UKEOF
ENVIRONMENTAL OBSERVATION FRAMEWORK

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UKEOF Monitoring & Modelling Workshop

7th March 2018 Location: Birmingham (IET Austin Court)

Purpose: Foster relations between monitoring and modelling communities within UKEOF partner organisations to promote two way interaction. In particular, the role of modelling in helping design monitoring programmes will be explored.

Outcomes: Knowledge exchange over good practice, greater understanding of monitoring/modelling, awareness of the efficiencies and opportunities afforded by innovative monitoring. Identification of opportunities for enhanced engagement between monitoring and modelling communities, priorities for future activities (including research), and where UKEOF can facilitate.

1. Arrival and coffee 10:00-10:30

2. Welcome and introductions (D.Roy and A.Weatherby) 10:30-10:50

3. Topic presentations (Chair: D. Roy) 10:50-11:50
   Note: Four 10 minute presentations inspired by on one or more of the 8 topics detailed at the end of the agenda. The idea of this session is to illustrate the identified topics with case studies.

   a. Topic 1: Water Quality Monitoring and Modelling in SEPA (G.Cameron;SEPA)
   b. Topic 2: Natural Capital and/or attribution of change (P.Henrys; CEH)
   c. Topic 3: Great Crested Newts: Modelling informed conservation strategy (B. Payne NE)
   d. Topic 4: Forestry (regeneration) and EO (L.Halsall; FC)

   Plenary discussion

4. **Coffee** 11:50-12:05

5. Challenge and innovations (Chair: D.Roy) 12:05-12:45
   Note: 1 slide (3 minute) presentations introducing a challenge and/or innovative solution.

   a. Improved approach to assess catchment condition, pressure and risk (N.Preedy; EA)
   b. Wales, generating and utilising evidence (B.Emmett; CEH)
   c. Statistical assessment of risk (A.Brown; NRW)
   d. Targeting tree health surveys (forestry) (L.Halsall; FC)
   e. Innovative ecological modelling of water quality impact (J.Murray-Bligh,EA)
   f. The opportunities and risks of using citizen science as a tool for early detection (M. Pocock; CEH)
   g. Wireless sensors (G.Cameron; SEPA)
   h. Assessing the water quality benefits of agri-environment schemes (P.Smith; EA)
   i. Application of indicators in the UK natural Capital accounts (E.Connors; ONS)
   j. Meteorological Modelling and Monitoring at the Met Office (K. O'Boyle; MO)

   Plenary discussion

6. **Lunch** **12:45-13:30**

7. Identifying Challenges and Solutions 13:30-14:10
   Facilitated by UKEOF: G.Old, A.Weatherby, L.May, D.Roy
   Four groups of 8 will visit each of the four stops for 8mins each. At each stop delegates will contribute challenges and innovative solutions associated with the particular topic.

   Stop 1: The risk based approach to monitoring and its implementation (Lead_N.Preedy; EA)
   Stop 2: Integration across common measures, including new techniques (eDNA, sensors) (Lead: D.Allen; NRW)
   Stop 3: Supporting decisions and policies: dealing with uncertain data from monitoring and modelling (Lead_G.Cameron; SEPA)
   Stop 4: Common understanding of the challenge by environmental managers, modellers, monitoring experts (Lead_B.Payne; NE)

8. **Coffee Break** **14:10-14:20**
   Note: Attendees chose one of the four topics from 7 above to discuss in more detail in next session (9).

9. Detailed topic discussions 14:25-15:05
   Agree together: (a) key knowledge exchange points; (b) shared interests and collaborative opportunities; and (c) how our UKEOF partnership could support these.
   Leads and facilitators are given in 7 above.

10. Reporting detailed discussions 15:05-15:25
    Note: Leads (from 7) report back

11. Summary and close of workshop 15:25-15:30
    Reporter: D.Roy

APPLICATION TOPICS

Main application topics identified on telecom (7/9/17):

(i) Using models to relate monitoring to other environmental data to allow spatial extrapolation;
(ii) Using modelling to improve confidence in estimates (state/change);
(iii) Using monitoring and modelling to understand reasons for change (detection/attribution);
(iv) Looking at risk based approaches using models to identify monitoring needs;
(v) Using model predictions/scenarios of change to influence policy setting etc.;
(vi) Linking to decision support models to guide management interventions;
(vii) Integrating across measures;
(viii) Innovation development – sensors, drones, eDNA…..

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Delegates

Surname	First Name	Organisation
Allen	David	Natural Resources Wales
Baile	Robert	Northern Ireland Environment Agency
Bell	Chris	Centre for Ecology & Hydrology
Brown	Mike	UKEOF
Cameron	Graeme	Scottish Environment Protection Agency
Connors	Emily	Office for National Statistics
Ditchburn	Ben	Forestry Commission
Emmett	Bridget	Centre for Ecology & Hydrology
Finigan	James	Chief Scientific Adviser's Office
Halsall	Lesley	Forestry Commission
Henrys	Peter	Centre for Ecology & Hydrology
Hudson	Catherine	Natural England
Hutchison	James	Joint Nature Conservation Committee
Kamenova	Joana	UK Space Agency
May	Linda	UKEOF
McKay	Helen	Forestry Commission
Monteith	Don	Centre for Ecology & Hydrology
Murray-Bligh	John	Environment Agency
O'Boyle	Katharine	Meteorological Office
O'Brien	David	Scottish natural Heritage
Old	Gareth	UKEOF
Payne	Ben	Natural England
Pocock	Michael	Centre for Ecology & Hydrology
Preedy	Neil	Environment Agency
Roy	David	Centre for Ecology & Hydrology
Smith	Phil	Environment Agency
Steele	Deborah	DEFRA
Trill	Emily	UKEOF
Weatherby	Anita	UKEOF
Williams	Bronwen	Centre for Ecology & Hydrology