

# Bat emergence and weather conditions in Central Scotland

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# Slack and Tinsley (2015)

## Bat activity ends at 6°C

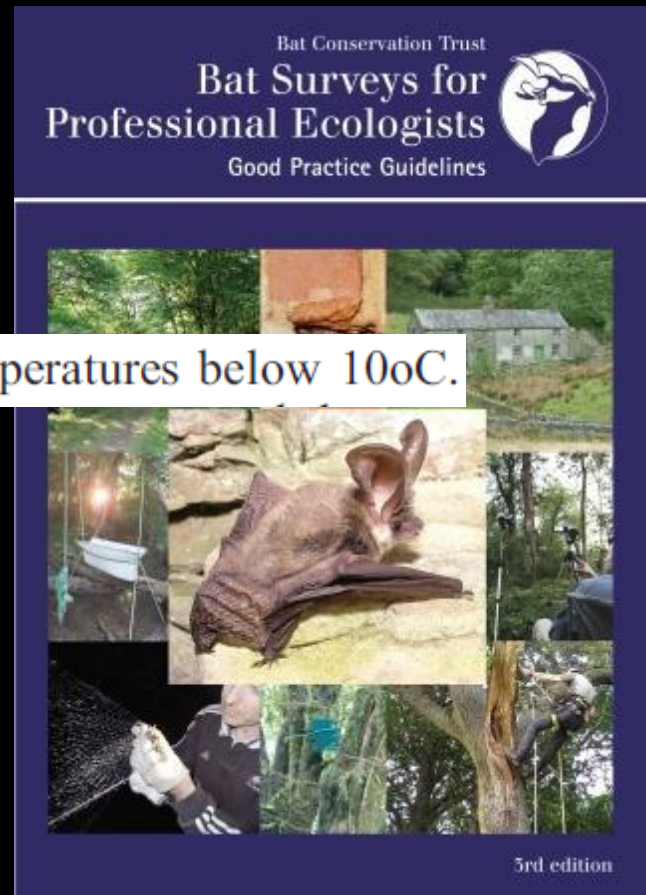
## Wind an important factor

avoid very heavy rain, strong winds, mists and dusk temperatures below 10°C.

**Abiotic factors:**  
Max/min temperature; Wind strength; Cloud cover; Precipitation



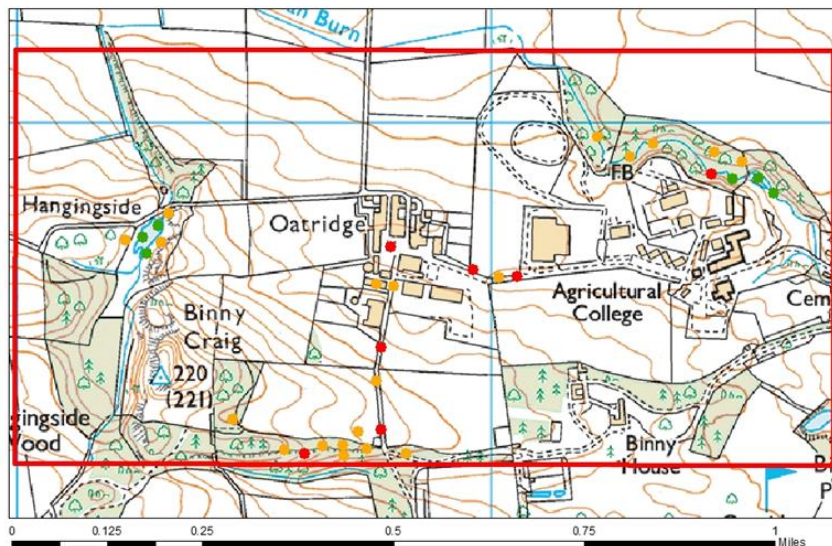
- EuroBats Publication Series 5: Guidelines for Surveillance and Monitoring of European Bats
- Bat Conservation Trust: Good Practice Guidelines
- JNCC Bat Workers Manual



- The research was carried out at Oatridge Campus, Scotland's Rural College
- Habitats include rocky and rolling hills, flat agricultural land, conifer/broadleaved woodland and both running and still water



Bat Distribution at Oatridge

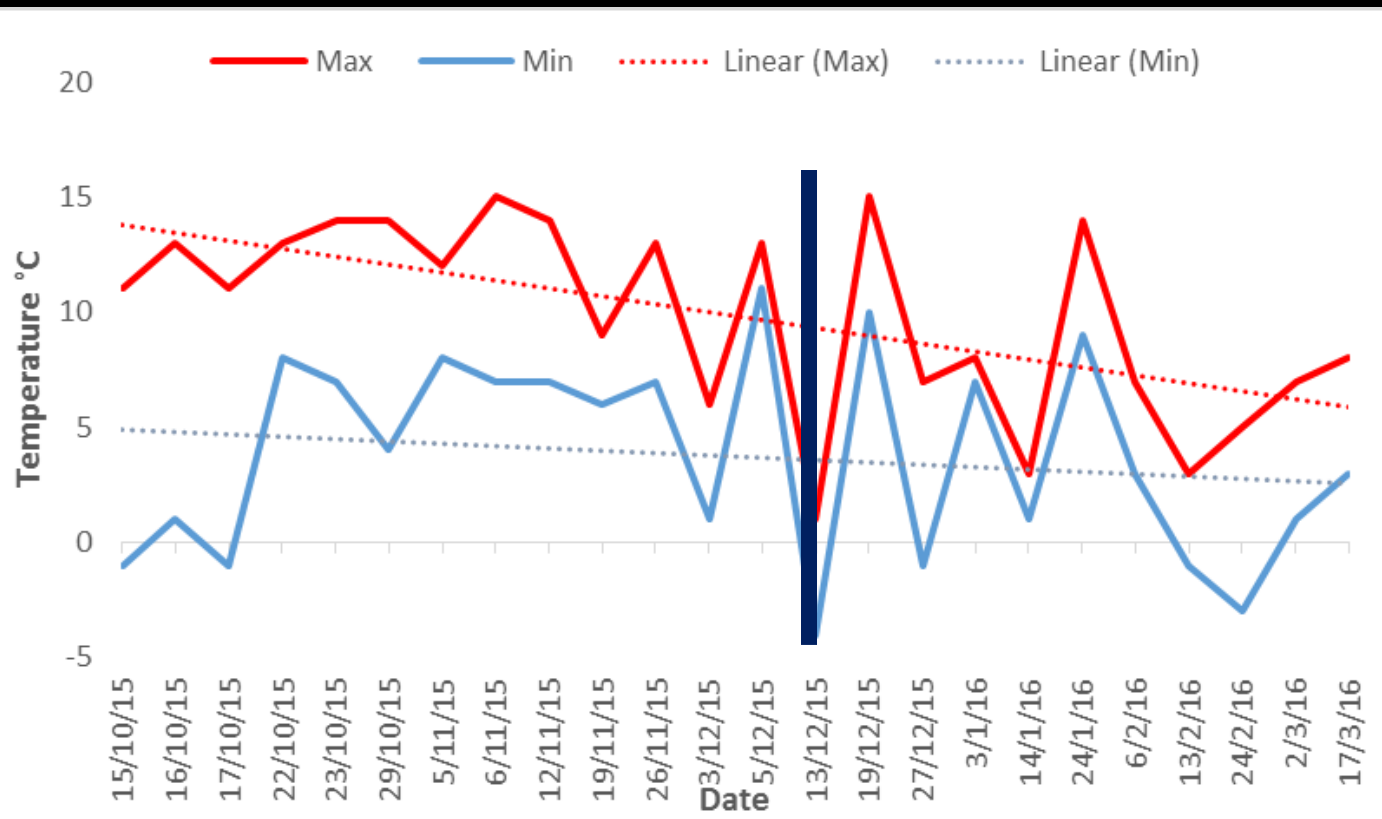


Legend

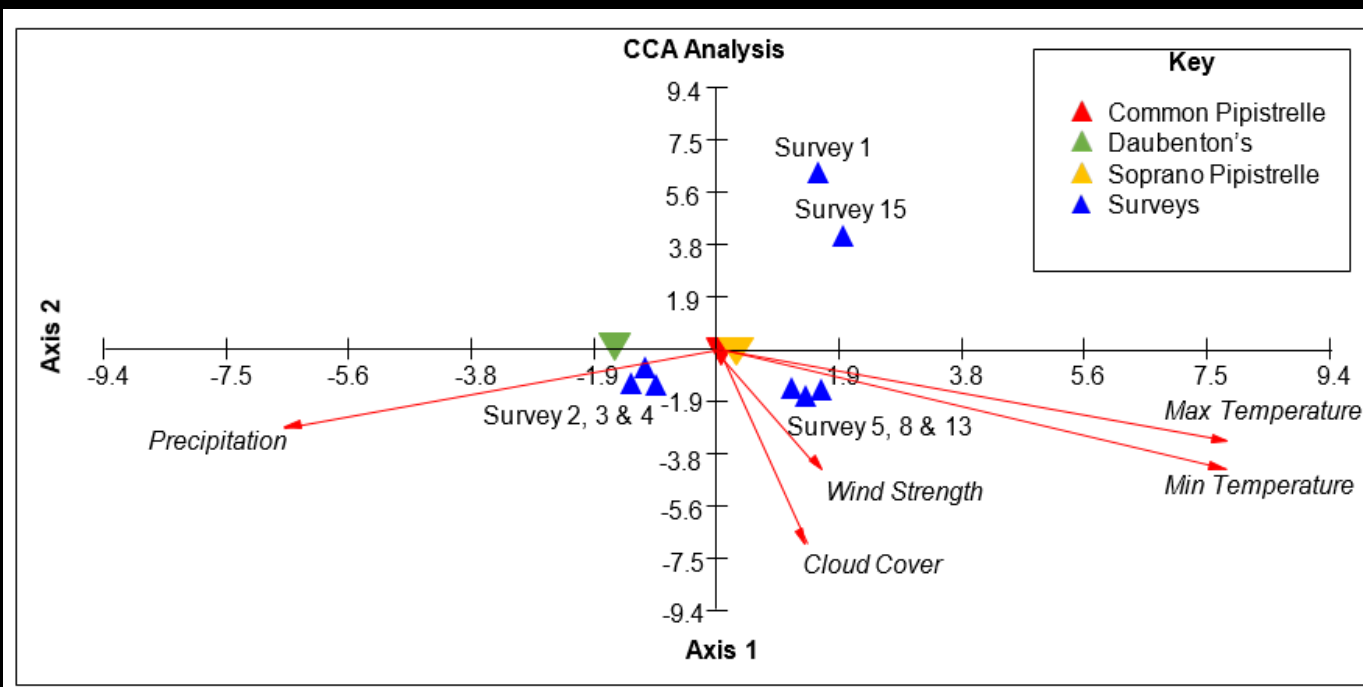
- *Myotis daubentonii*
- *Pipistrellus pipistrellus*
- *Pipistrellus pygmaeus*
- Study Area

○ From the 13<sup>th</sup> December 2015, bat activity ceased

- Bat activity was not recorded below 11°C
- Bats were still recorded at below freezing temperatures



- A canonical correspondence chart was constructed
  - The x-axis corresponds with the most important factor
    - Positively with temperature/negative with precipitation
    - Bat presence is not significantly aligned with any variable
  - y-axis suggests wind strength is also be a factor
    - Bat presence is variable according to a variety of weather conditions





# Conclusions

- The lowest maximum temperature in which bats were recorded was 11°C
  - Corresponds with BCT Guidance
    - Clashes with Slack and Tinsley (2015)
  - If temperatures are high enough for prey, bats will emerge
- Minimum daily temperatures of -1°C did not have an effect on bat activity
  - Presence only. No measurement of duration of activity
- Wind decreased foraging in non-woodland sites
  - Agreement with Slack and Tinsley (2015) windfarm study
- Precipitation also influenced bat activity
  - 2015/16 was Scotland's wettest year in since records began