



Irish Pest Emergence Maps: Informing Ireland's biosecurity using air temperature data

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Background:

Irish Pest Emergence Maps is a new online tool for the Republic of Ireland.

The tool:

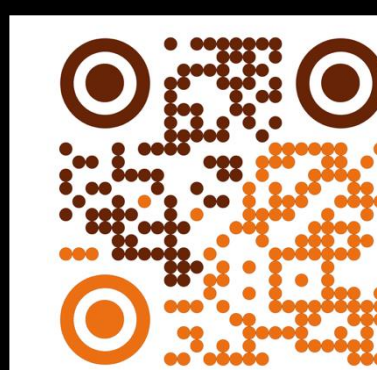
Is designed to support pest management in Ireland

Uses maps to visualise the timing of important developmental stages of an insect pest

Is freely available at <https://www.pestmaps.ie>

Uses Met Éireann's gridded air temperature data (past and TRANSLATE future scenarios)

Uses growing degree-day models to predict insect development



Scan Me!

<https://www.pestmaps.ie>

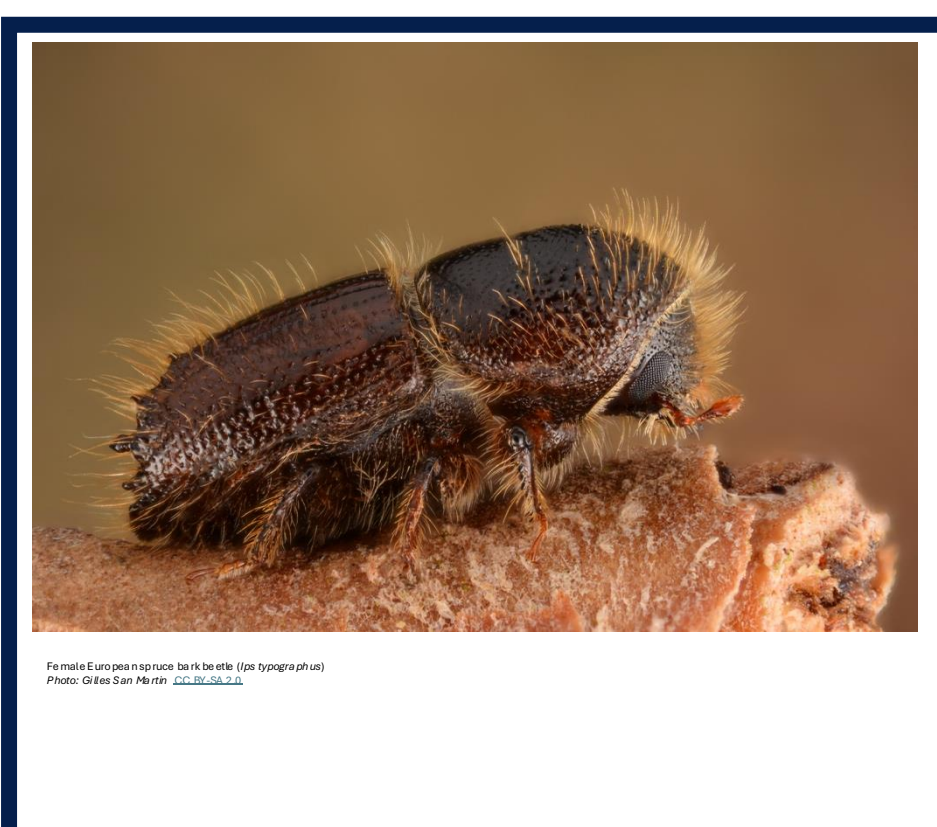
Contact: Jon.Yearsley@ucd.ie

Source Code

Provide Feedback



Adult Emergence in 2024 of the European Spruce Bark Beetle (*Ips typographus*)



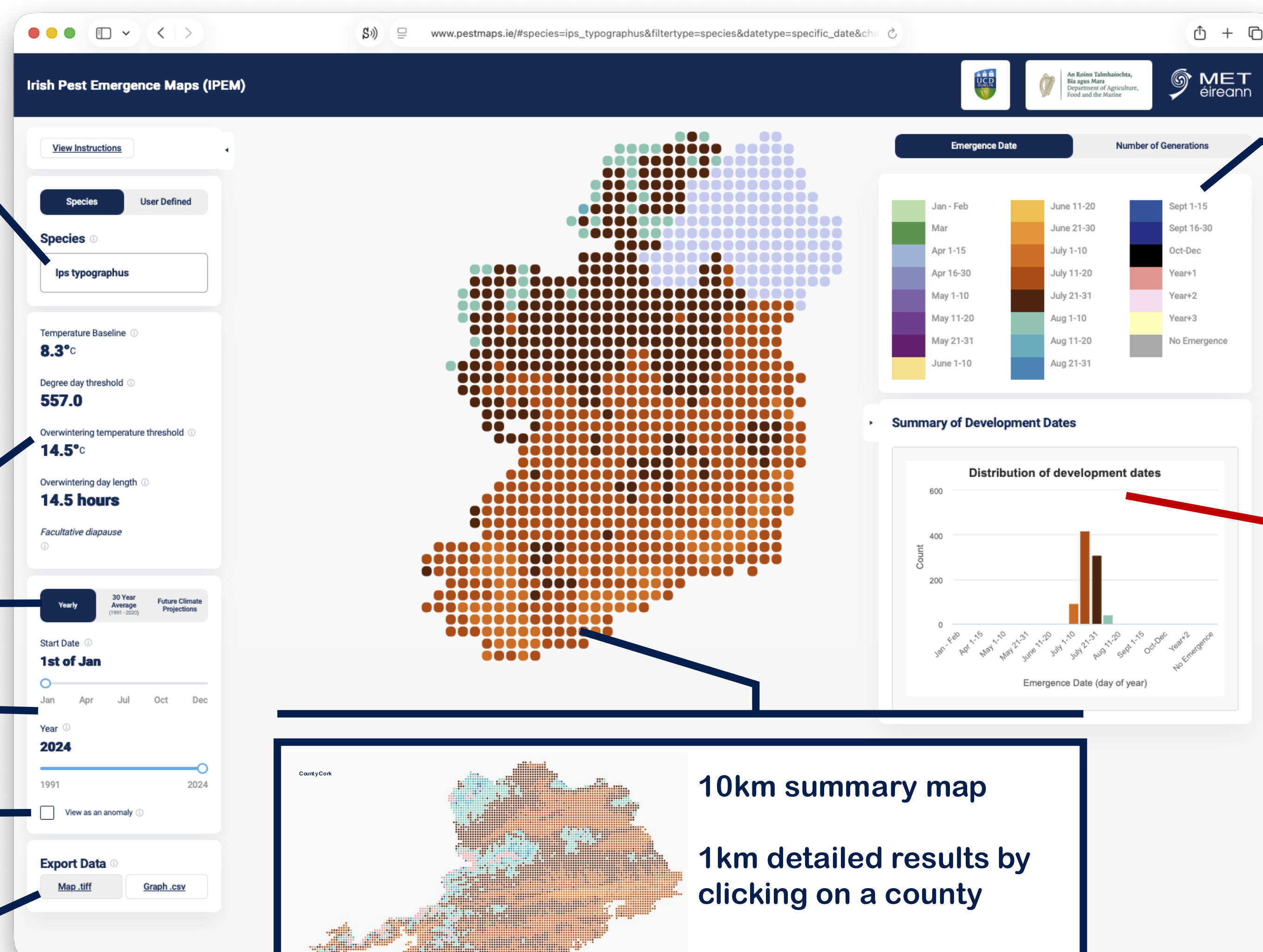
Developmental parameters for the degree-day model

Timeframe (historic / future)

Start month and year of development (biofix)

Visualise as an anomaly

Export data as a GIS file or plain text



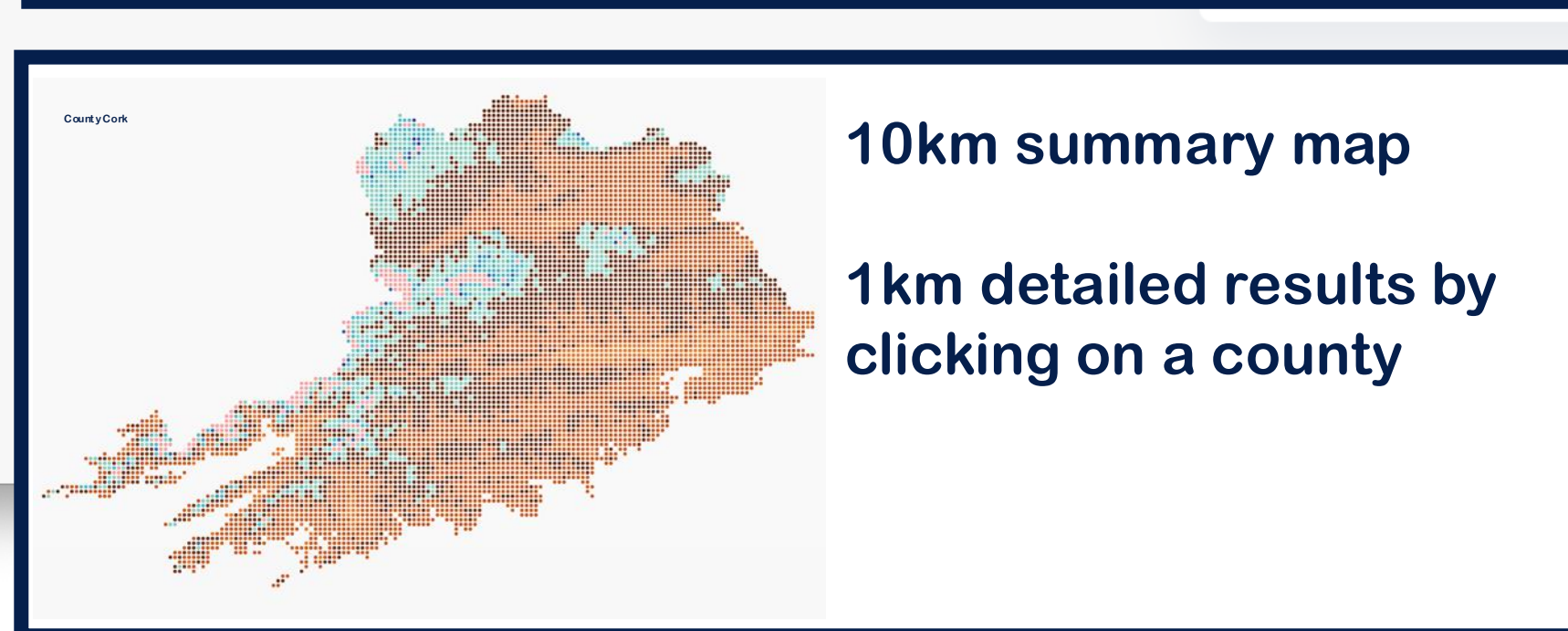
Adult emergence date
Map colour legend

Pest Status:
I. typographus is not present in Ireland. It is a priority pest of concern and is present in England and mainland Europe

Conclusion:
Adults predicted to emerge from early July to mid-August

Applications:

- Risk mapping
- Timing of insect surveys
- Altitude effect on development
- Latitude effect on development (1 month delay from south-west to north)
- Future predictions for 2021-2050 and 2041-2070

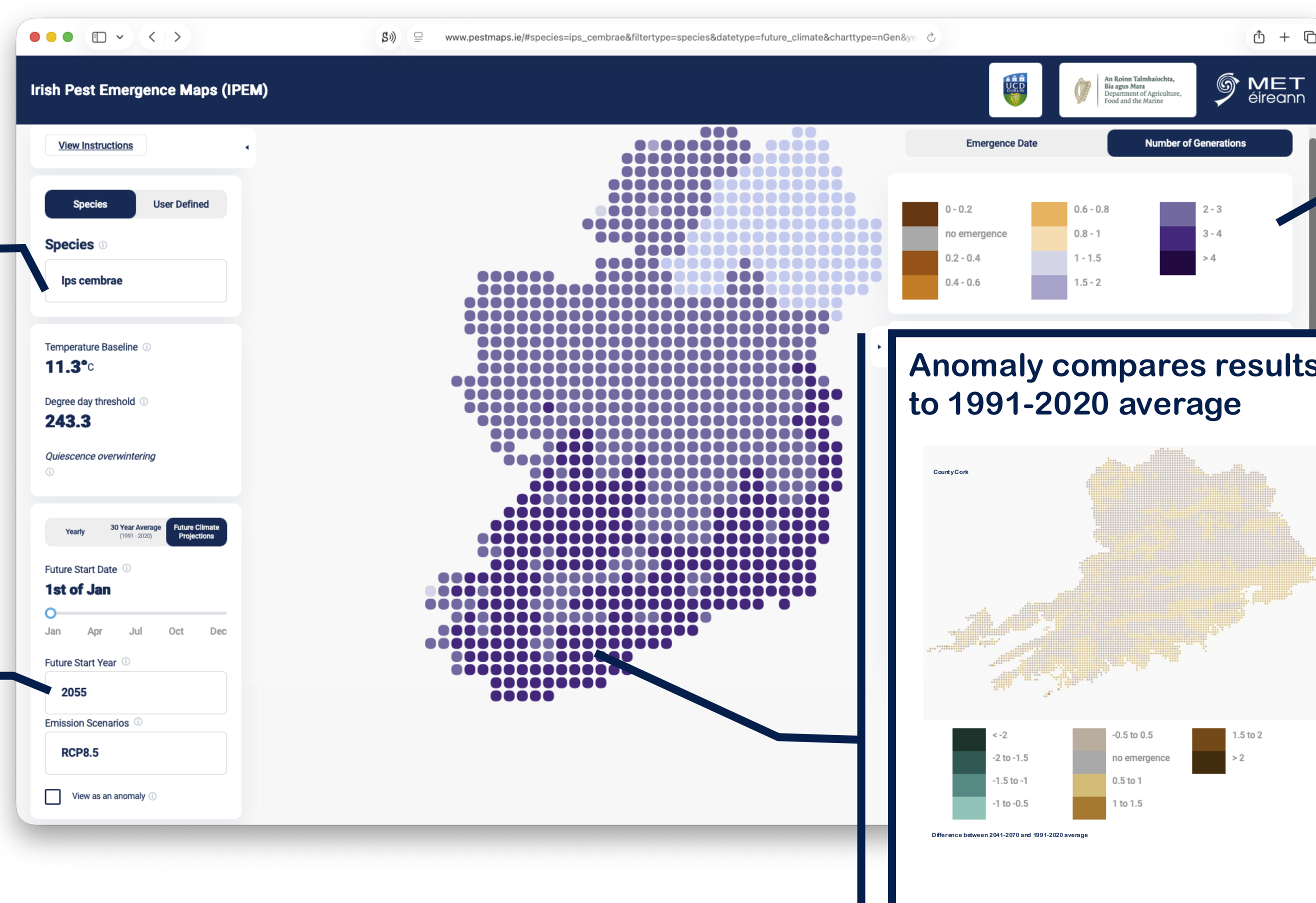


Future Number of Generations of the Large Larch Bark Beetle (*Ips cembrae*)



Future Scenario 2055 under RCP8.5

Future Climate Scenarios driven by Met Éireann's TRANSLATE project data



Estimated number of generations per year

Pest Status:
I. cembrae is not present in Ireland. It is a protected zone pest, native to mainland Europe

Conclusion:

- Can complete multiple generations per year
- Up to one additional generation by 2041-2070 under RCP8.5 (compared to 1991-2020 average)

Applications:

- Future risk mapping