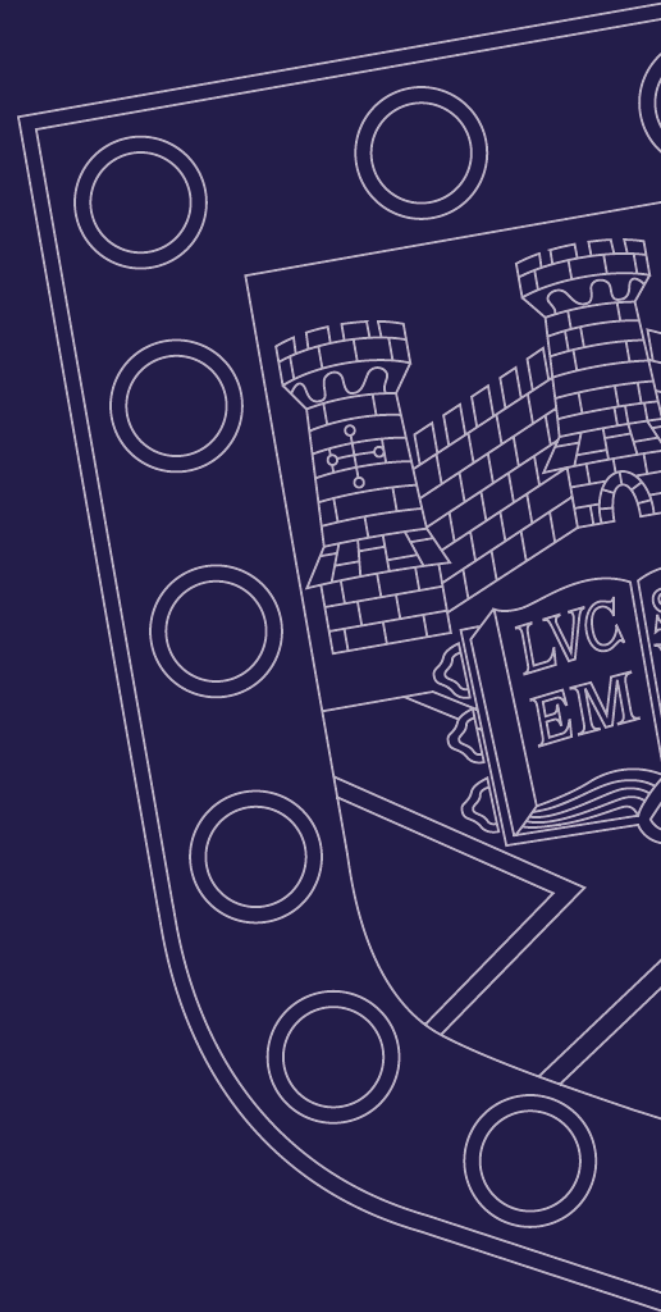




Government Office for Science

University of Exeter
Wednesday 3 February 2016

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Key issues that drive the agenda



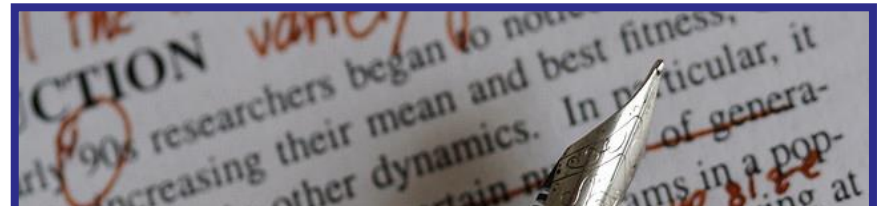
Infrastructure



Emergencies



The Economy



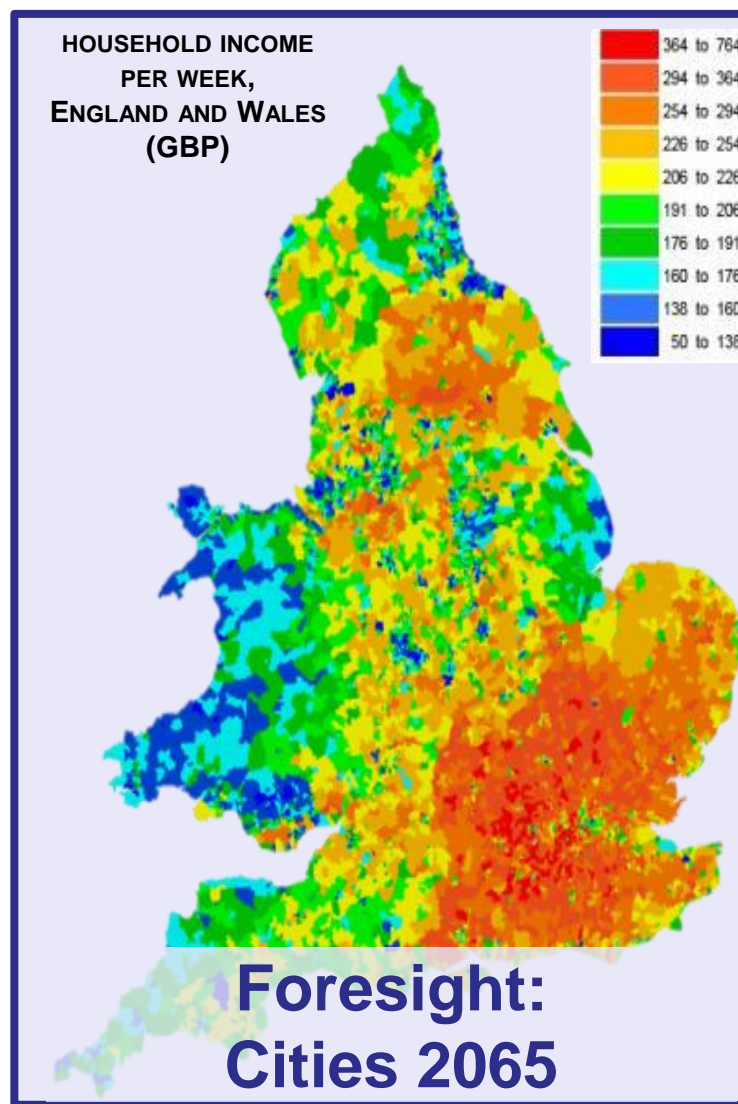
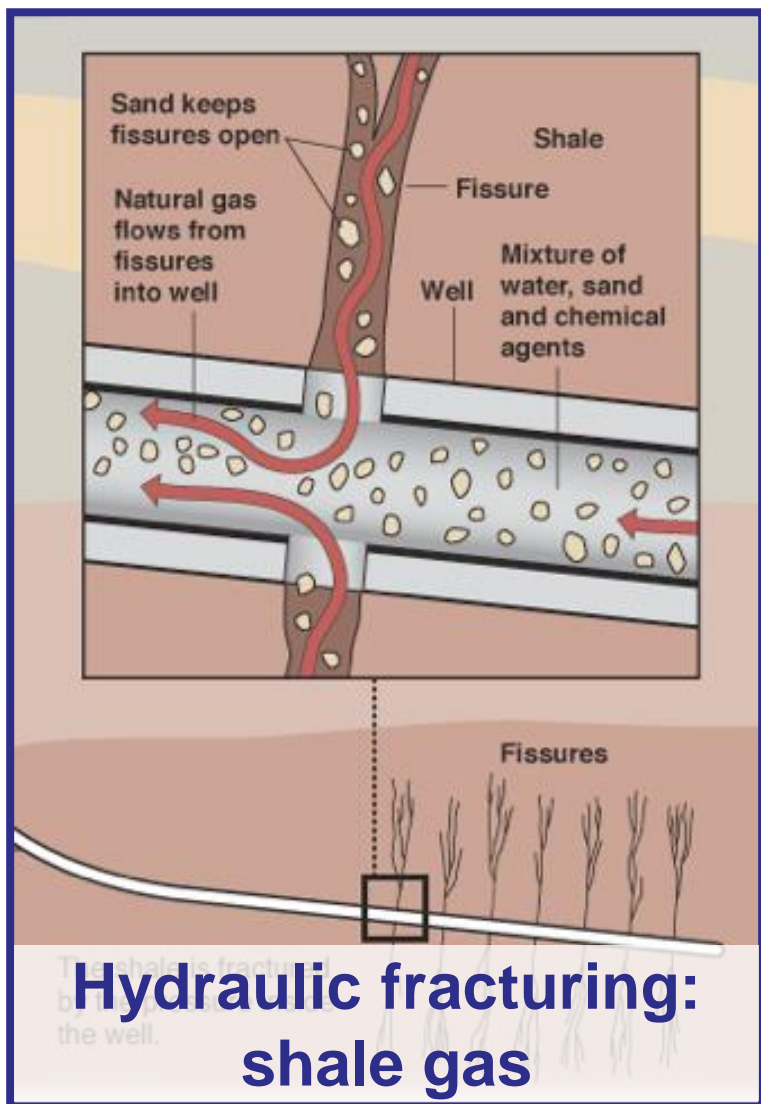
Science Policy





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Science Advice: Dealing with issues





Science advice in government: The Government Office for Science

Cabinet
Prime Minister

Cabinet Office
Cabinet Secretary

Council of
Science and
Technology

Horizon
Scanning
Team

**Government Office
for Science**
Sir Mark Walport
(~80 people)

Data Science

Other Government Departments

Departmental
Chief Scientific
Advisers
~20

Scientific
Advisory
Committees
~1500

Public Sector
Research
Establishments

Government
Scientists
and Engineers
~15,000



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Science advice in government: The wider networks

FinTech Futures – March 2015

- Universities,
- Industry,
- Government,
- Regulators, and
- Think tanks.





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Giving Science Advice: The ground rules

1. Clear roles and responsibilities
2. Independence
3. Transparency and openness



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Guidance

Principles of scientific advice to government

Published 24 March 2010

<https://www.gov.uk/government/publications/scientific-advice-to-government-principles>

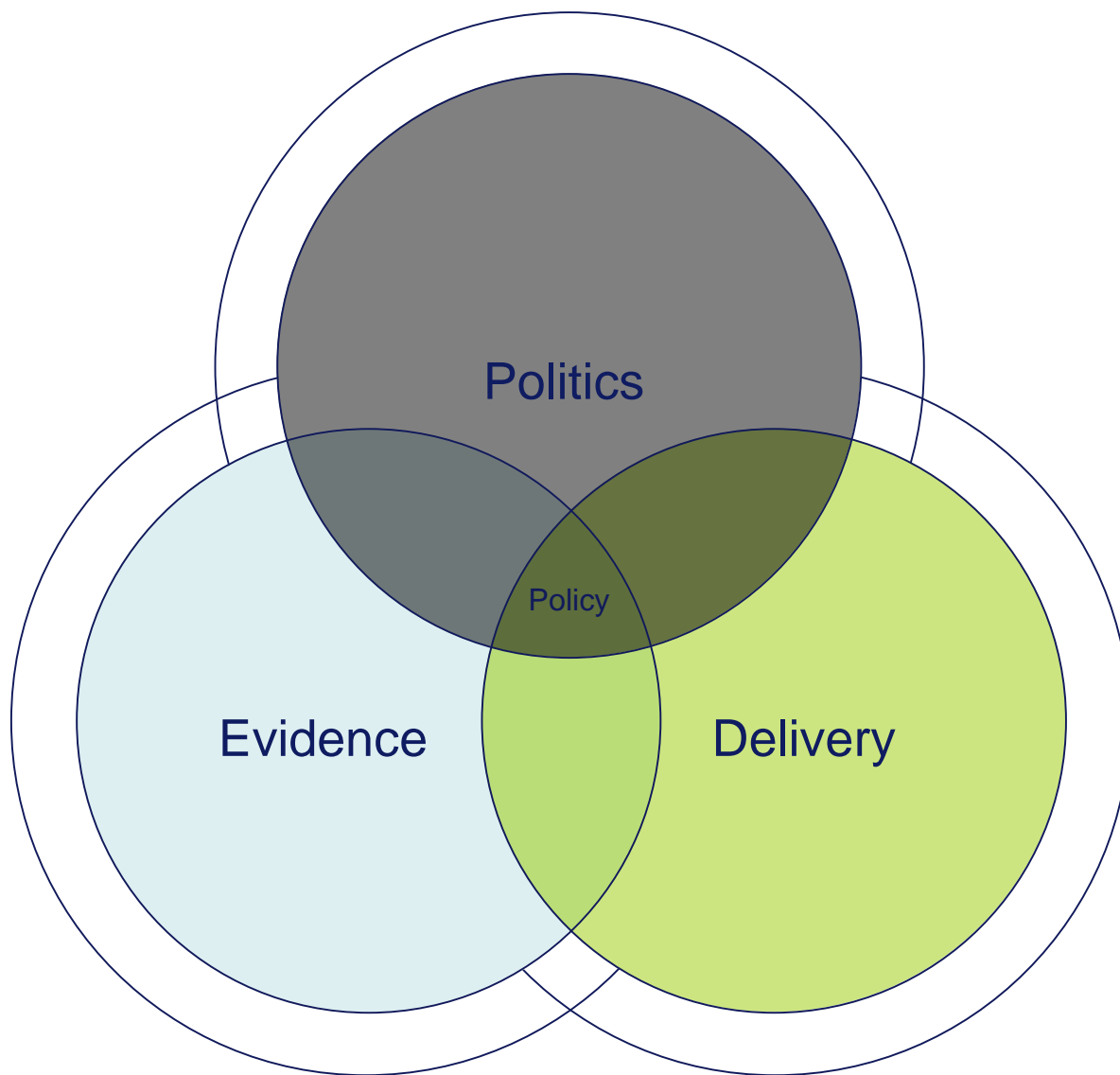


Science meets policy

- Different lenses
- Effective communication is essential
- Help policy makers solve their problems

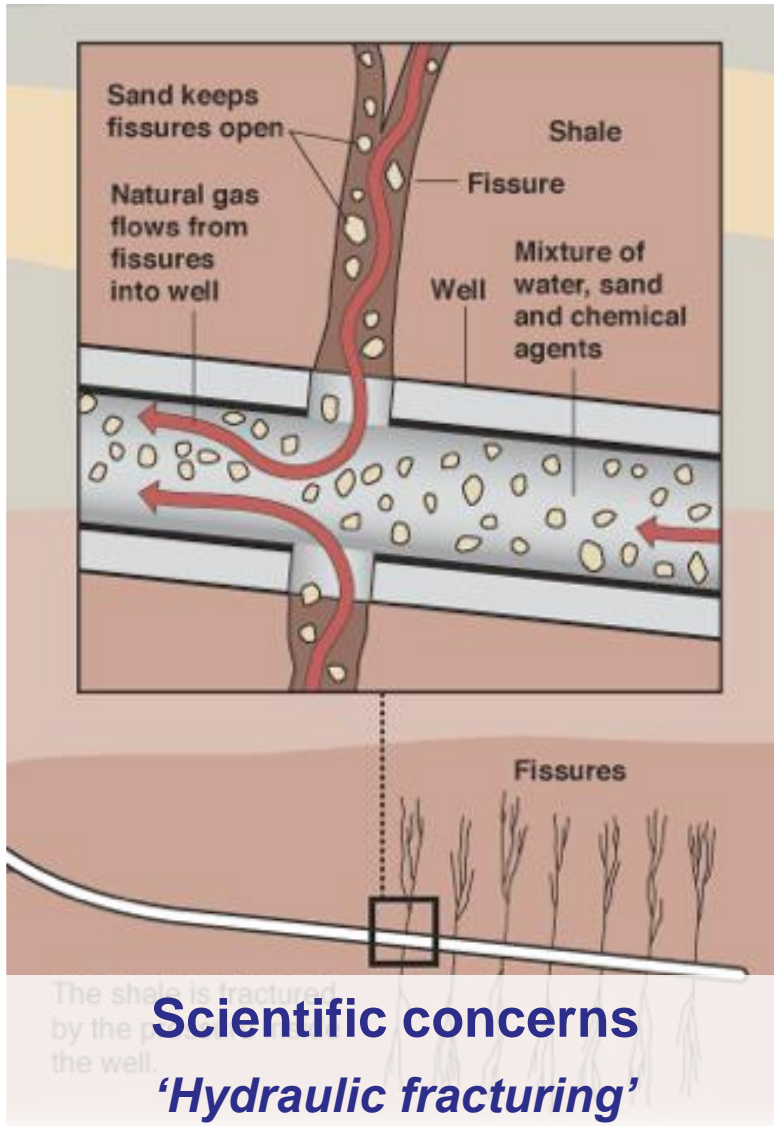


Different lenses





Different lenses: Shale gas



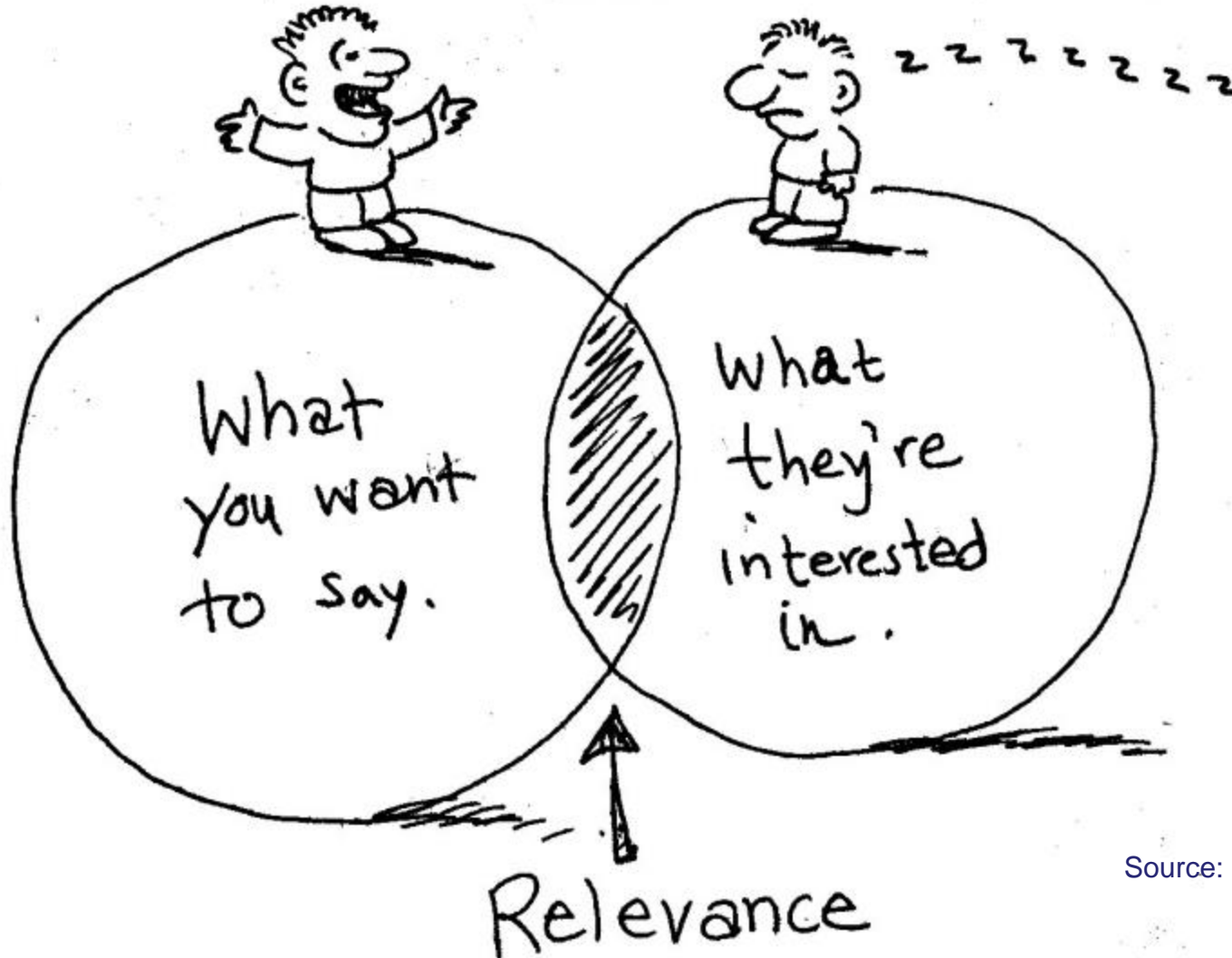


Science meets policy

- Different lenses
- Effective communication is essential
- Help policy makers solve their problems



Effective communication: Understand your audience





Effective communication: Language matters

Terms that have different meanings for scientists and the public

| Scientific term | Public meaning | Better choice |
|-------------------|-------------------------------|---------------------------------------|
| enhance | improve | intensify, increase |
| aerosol | spray can | tiny atmospheric particle |
| positive trend | good trend | upward trend |
| positive feedback | good response, praise | vicious cycle, self-reinforcing cycle |
| theory | hunch, speculation | scientific understanding |
| uncertainty | ignorance | range |
| error | mistake, wrong, incorrect | difference from exact true number |
| bias | distortion, political motive | offset from an observation |
| sign | indication, astrological sign | plus or minus sign |
| values | ethics, monetary value | numbers, quantity |
| manipulation | illicit tampering | scientific data processing |
| scheme | devious plot | systematic plan |
| anomaly | abnormal occurrence | change from long-term average |



- Different lenses
- Effective communication is essential
- Help policy makers solve their problems



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Help policy makers solve their problems: Distributed Ledger



Disruptive technology
that could transform

- the delivery of public services and
- enhance productivity through a wide range of applications
 - e.g. Estonia's health records initiative



Help policy makers solve their problems: The ageing population



Housing



Technology



Health and care



Education and work

- Response to 'Ready for Ageing?' report
- Project focuses on four inter-connected areas
- Ageing Population and Life course



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Help policy makers solve their problems: The Internet of Things



GO-Science Blackett review:

- Security
- Standards
- Skills
- Need for demonstrators (£40m)



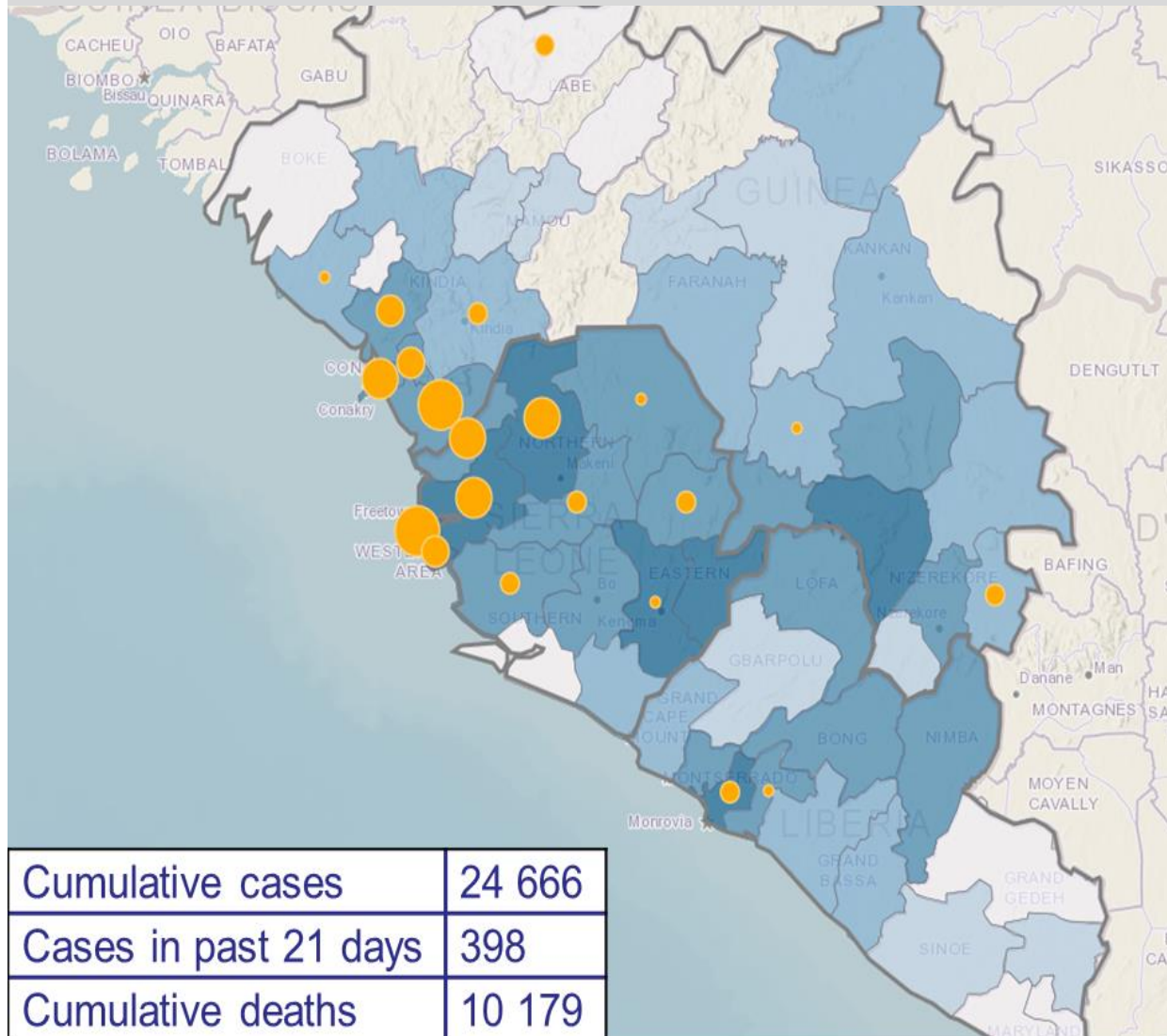


Help policy makers solve their problems: Dealing with an emergency

2014 Ebola Outbreak

- Modelling
- Risk to UK
- Screening
- Virus survival
- Vaccines
- What else can we do?

WHO Ebola Situation Report - 18 March 2015





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Contribute

- Ad-hoc requests (e.g. in an emergency)
- Calls for evidence
- Workshops and expert panels
- Papers and peer reviews

Ways to get involved

Join the Civil Service!

- Placements
- S&E Fast Stream
- Chief Scientific Adviser





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Panel session

Government Office for Science:

- Charles Jans, Head of Foresight
- Dr Jo House, Head of Climate
- Jon Elliott, Head of Science Advice

University of Exeter:

- Prof Tamara Galloway (CLES)
- Prof Roy Sambles (CEMPS)
- Prof Michael Winter (SSIS)

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