India Bluetongue Vector Network

An Indo-UK Collaboration on *Culicoides;* part of the All India Network Programme on Bluetongue

Monitoring and Intervention Strategies for Bluetongue Virus Epidemics in Rural India

ESA 2011

Simon Carpenter

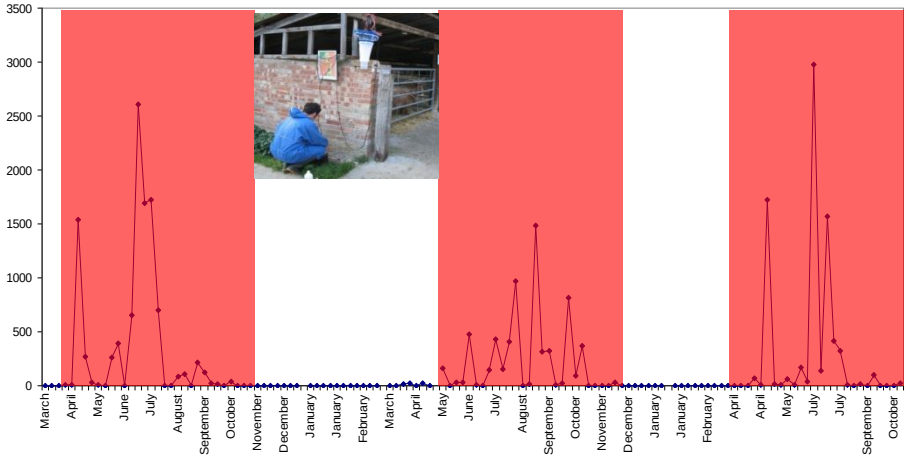
BBSRC bioscience for the future

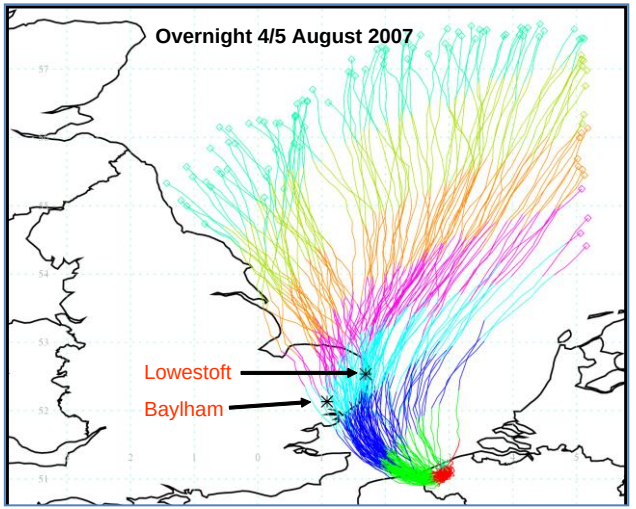
UKaid from the Department for International Development

The Scottish Government

Institute for Animal Health

Background…





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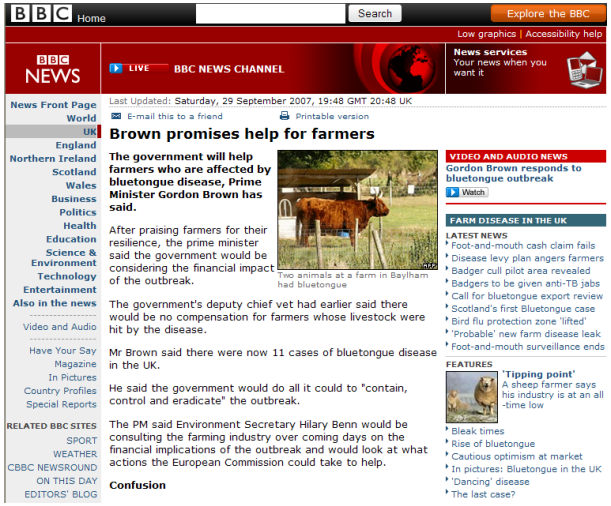
Background…

- 85 000 animal movements in affected area.
- >70% vaccine uptake in affected areas.
- Eradication of BTV from UK in 2008.
- Economic analyses = £485m & 10 000 jobs

- High profile novel disease
- High level of expertise in place
- Connectivity of stakeholders and policy
- Advance warning of incursion
- High success in first year of control



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Brown promises help for farmers

The government will help farmers who are affected by bluetongue disease, Prime Minister Gordon Brown has said.

After praising farmers for their resilience, the prime minister said the government would be considering the financial impact of the outbreak.

Two animals at a farm in Baylham had bluetongue

The government's deputy chief vet had earlier said there would be no compensation for farmers whose livestock were hit by the disease.

Mr Brown said there were now 11 cases of bluetongue disease in the UK.

He said the government would do all it could to "contain, control and eradicate" the outbreak.

The PM said Environment Secretary Hilary Benn would be consulting the farming industry over coming days on the financial implications of the outbreak and would look at what actions the European Commission could take to help.

Confusion

VIDEO AND AUDIO NEWS: Gordon Brown responds to bluetongue outbreak — Watch

FARM DISEASE IN THE UK

LATEST NEWS
- Foot-and-mouth cash claim fails
- Disease levy plan angers farmers
- Badger cull pilot area revealed
- Badgers to be given anti-TB jabs
- Call for bluetongue export review
- Scotland's first Bluetongue case
- Bird flu protection zone 'lifted'
- 'Probable' new farm disease leak
- Foot-and-mouth surveillance ends

FEATURES
- 'Tipping point' — A sheep farmer says his industry is at an all-time low
- Bleak times
- Rise of bluetongue
- Cautious optimism at market
- In pictures: Bluetongue in the UK
- 'Dancing' disease
- The last case?

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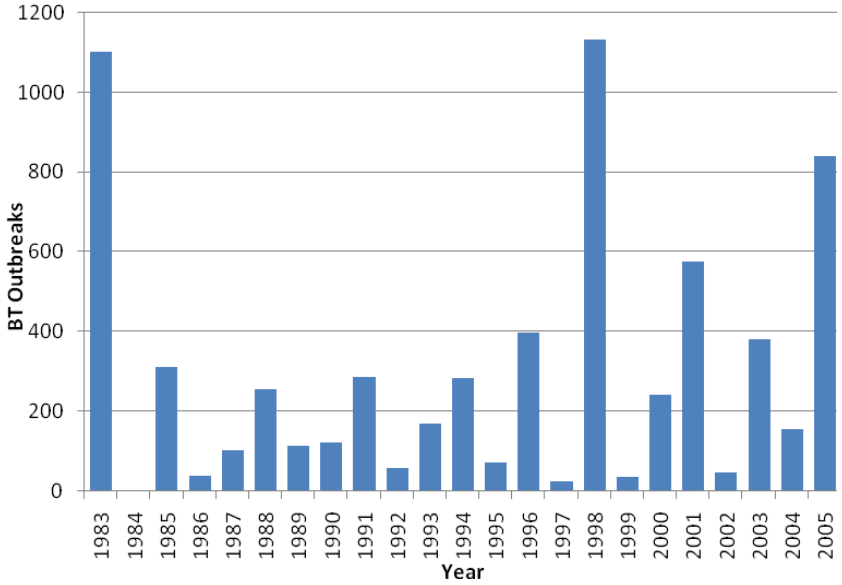
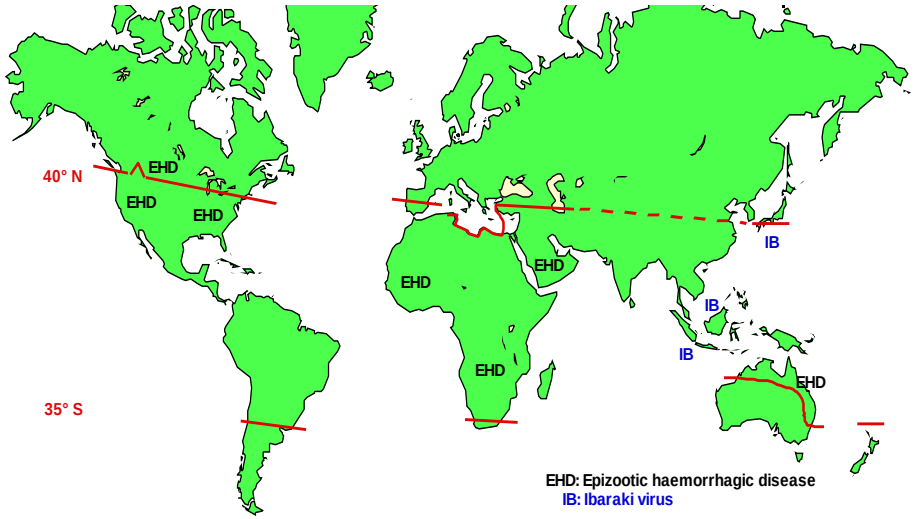
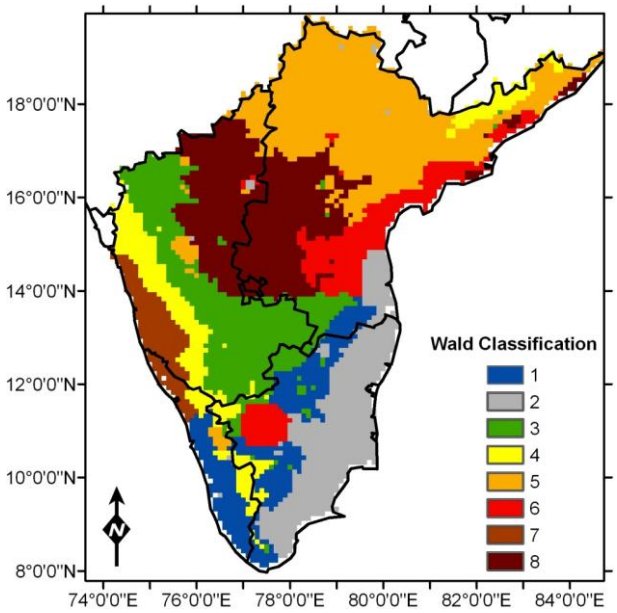
Bluetongue in India…





Bluetongue in India…

Can we predict the timing and intensity of BTV outbreaks using remotely-sensed variables and *Culicoides*/BTV monitoring?



Can intervention strategies be used to reduce the probability of BTV transmission in subsistence farms?

The World Bank estimates that, for the world's poorest people, GDP growth originating in agriculture is about four times more effective in reducing poverty than any other sector growth.

Bluetongue in India…

Project included in: ICAR 97 institutes/47 Universities
AINP-BTV 11 co-ordinating centres
4 centres directly involved (Ha;TN; AP; K)

Facts of life for BTV in India: 'Mutton is like gold'

1. Polyvalent inactivated vaccine available from 2012
2. BT is just one of many animal viruses in India
3. Misdiagnosis is common (e.g. FMDV)
4. Epidemiology poorly described (22 serotypes)
5. Associated with monsoons (i.e. any disease=BTV)
6. Organised control aimed at 'flies' (e.g. use of insecticides)
7. Local knowledge also used (e.g. Neem products etc)
8. Disproportionate impact upon subsistence sheep farmers - >proportion female

Bluetongue in India…

How do we measure impact in this project?

- **Eradication? (Rinderpest)**

- **Impact of predictive modelling:**
  - Uptake of vaccination (guaranteed reduction)?
  - Profile of BTV?
  - Monitoring of conditions during hyper-endemic episodes?
  - Characterising effect?
  - Wider effects of monsoon conditions?

- **Impact of husbandry techniques:**
  - Uptake of techniques (cost-neutral/communication)
  - Impact of these technique on transmission

Bluetongue in India…

Other thoughts:

1. Linking animal and human health (e.g. Malaria/JE vs BTV).
2. Broad approaches to animal health in India (ICAR).
3. Links to NGO's
4. How do individual projects fit into these frameworks?

Acknowledgements

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