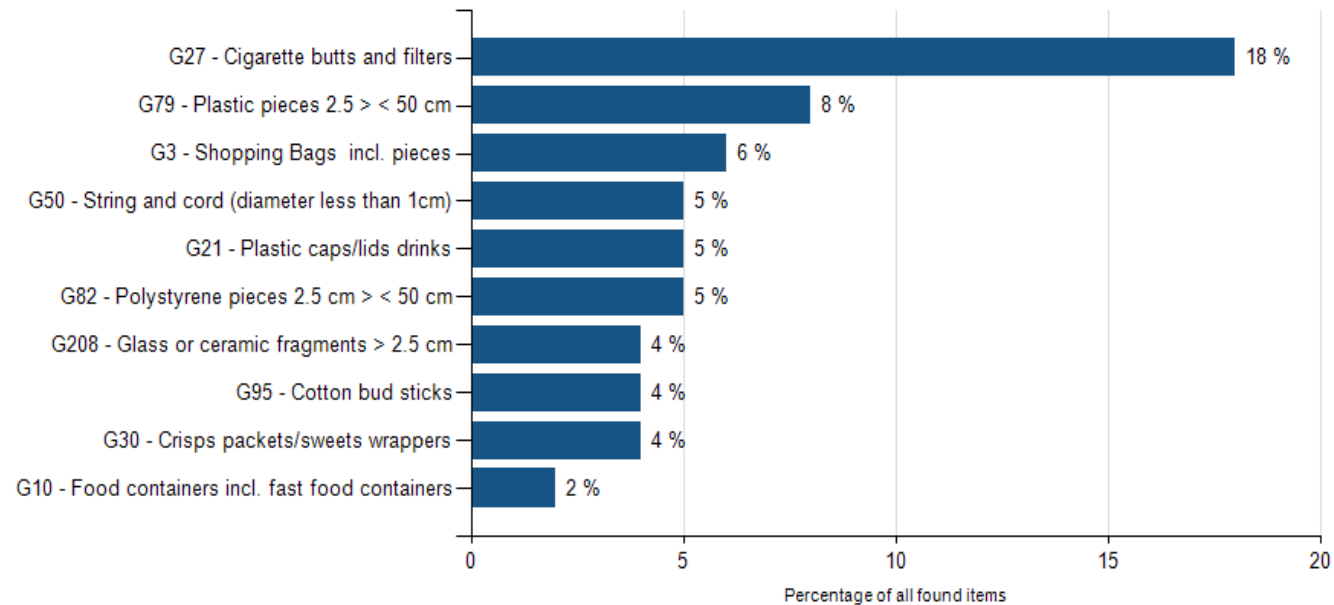
Data – Distribution by material



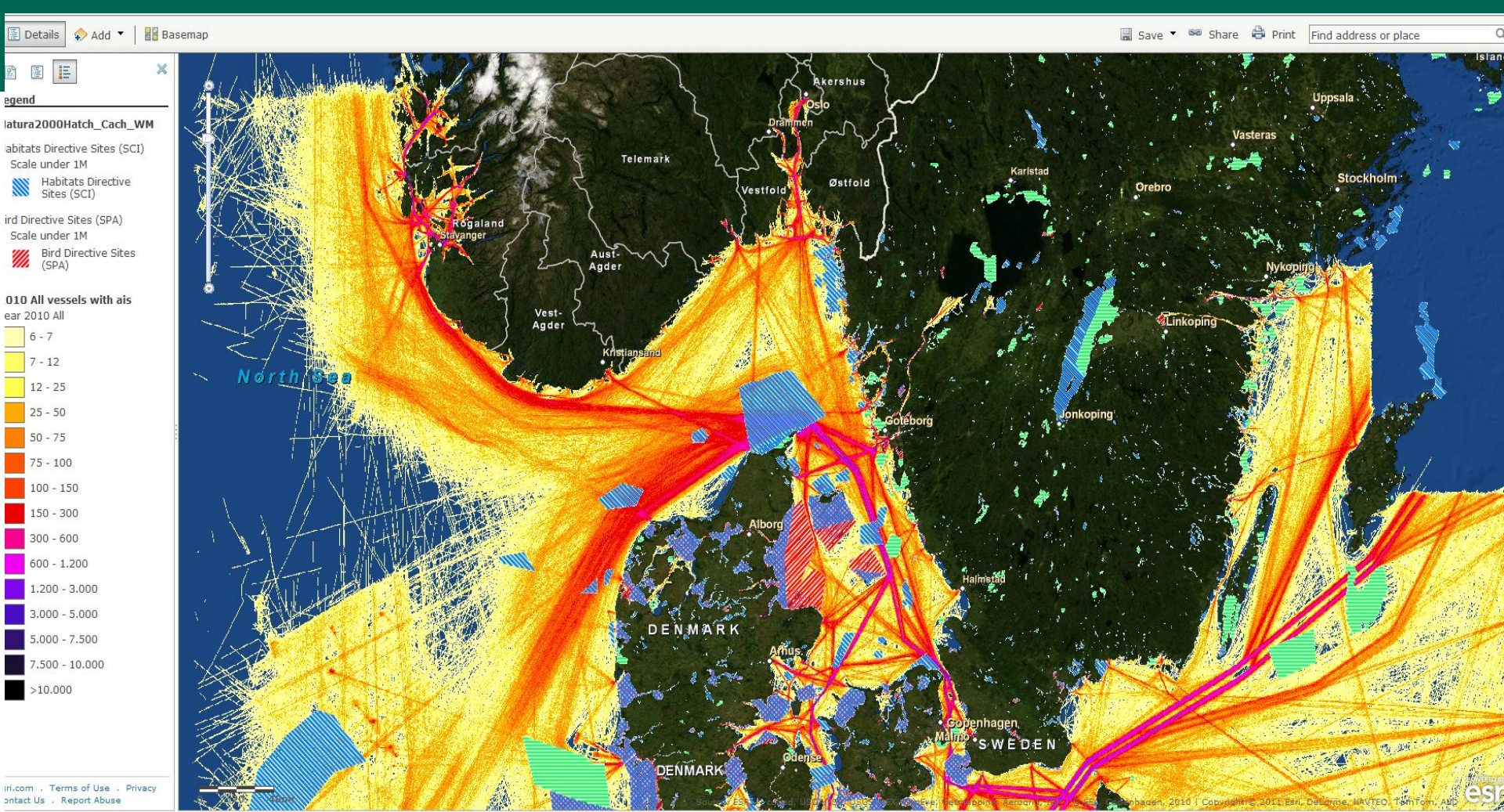
Distribution by category



Top 10 items found



Vessel traffic jeopardising Natura2000 sites



Noise in Europe



Noise in Europe 2014 - key messages

Noise levels from road traffic that are greater than 55 dB L_{den} affect an estimated **125 million people** - **one in four Europeans**.



 **> 55dB L_{den}**



Annoyance



20 000 000

Almost 20 million Europeans are annoyed by environmental noise.

Sleep disturbance



8 000 000

At least 8 million Europeans suffer sleep disturbance due to environmental noise.

Health impacts



43 000

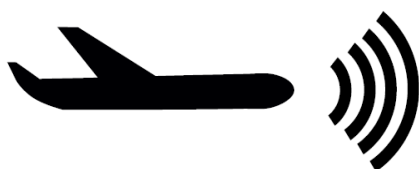
Noise pollution causes 43 000 hospital admissions in Europe per year.

Premature deaths



10 000

Noise pollution causes hypertension and cardiovascular disease, leading to an estimated 10 000 premature deaths annually in Europe.



8,000 suffer reading impairment (7-17 year olds)

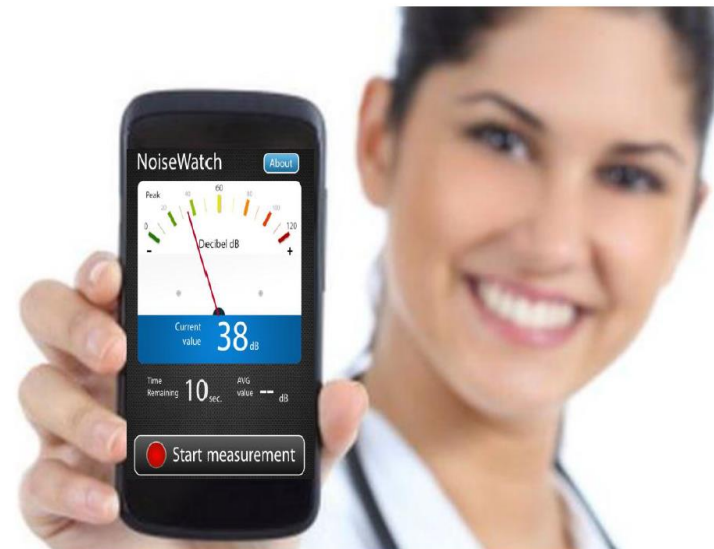


NoiseWatch: 3 tier integrated

- Modelling

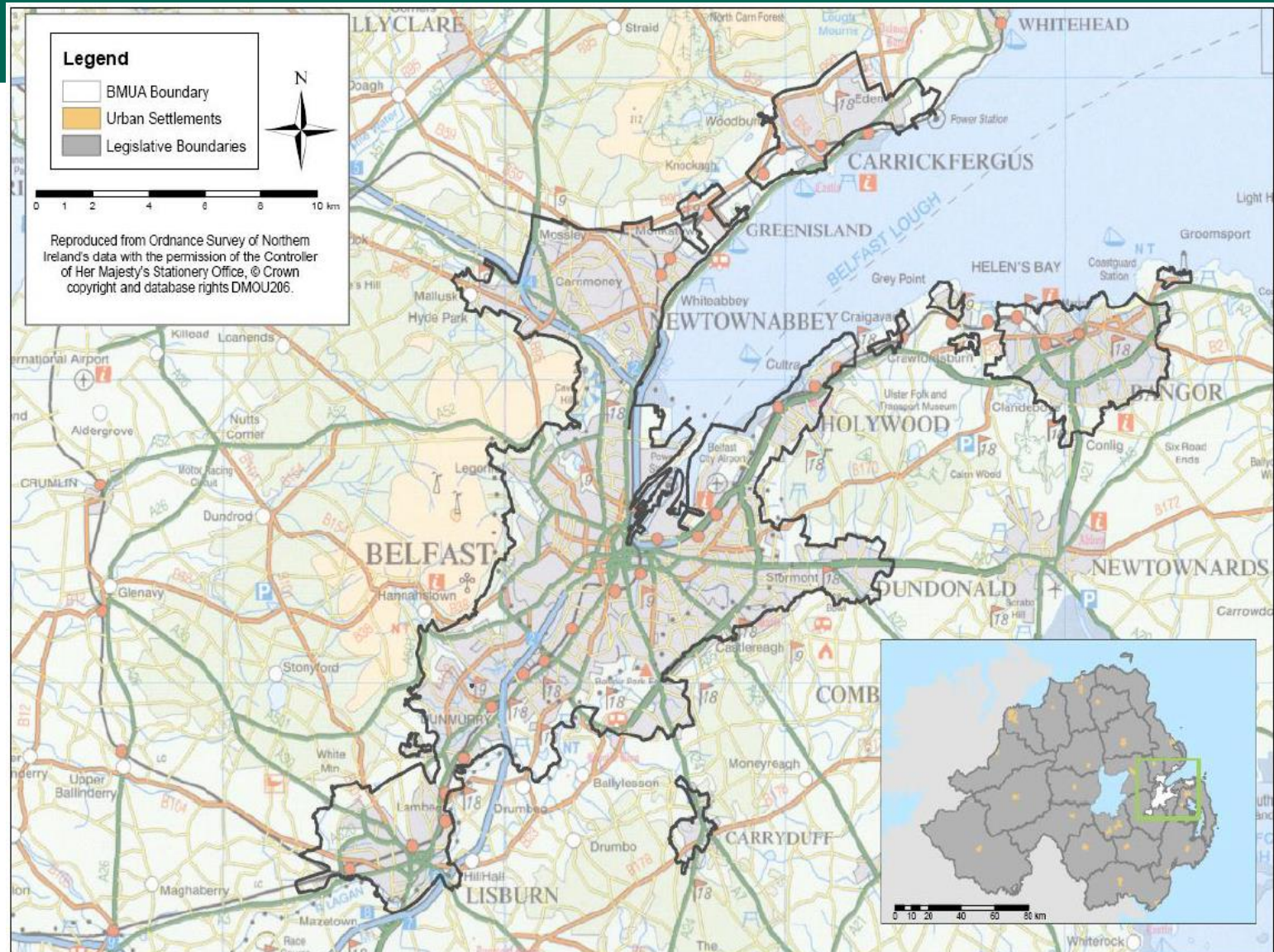


- Measurement

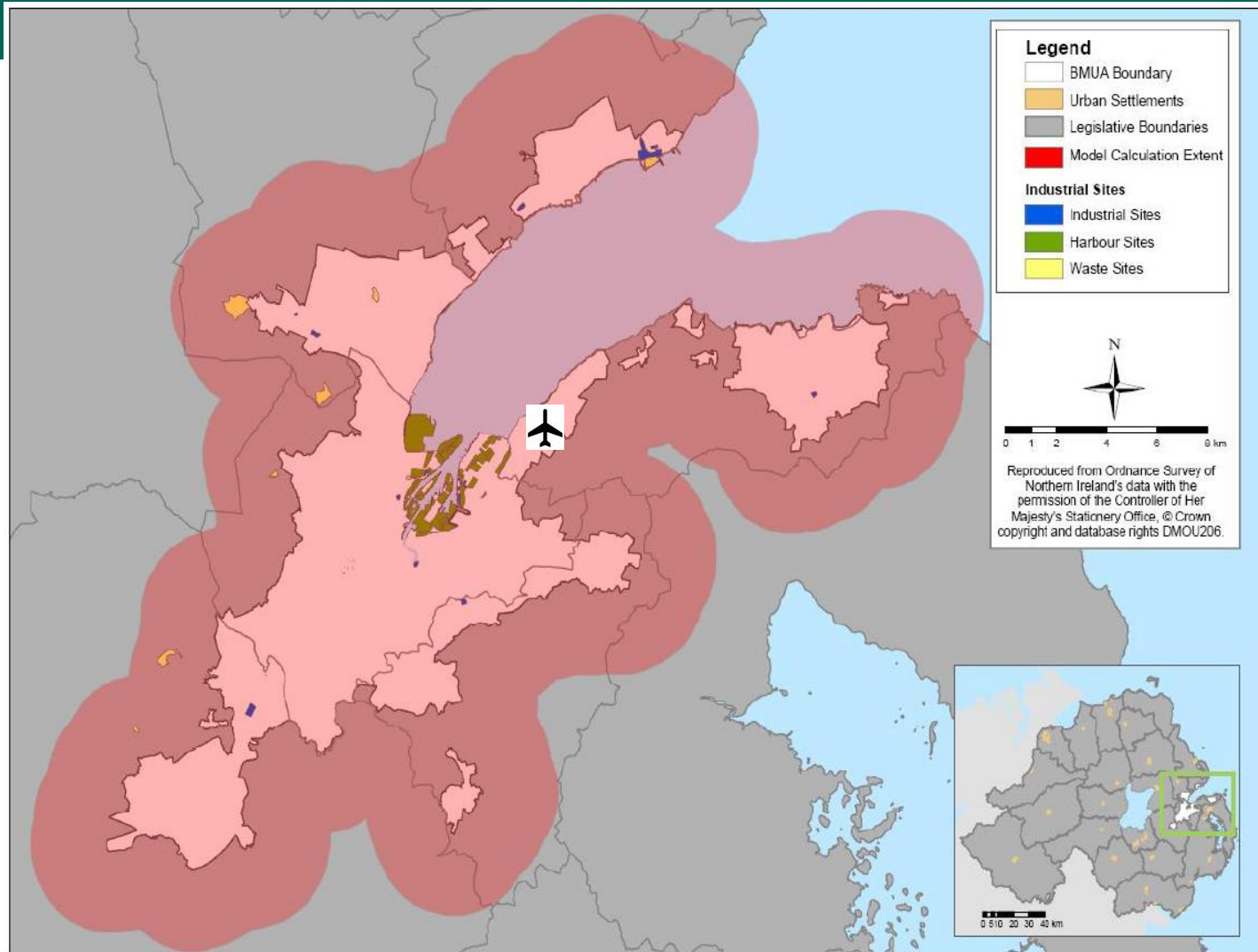


- Citizen rating

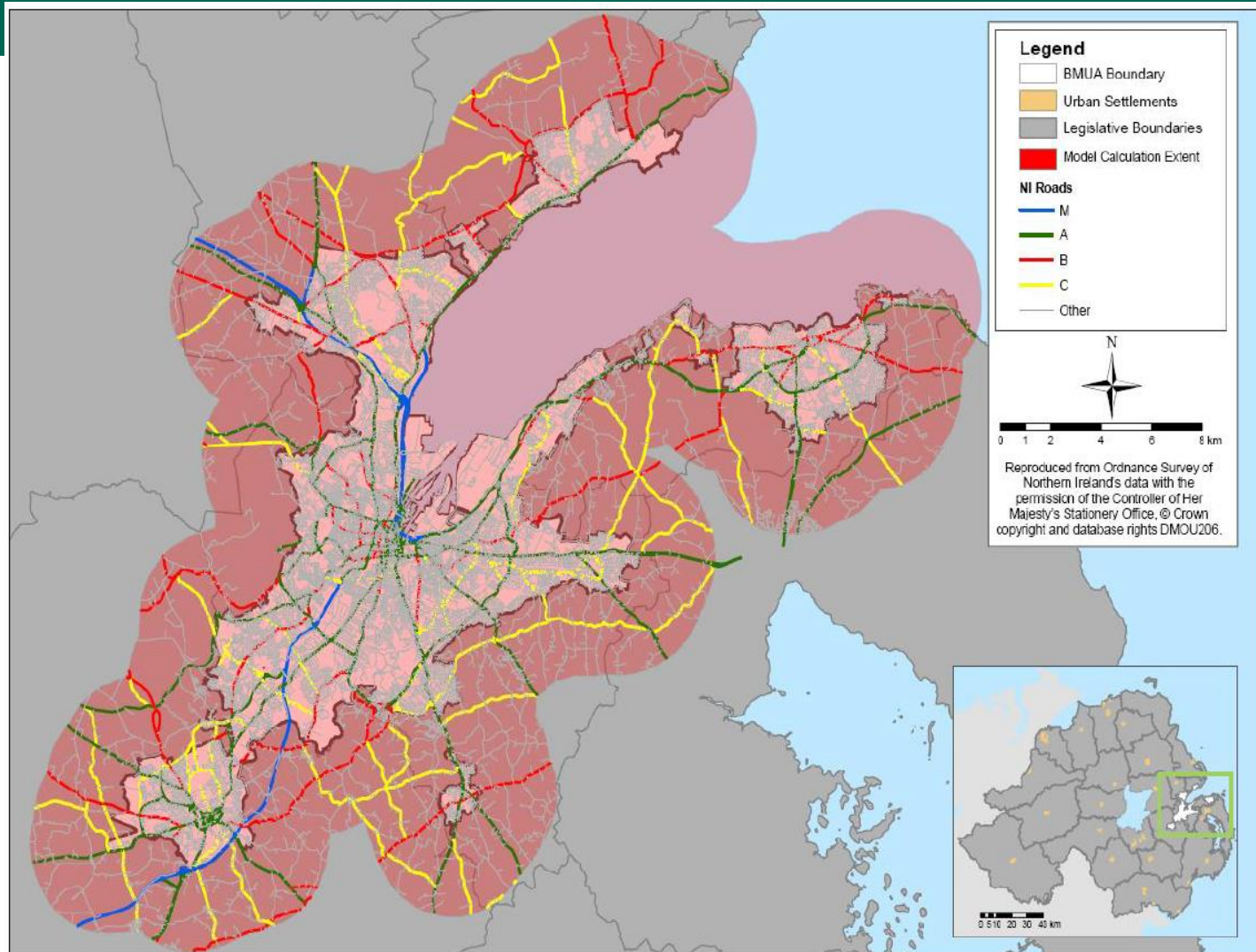
Define the urban area



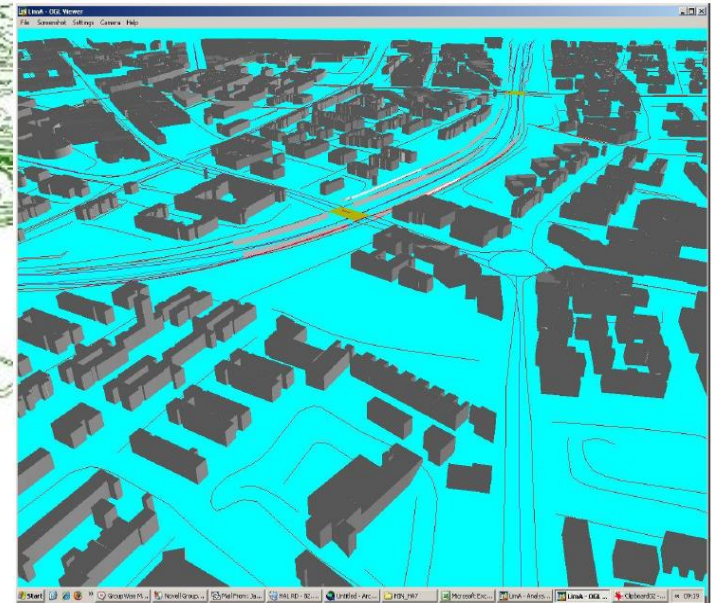
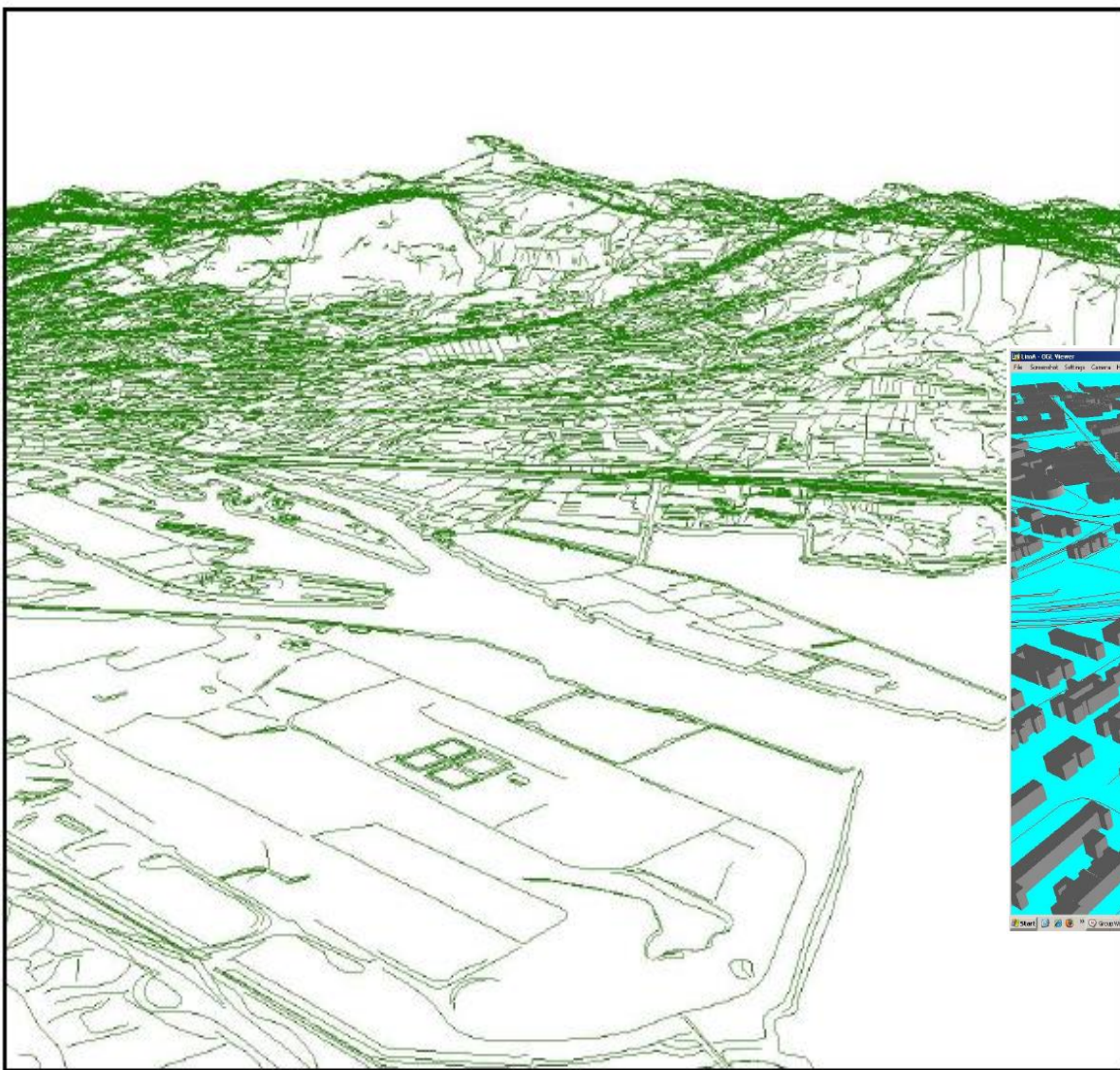
Geo-reference the sources and define the calculation area



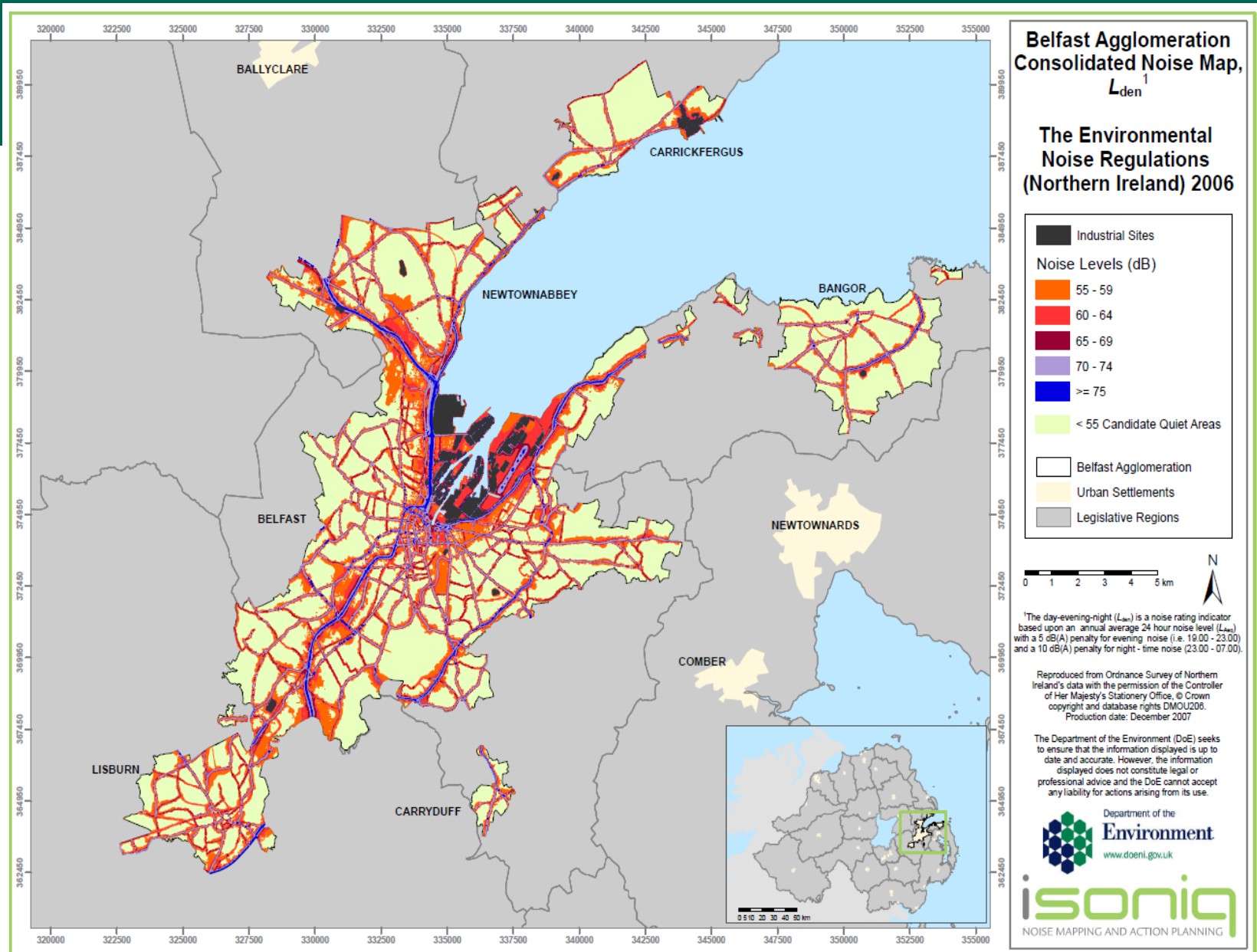
Include roads & railways



Include 3rd dimension: DTM, buildings & acoustically significant features



Final modelled noise map



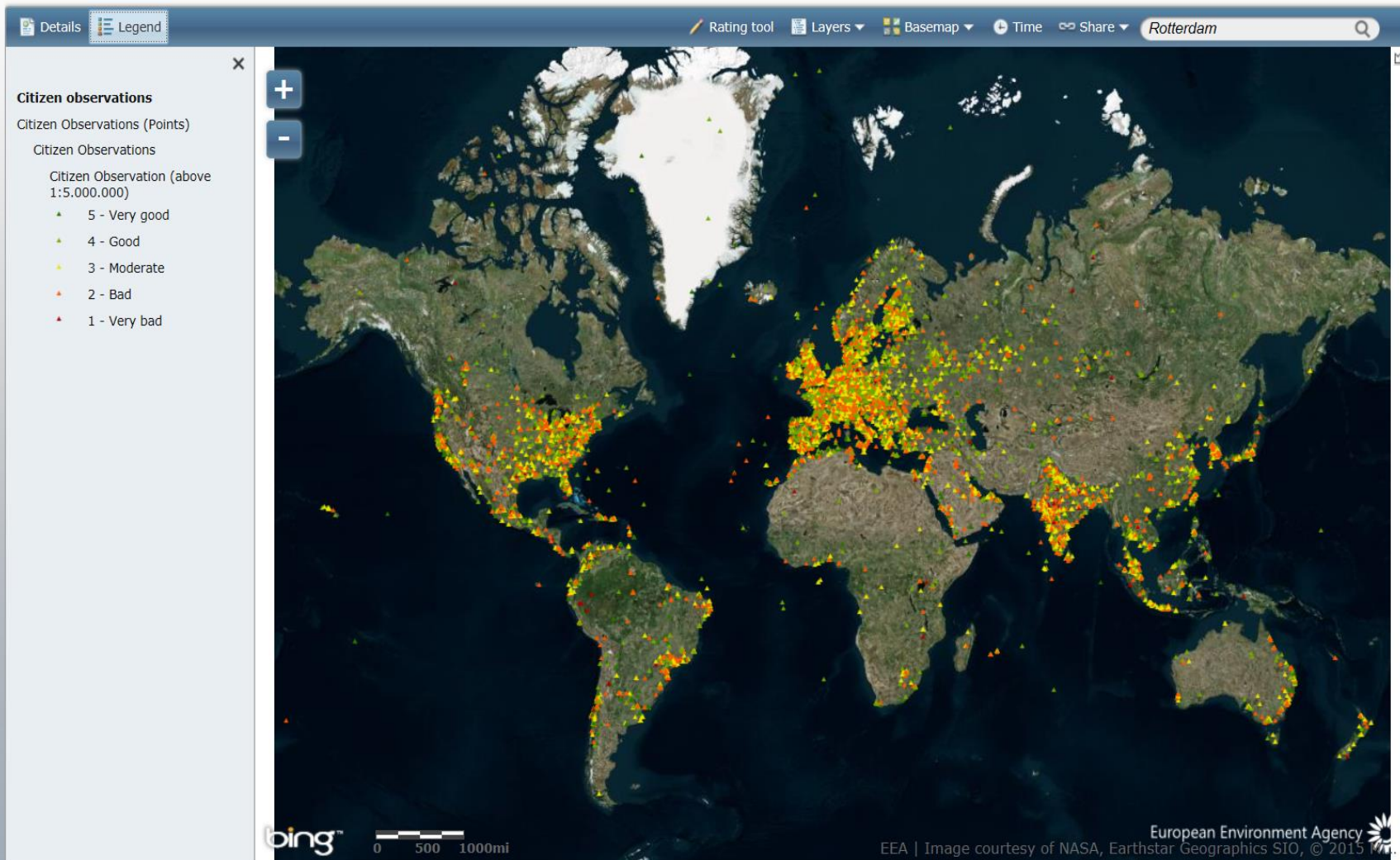
NoiseWatch Citizen Rating



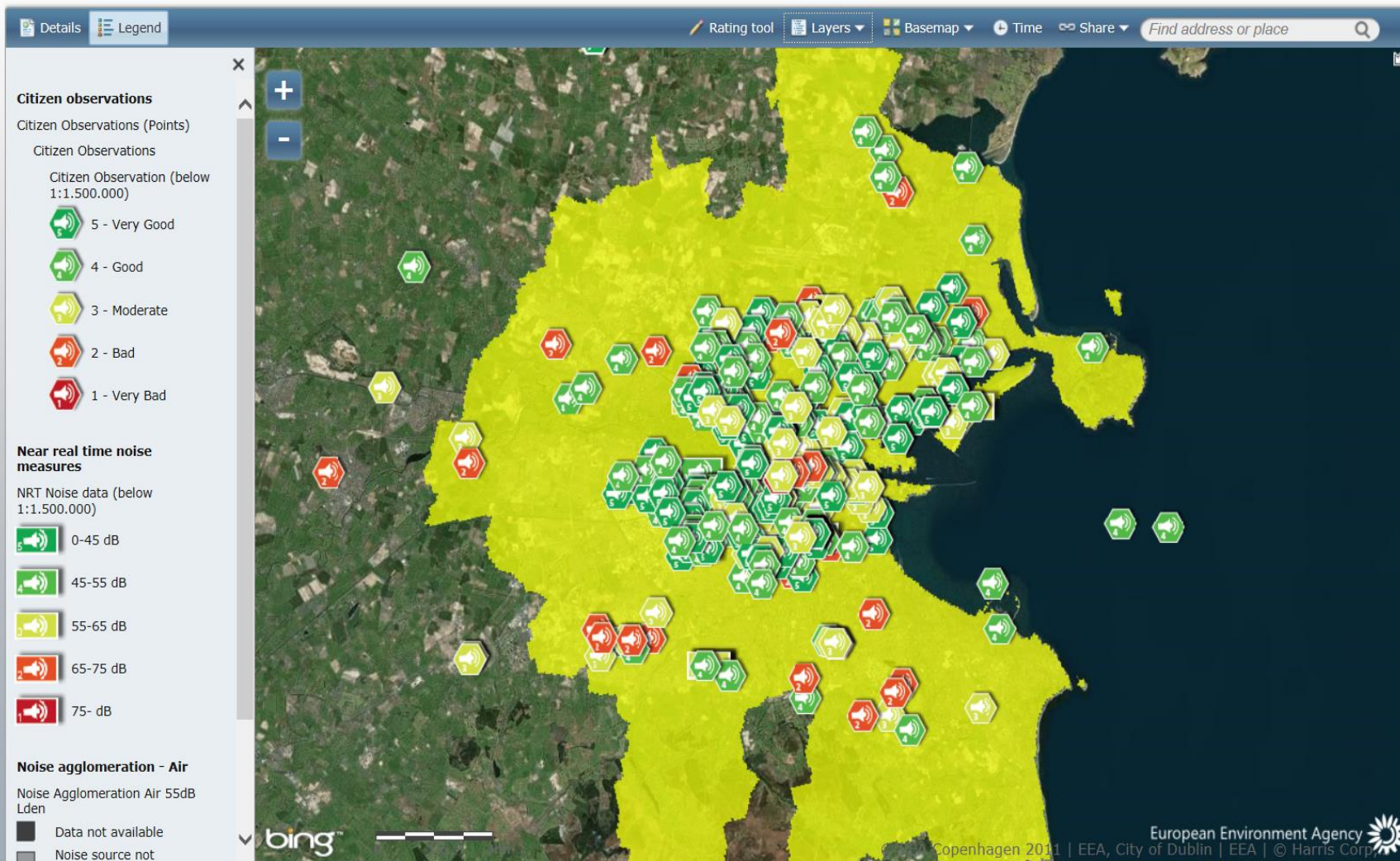
NoiseWatch Citizen Rating



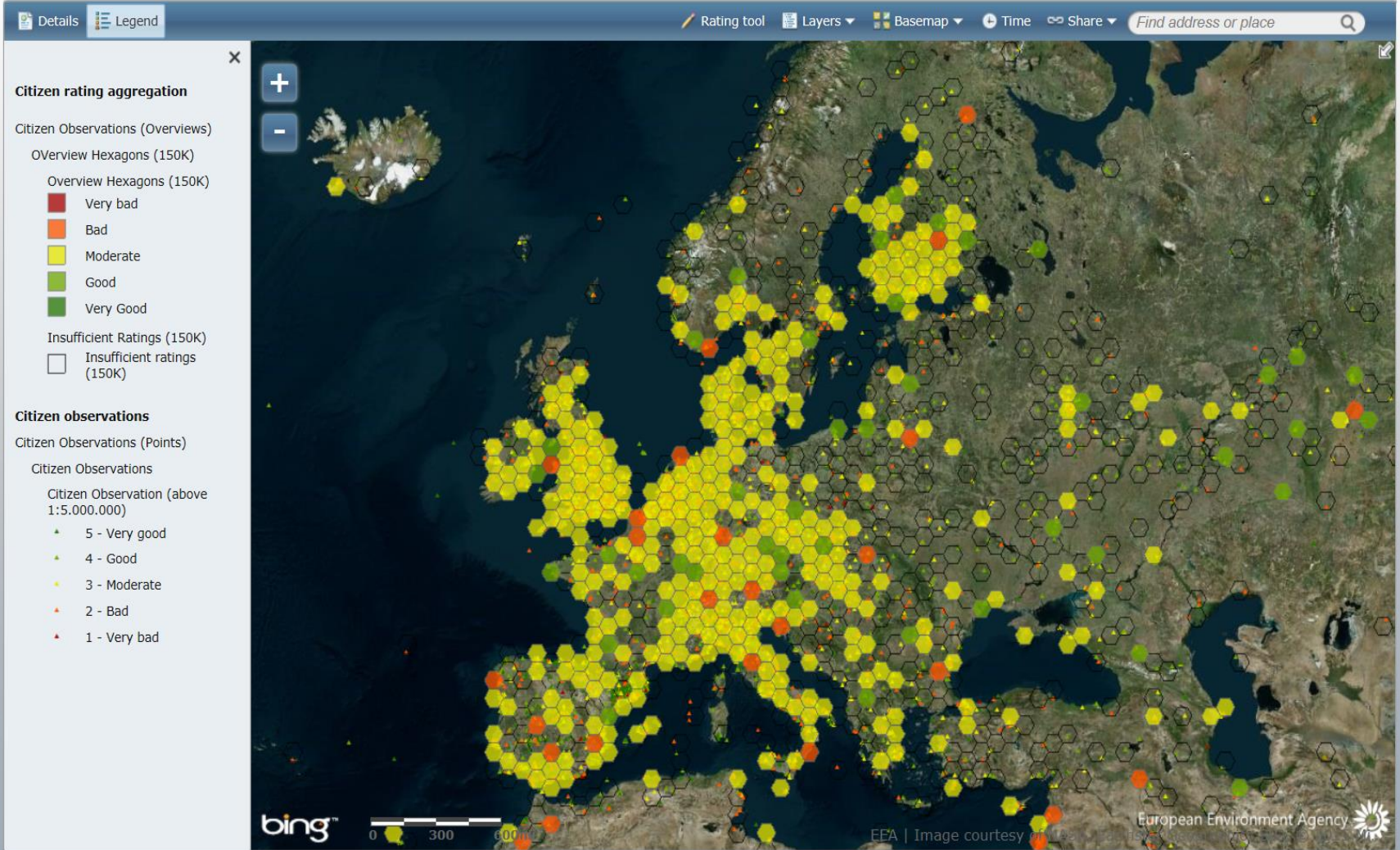
NoiseWatch - Share your noise experience



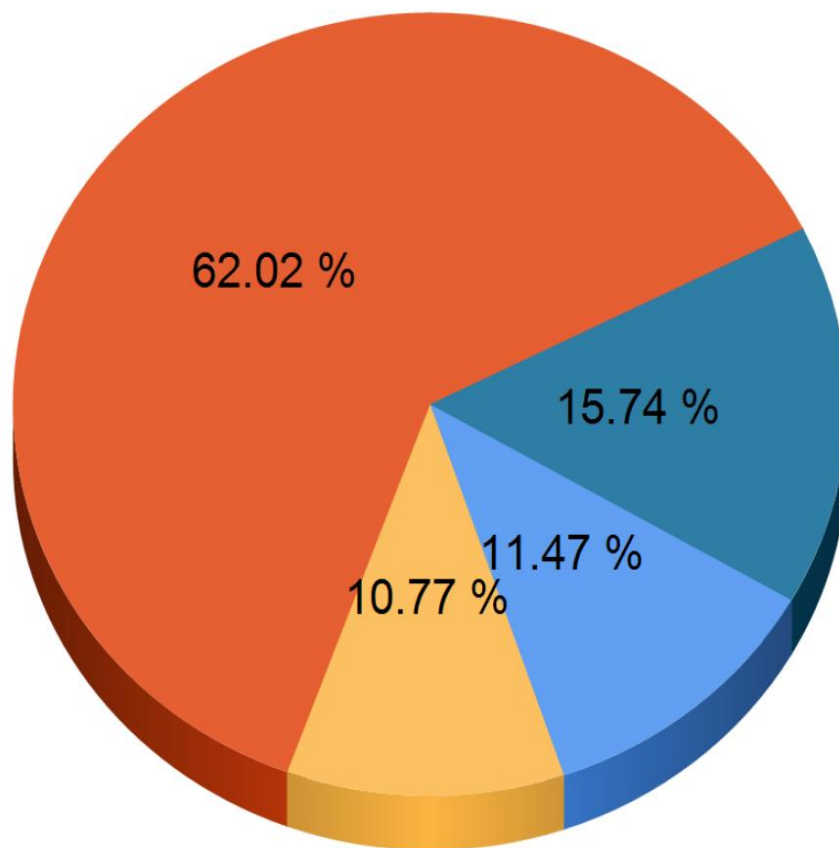
NoiseWatch - Share your noise experience



NoiseWatch - Share your noise experience



NoiseWatch source tags



292,386
ratings

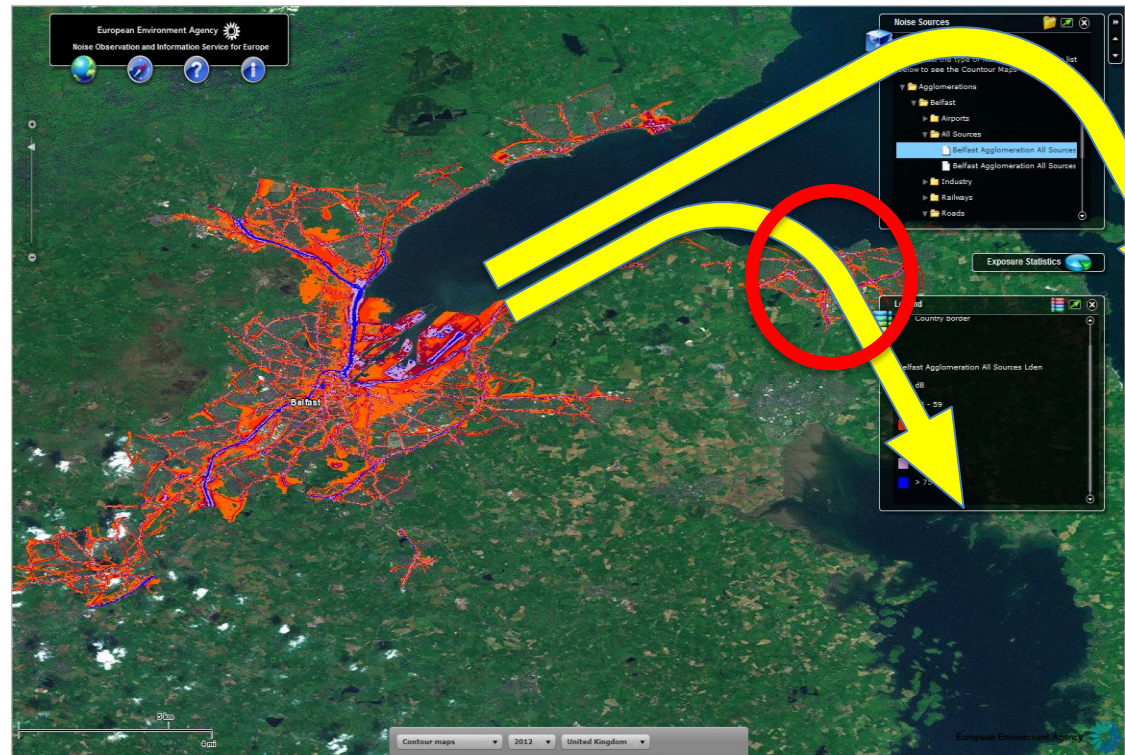
28th September 2015

Geo-location monitoring challenges: yet another e-gnss application domain?

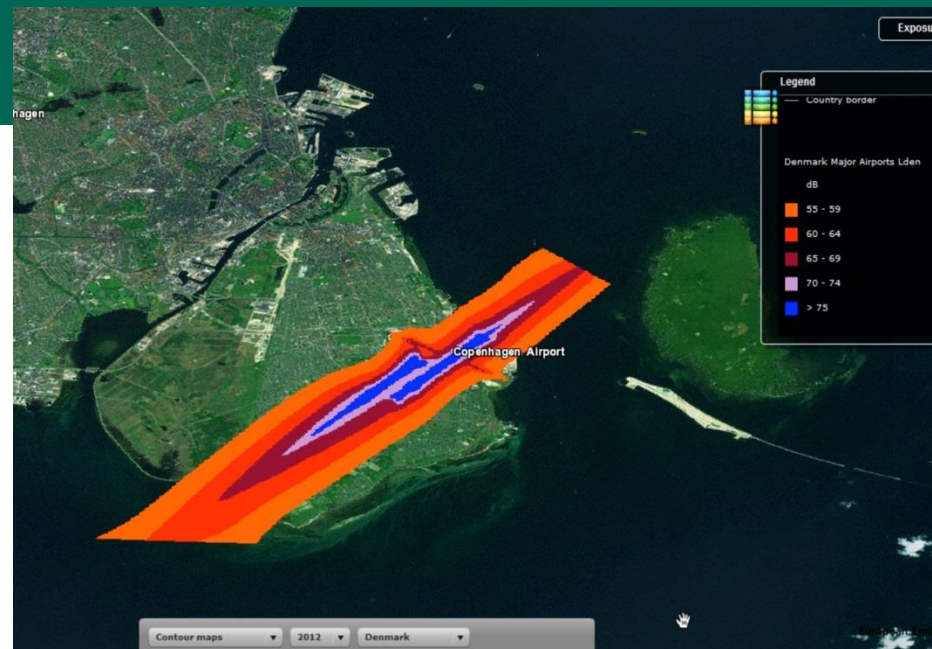


Belfast airport destinations

Prescribed versus real routes?

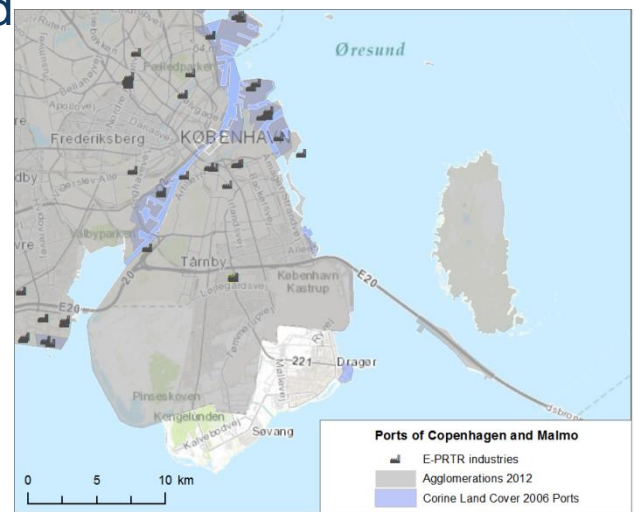


Conclusions

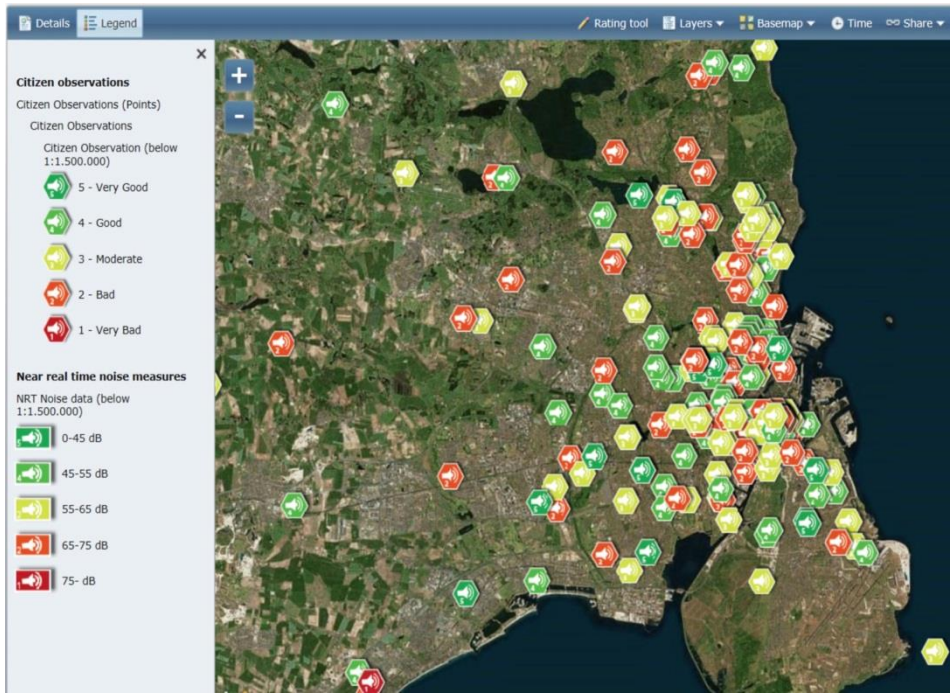


Modelled noise impact

Official reporting sources



crowd sourced data



Huge potential for extension of noise measurements by increased use of geo-location services

NoiseWatch - Share your noise experience



GEOSPATIAL
WORLD
EXCELLENCE
AWARDS



<http://discomap.eea.europa.eu/map/NoiseWatch/>