From academia to operations

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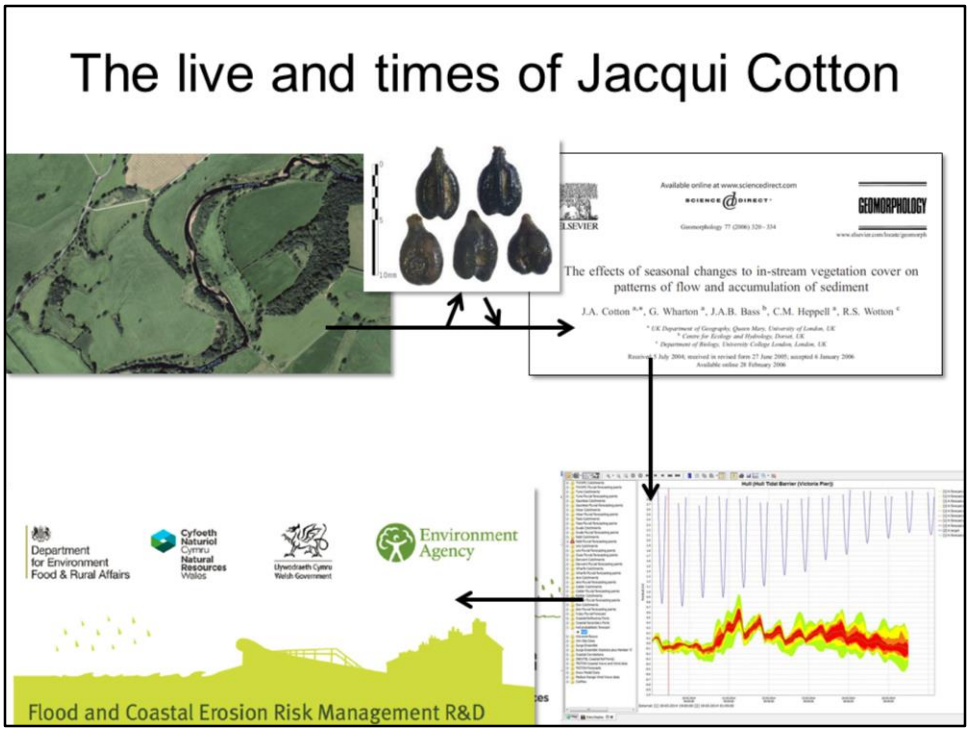
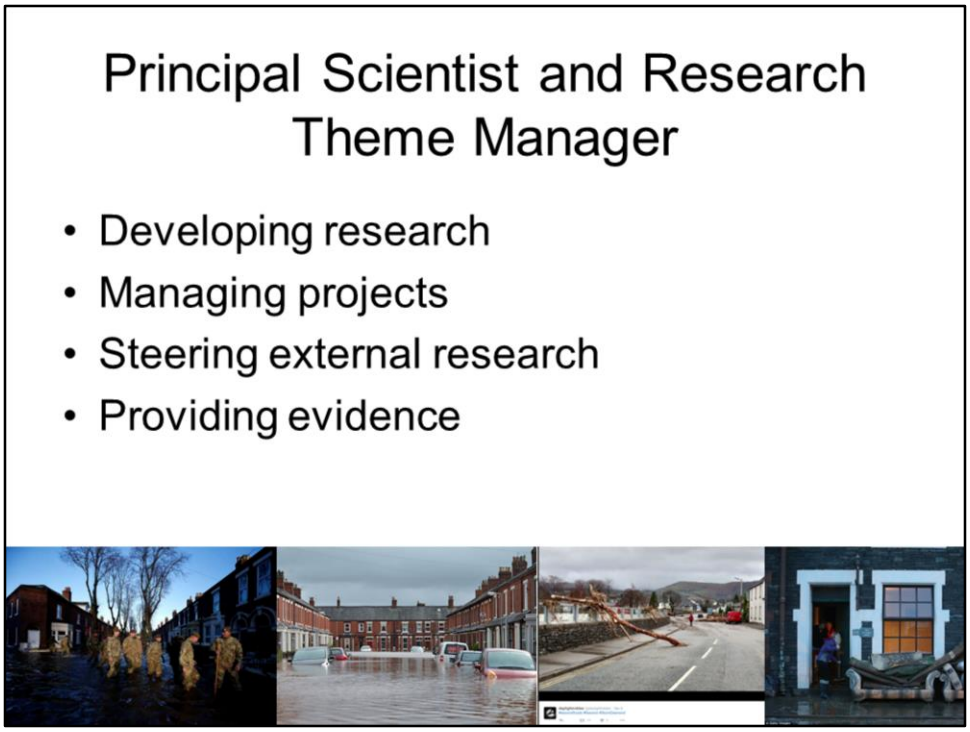
Flood and coastal erosion risk management research and development programme

Environment Agency | Department for Environment Food & Rural Affairs | Cyfoeth Naturiol Cymru Natural Resources Wales | Llywodraeth Cymru Welsh Government



Career profile so far:
I did a PhD in floodplain sedimentology, geomorphology and palaeoecology at Newcastle Geography Dept
After that I worked as a palaeoecologist in an archaeological consultancy in Durham University for a year whilst I wrote up my PhD
After discovering that palaeoecology was not for me, I got postdoc (joint between Centre for Ecology and Hydrology and Queen Mary, University of London), working on a large NERC programme called LOCAR (lowland catchment research) which was a successful project with lots of publications.

However, I decided after academia for three years that I wanted to do something a little closer to application, and wanted to try applied research in either a consultancy or the public sector. So, I got an operational job at the Environment Agency in flood forecasting, after 2 years I managed to get my 'dream job' in the flood risk management research and development team at the EA.



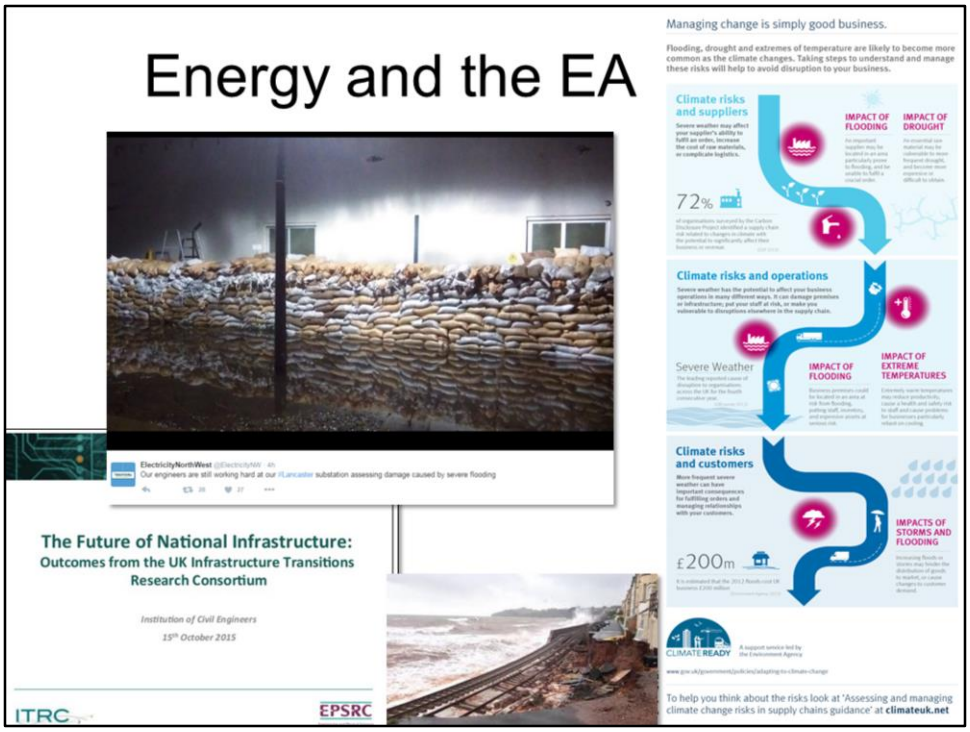
What does my current job entail?

Developing research: I develop the scope for research projects which the EA commissions. This entails working with operational and head office staff to work out what their R&D needs are. I need to understand the business and how people work and have extensive networks across the organisation. I also need to know about the status of research my areas of FCRM which include flood risk strategy, catchment management, the social and economic impact of flooding and flood risk policy.

Managing projects: everyone in my 12-person team manages research projects which we produce the specification for, procure then manage ourselves. We are also involved in making sure that the outputs and results are used by flood risk management authorities.

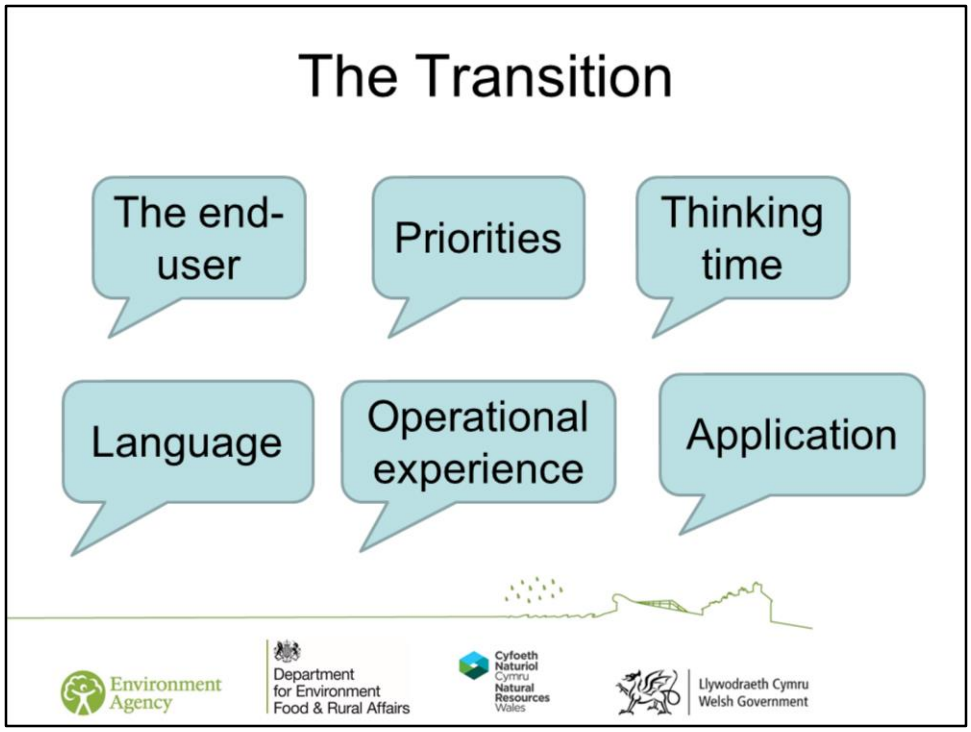
Steering external research: I am involved in helping universities in developing research proposals, I sit on the steering groups of research council/EU projects and am responsible for ensuring that the relevant people in the EA are aware of and can use the outputs.

Providing evidence: As the flood risk research team, we are asked to summarise research and evidence for use by the EA or Defra. For example, during flood events such as the one in Cumbria last weekend or in Winter 2013/14, we are asked to summarise the most recent research/knowledge base on a range of issues, from the science and accuracy or our forecasts to risk communications to economic impacts.



From a flood risk perspective, the Environment Agency is interested in energy and infrastructure resilience. A substation in Lancashire got flooded at the weekend with power loss to 60,000 people, the train lines which supplies nuclear power sites are often at coastal flood risk whilst climate change brings about many future challenges to energy supply and infrastructure resilience.

In the non-flood risk world, many EA teams deal with energy suppliers. Teams deal with industry regulation, water and air pollution, use of water resources, radioactive substances, the environmental impacts of the energy industry (power stations, fracking) and waste management. All teams have technical expertise, and many have team members with masters and PhDs. Our research department has teams whose members do the same job as myself but in the fields describes in the 'bubbles' on the slide.



There are a many differences between academia and the public sector which should be considered including:

Who is your customer or end-user? I have specific customers for my work who have needs which my research, projects or briefings needs to address. We can't do work because it is interesting, there has to be a need, a link to the business and a benefit.

Priorities. Work priorities are based on the priorities of practitioners. Sometimes these are explicit and sometimes I have to gauge priorities by understanding the EA business and where research could most assist in improving effectiveness or efficiency.

Thinking time. This can be low! On Monday I had an hour to produce a briefing which summarised what recent research tells us about effective communications in the aftermath of a significant flood. We do try to spend some time at conferences or reading journals to make we have some space to reflect and think, but this is not very often.

Language. Public sector documents, presentations, briefings etc are written in a different way to academic documents. Terminology is also vastly different and takes a while to get used to.

Operational experience. This is <u>really important</u>. Even if you get a job in applied research, gaining some operational experience (as a brief secondment, or job

shadow), it's essential to understanding business research needs and how to design outputs that are fit for purpose.

Application. In my job, I'm constantly required to draw on and apply all of the research I've done over the years. I also frequently apply the generic research techniques learnt during my Phd and postdoc such as literature searching, understanding uncertainties in results, peer review and so on.

Sorry I can't be with you

Any questions, please get in touch

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