



## Minutes: UKCP09 Scottish User Community – 1<sup>st</sup> Meeting

Monday, 01 February, 2010

eScience Learning Centre, University of Edinburgh

### Attendees:

|                         |                         |  |
|-------------------------|-------------------------|--|
| Adam Butler             | BioSS                   | adam@bioss.ac.uk                           |
| Andy Kerr               | University of Edinburgh | andrew.kerr@ed.ac.uk                       |
| Anna Steynor            | UKCIP                   | anna.steynor@ukcip.org.uk                  |
| Chris Ellis             | RBGE                    | c.ellis@rbge.org.uk                        |
| David Kelly             | Heriot-Watt University  | d.a.kelly@hw.ac.uk                         |
| David Reay              | University of Edinburgh | david.reay@ed.ac.uk                        |
| Duncan Ray              | Forest Research         | duncan.ray@forestry.gsi.gov.uk             |
| Eileen Wall             | SAC                     | eileen.wall@sac.ac.uk                      |
| Janet Moxley            | SEPA                    | janet.moxley@sepa.org.uk                   |
| Joseph Hagg             | SCCIP / SEPA            | joseph.hagg@sepa.org.uk                    |
| Julian Holbrook         | SCCIP / SNIFFER         | julian.holbrook@sniffer.org.uk             |
| Linda Kosciwicz-Fleming | Historic Scotland       | linda.kosciwiczfleming@scotland.gsi.gov.uk |
| Mary Christie           | SNH                     | mary.christie@snh.gov.uk                   |
| Mike Mineter            | University of Edinburgh | m.mineter@ed.ac.uk                         |
| Richard Gosling         | SEPA                    | richard.gosling@sepa.org.uk                |
| Simon Tett              | University of Edinburgh | simon.tett@ed.ac.uk                        |

### Interested Parties (unable to attend):

|                   |                        |                                   |
|-------------------|------------------------|-----------------------------------|
| Anita Wreford     | Scottish Government    | anita.wreford@scotland.gsi.gov.uk |
| Clive Mitchell    | SNH                    | clive.mitchell@snh.gov.uk         |
| Dominic Moran     | SAC                    | dominic.moran@sac.ac.uk           |
| George Tarvit     | SSN                    | george.tarvit@ksbscotland.org.uk  |
| Iain Brown        | MLURI                  | i.brown@macaulay.ac.uk            |
| Lynne Jack        | Heriot-Watt University | l.b.jack@hw.ac.uk                 |
| Michal Petr       | Forest Research        | michal.petr@forestry.gsi.gov.uk   |
| Marion Mulholland | SNH                    | marion.mulholland@snh.gov.uk      |

### Thanks:

We would like to thank the eScience Centre at the University of Edinburgh for hosting this meeting. It was an excellent facility and much appreciated.

### Agenda:

- Welcome and Meeting Context: What are we trying to achieve?
- Introductions: How are (or if) participants/organsations begun using UKCP09?
- Creating an Effective User Community: How can we help each other?
  - open membership
  - scope / function / activities
  - user needs / wants
  - outputs? progress updates/activities/FAQs/case studies? SCCIP/UKCIP resources?
- Developing Constructive Criticism:
  - Is UKCP09 useful? What tools/ideas can we develop to make them better?
  - Do users treat the UKCP09 projections as products or part of a social process?
  - Are they successful? We can use three ways of evaluating UKCP scenarios: “predictive success” - has the future turned out as envisaged? “decision success” – have ‘good’ decisions been made? “learning success” – have they enabled participation and learning?
- Next Steps: Future events – workshops/forums/lists/conferences? Sector/theme based?

## Notes:

### Agenda Item 1 & 2 – Introductions

*The meeting began with participants discussing their use (or intended use) of UKCP09. This was an opportunity for attendees to find out what was going on elsewhere in Scotland, and to identify areas of common interest and concerns. There was also a fair amount of discussion around the themes of UKCP09 usage, particularly following the discussion points raised by Andy Kerr regarding use of UK Climate Projections within organisations.*

#### Julian Holbrook (SCCIP)

- provided overview of SCCIP
- highlighted Scotland's Climate Change Adaptation Framework
- feedback has been that people want training, guidance, case studies
- SCCIP works closely with UKCIP
- UK Climate Change Risk Assessment raised

#### Anna Steynor (UKCIP)

- UK User Community meetings held for probabilistic projections and the weather generator
- Covered benefits and limitations of UKCP09
- Suggestions for further requirements / extras – fed into DEFRA evaluation
- User Advisory Panel has formed (first met in Dec09)
- Way forward – online forum (under development – end of Feb?) – encouraging user networking
- Case studies using UKCP09 (working on but wants more)
- Extras are requested through helpdesk and contacts with UKCIP... ranking of problems/requests by demand/feasibility
- User Communities are crucial to work out what priorities are going forward

#### Andy Kerr (University of Edinburgh)

- SAGES has 120 members across Scotland – need to participate more widely outside of academia.
- eScience theme – communication of science of climate change – disconnect between science and use of information
- has surveyed public sector agencies – 40% didn't use '02 in practical sense – of these 55% thought '02 was good for communicating, poor for practical planning... 27% intended to, but hadn't yet - 6 years after release
- people are interested in variety of timescales – but more interested in shorter term (<20year) or recent trends.
- Are projections useful? Good for communicating, but difficult for decision-making?
- Three ways of evaluating projections (predictive success / decision success / learning success)
- Discussion of behaviour and decision making – we have difficulty handling this type of information – often requires specialists, but do organisations have these, and how well is specialist knowledge disseminated?
- SCCIP / UKCIP approach – but also others (e.g. scenario-based immersive game simulations)
- Tendency to focus on low probability / high impact events – but there is often little that can (should?) be done to adapt/prepare for these.
- Adaptation at present is poor relation to mitigation – it is inherently local and systems based, which makes it more difficult to communicate and encourage action.
- highlights the role of the Adaptation Wizard – and the need for organisations to assess current vulnerabilities to climate – UKCP09 part of a process of adaptation

#### Linda Kosciwicz-Fleming (Historic Scotland)

- HS looking at a-listed buildings – get climate info for sites – consider potential impacts
- highlighted issues crossing the divide between informing policy and the political process – which is often 'risk adverse' (to spending or change)
- by watering-down messages for communication can be difficulties in losing key aspects
- issue with public consciousness / belief – not driving change at present
- highlighted the difficulty in determining thresholds/impacts on HS sites – this demonstrated the need for understanding systems and their vulnerability to climate change

#### Richard Gosling / Janet Moxley (SEPA)

- SEPA is undertaking risk assessment for climate change – looking at its monitoring network - areas of vulnerability/hazard
- Threshold identification - \*\*suggests threshold database\*\*
- Complicating factors in non-climate influences on systems – may not be possible to identify influence of climate from amongst all factors in a system.

#### Mary Christie (SNH)

- SNH has been having similar issues – after PiP events /introductions common response has been ‘I need to think about it’
- have questions – but difficulty in matching parameters between systems and projections
- some might be easier – snowbeds or sea level rise...
- desire to effectively communicate headline messages / storylines of how climate change is going to effect natural heritage
- species / functional species / interactions / geodiversity
- similar interests to SEPA (link in?)
- where to start? Important questions?
- Communication vs Actual Adaptation Option
- need to learn to deal with uncertainty – adaptation strategies with flexibility to deal with uncertainty
- can demonstrate the broad impacts of climate change – but identifying implications is big challenge – seem to be stuck in generalisations

#### Eileen Wall (SAC)

- UKCIP02 used for bio and physical impacts in terms of landuse and social and economic impacts – stress on agricultural systems
- Communication to farmers – mitigation has been forced on them – not much interested in adaptation – they see change happening, but don’t plan for future change – see that as problem for future – although they see positives, tend to ignore negatives which reduce their resilience

#### Adam Butler (BioSS)

- looking at use of probabilistic information – intends to help people with their interpretations – best practice for stats problems/issues
- investigate validity of looking at extremes
- scale and temporal resolutions – validity across these?
- Provide advice and practices in future

#### Duncan Ray (Forest Research)

- Forestry Commission has made extensive use of '02 – this has been included in many policy papers – but little in the way of practical advice for forest managers
- '02 merged into site classification and impact on tree species
- Thought they could use '09 in similar ways but ran into problems – esp. the lack of wind data – PET calculations difficult without this... (using WG for wind ???)
- Forcing them more into RISK MANAGEMENT approach – assessments at different sites – advice aims to highlight when you need to start adapting
- Huge challenge for them working with large amounts of data
- Chosen focal sites around UK – looking at key sites – scenarios based approach
- RISK ANALYSIS / VULNERABILITY ANALYSIS

#### Chris Ellis (Royal Botanic Garden Edinburgh)

- RBGE used '02 to look at species response models
- Habitat quality management
- Have collections of threatened species – monitoring response to climate change
- '09 is to be used to inform species collections (collaborate across Europe)
- Also planning large infrastructure projects (e.g. new glasshouses) that will have to be built with climate change impacts in mind.

David Kelly (Heriot Watt University – DOWNPIPE)

- DOWNPIPE project using WG to look at drainage on property scale – sustainable drainage options
- Comparisons with observed data
- Probabilistic data – large resource – requires planning on how to practically use – break down into key scenarios / probabilities etc?
- Project aims to produce a data matrix for wider use so that people can look at impacts on a variety of building-types – help to develop options for adaptation
- At planning stage – trying to work out how to combine with their building impacts models
- Also interested in historic buildings – common ground with Historic Scotland

Simon Tett (University of Edinburgh)

- climate modelling researcher – interested in getting a sense of what is needed in practical sense

Mike Mineter (University of Edinburgh)

- from SAGES – interested in use of projections data – especially the challenge of computation and handling large amounts of data

David Reay (University of Edinburgh)

- interested in projections – use of headline messages – dealing with uncertainty
- WG and '09 increase the power of projections and feedbacks – how do we link systems with projections?
- Difficult to enhance message with broad brush (generalisations) – need to focus on smaller scale to show impacts

SUMMARY: Julian Holbrook (SCCIP)

- Thresholds / Systems
- Framing questions
- Flexibility in adaptation required
- Gaps in projections, esp. wind data
- Time frames
- Complexity of data
- Range of uses – modelling to decision making

### Agenda Item 3 – Creating and Effective User Community

*There was an extensive round-table discussion that highlighted a number of areas that attendees thought a User Community could contribute to effective use of UKCP09 in Scotland. The following is a summary of some key points arising from this discussion divided by themes.*

Membership:

- Having a focused group is good for meetings like this – however we need to be open to ACTIVE USERS – there can be a wider community as well, particularly for web-based features – there is value in working with core group of public-sector organisations – those interested will likely be involved
- Working Groups – valuable to form around particular themes – e.g. WG or biodiversity...

SUC for knowledge exchange:

- integration of different aspects is important – it should be a place for dialogue and sharing information / approaches
- at the moment we hear about what people are doing or developments maybe once a year – this needs to be more frequent
- need to get people cooperating now – a list of ongoing projects would be useful – be good if this was on a UK-wide basis – use UKCIP forum?
- the user community needs to be cross-sectoral

Consistency not standardisation:

- develop decision making methodologies

- need to work on consistent approaches – encourage peer review and sharing
- find complementary approaches... can we share some principles / approaches
- can we identify shared thresholds? – somewhere to share knowledge of these
- there is no set best-practice – but can share approaches – still need for individual assessment of risk aversion
- value judgements are needed – can't be prescriptive

Shared availability – share work in progress not just outputs

- many shared interests – many opportunities to work together
- might be useful as a way into other organisations
- need to share work in progress – can't have everyone waiting on case studies to guide them
- share end products and methodologies

Skills development and sharing - Co-learning / training / tool development

- how do you integrate CC projections? Suggest forum share information on thresholds people are using/find
- need to develop case studies / examples
- recognised the difficulties as organisations start using projections – have to move away from identifying 'standard probability level' etc to risk based approach
- need to develop computational tools and skills to deal with complex/large datasets?
- the toughest problem is matching climate variables between projections and systems - often disconnect there
- initial barrier has been in dealing with scale across the UK
- different organisations have different resources/expertise – can we find a way to share these
- how projections are being used 'orders down' e.g. for river flows – shared approaches to encourage consistency and help those where such things would only be one factor...

#### Agenda Item 4 – Developing Constructive Criticism

*Andy Kerr presented material on the role/use of climate change projections as part of a decision-making process*

A copy of Andy's presentation is attached.

#### Agenda Item 5 – Future Events / The Way Forward

*In the final part of the meeting attendees discussed what they considered were the most important actions required for the development of a Scottish User Community and to encourage the effective use of UKCP09*

User Forum:

- form a Scottish sub-group on the UKCIP user forum
- list projects involving UKCP09
- SCCIP should encourage participation in the forum – maybe provide summary updates through mailings

Mini-Conference:

- mixture of cross-sectoral talks and working groups
- aim to get people going using the projections – everyone seems to be at same stage at moment (getting ready)
- it would be good to do this soon – late-April?

Weather Generator Working Group:

- intended workshop at Heriot-Watt for ARCC projects - hope that output from this might begin a working group

- there appears to be a 'hot-spot' of WG activity in Edinburgh – but need to tie in with wider UK-community

#### UK Risk Assessment / Scottish Climate Change Adaptation Framework / Climate Act:

- Public Sector Duties – coming in as part of the climate change act – we need to look at sharing services and strategies for this (although adaptation doesn't have same clout?)
- UKCCRA is likely to drive the wider adaptation agenda
- Embedding SCAFF and UK CC Risk Assessment
- Providing guidance for Local Authorities (who may be overwhelmed?) – also covered by Public Sector Duty – Local Authorities may find that lack of skills is a barrier to use of projections – how do they digest it – collaboration with SSN to disseminate information and approaches

#### Case Studies /Guidance:

- developing case studies – these could be collaborative efforts – pooling of resources identify common
- produce guidance on various aspects – with SCCIP/UKCIP - similar to what Knowledge Scotland have done
- Identify obstacles to progress / stimulate others into action

#### Multi-sectoral approach:

- Important that users don't get compartmentalised – broad approach to community
- SCCIP has a 'Sensitivity Mapping Project' that might help draw together multi-sectoral issues dealing with climate change and UKCP09