

The Oak processionary caterpillar marching on

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Outline presentation

- The Oak processionary caterpillar
- Observation numbers / spatial distribution
- Methods used
- Regional temperature differences
- Future projections
- Conclusion
- Recommendations

The Oak processionary caterpillar

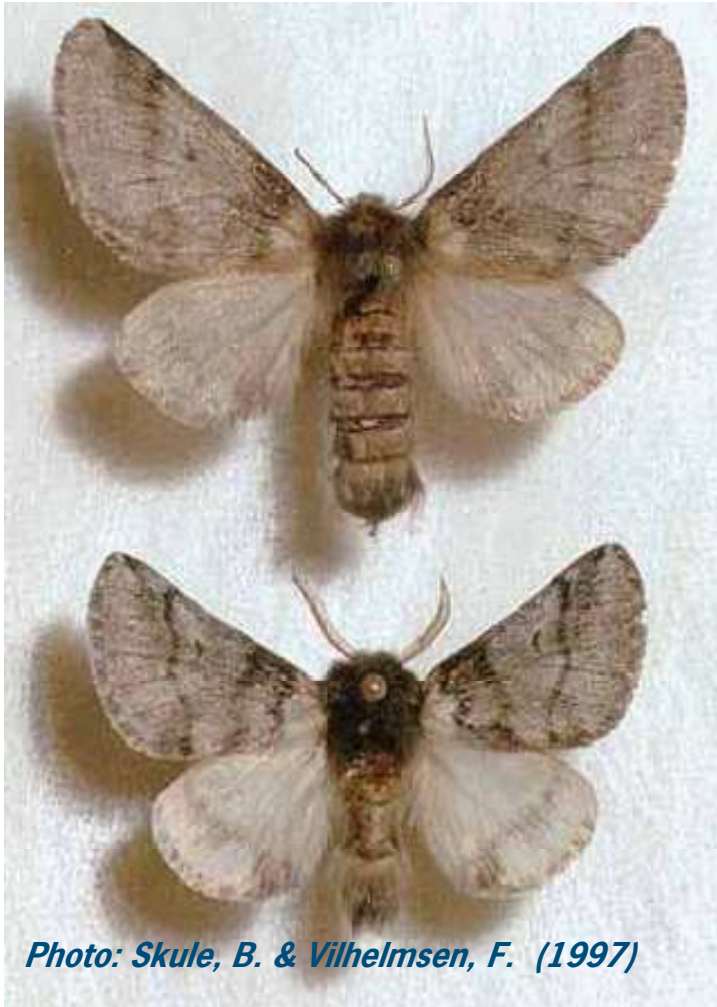


Photo: Skule, B. & Vilhelmsen, F. (1997)

Thaumatopeoa processionea



Photo: PHI, Antwerp



Photo: C. Custers

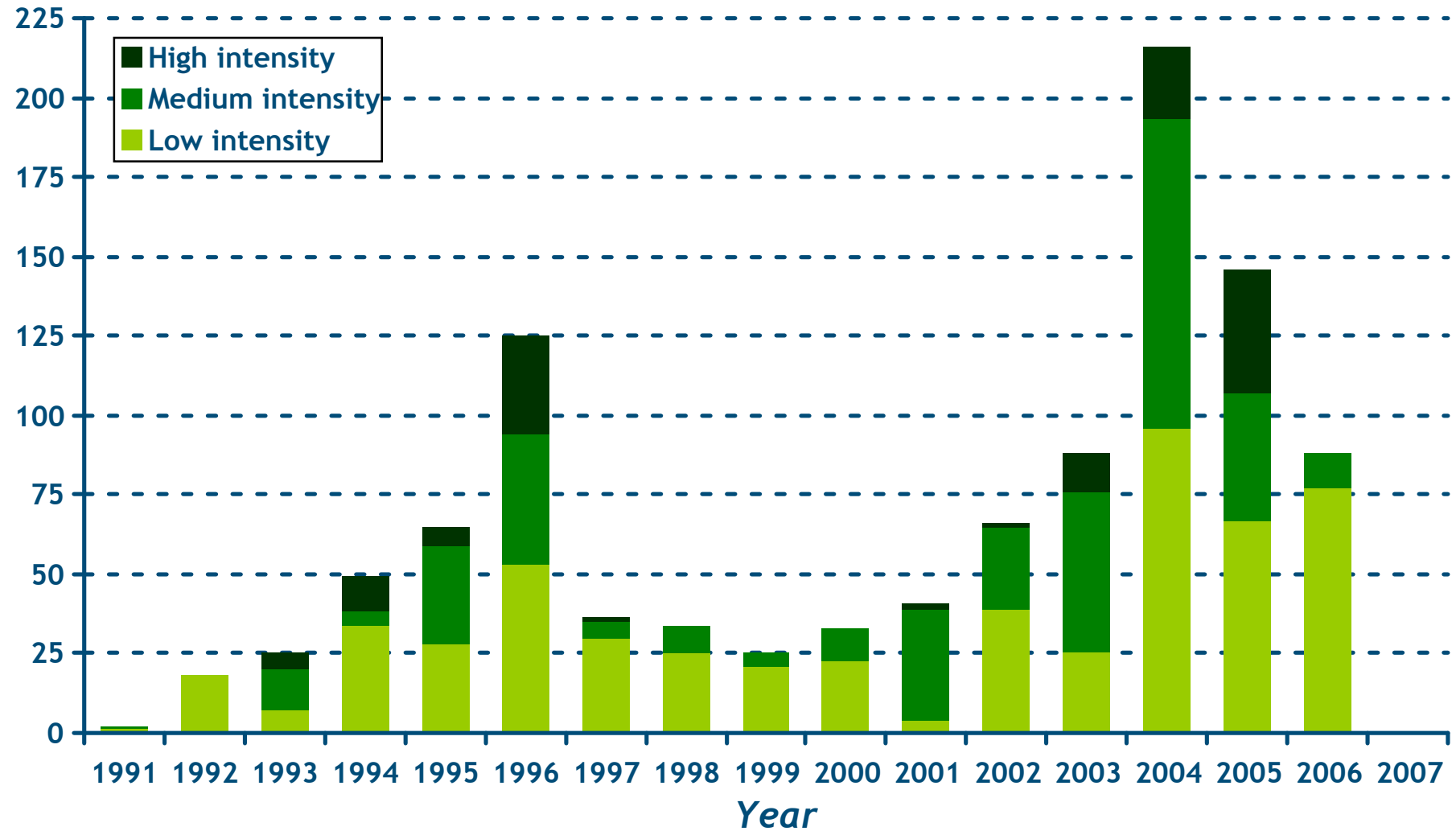


Photo: L. Moraal (Alterra, Wageningen UR)

Problems caused by the OPC



Number of OPC locations *(data: L. Moraal, Alterra)*



Spatial distribution

The Oak processionary caterpillar between 1991 & 2007

Data:

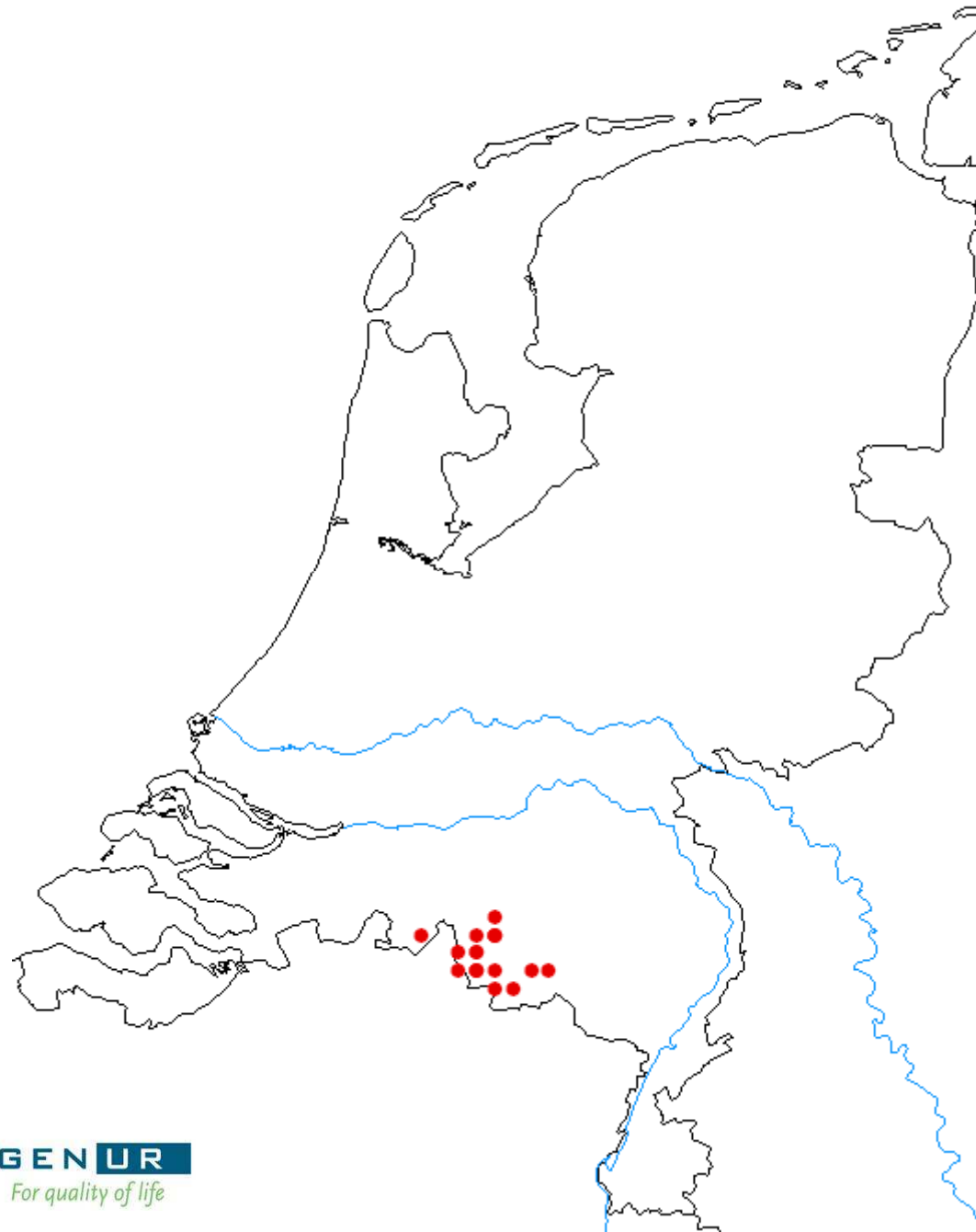
- L. Moraal (Alterra, Wageningen UR) → 1991-2006
- Dutch Butterfly Conservation → 2004-2007
- Nature's Calendar → 2005-2007



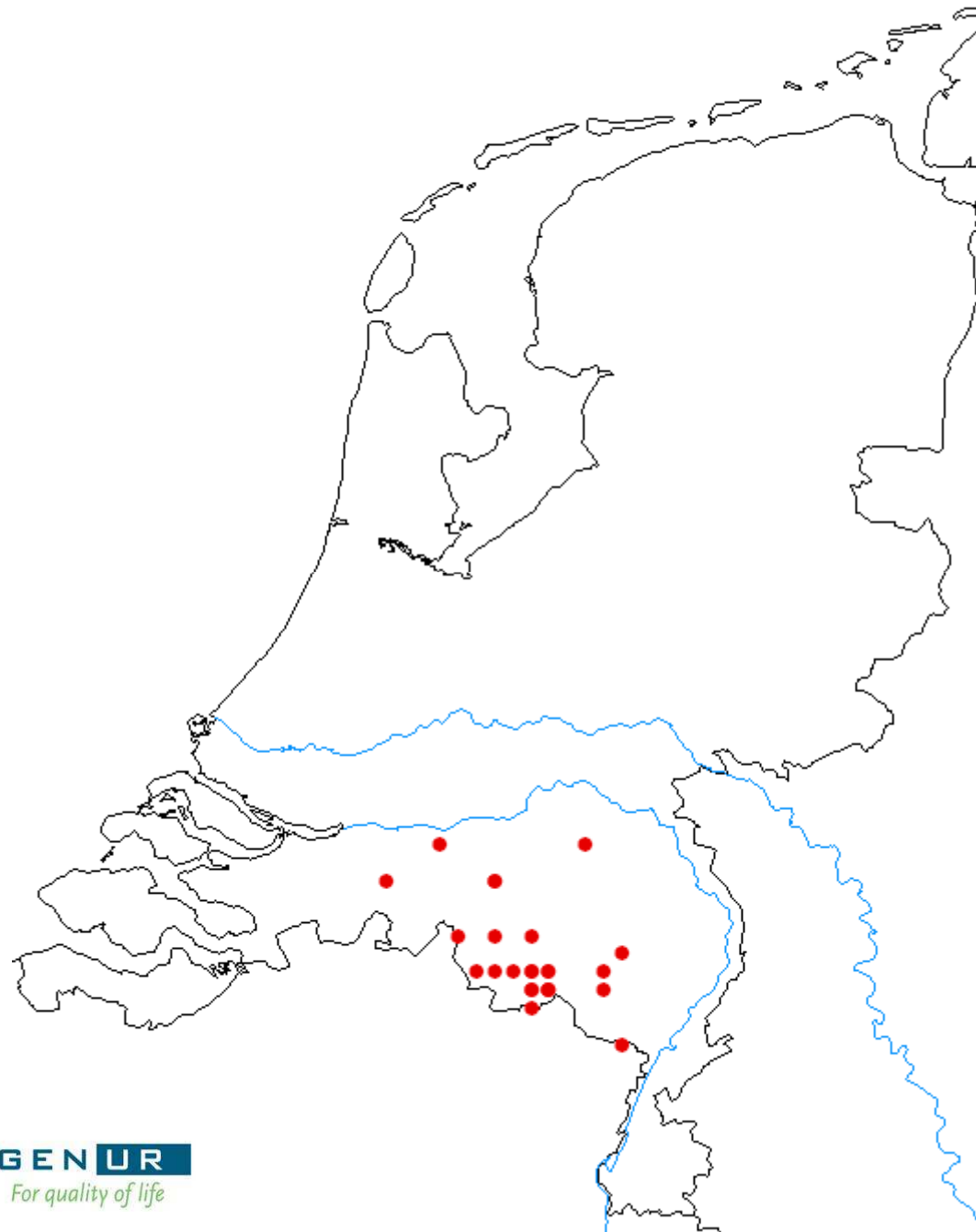
1991



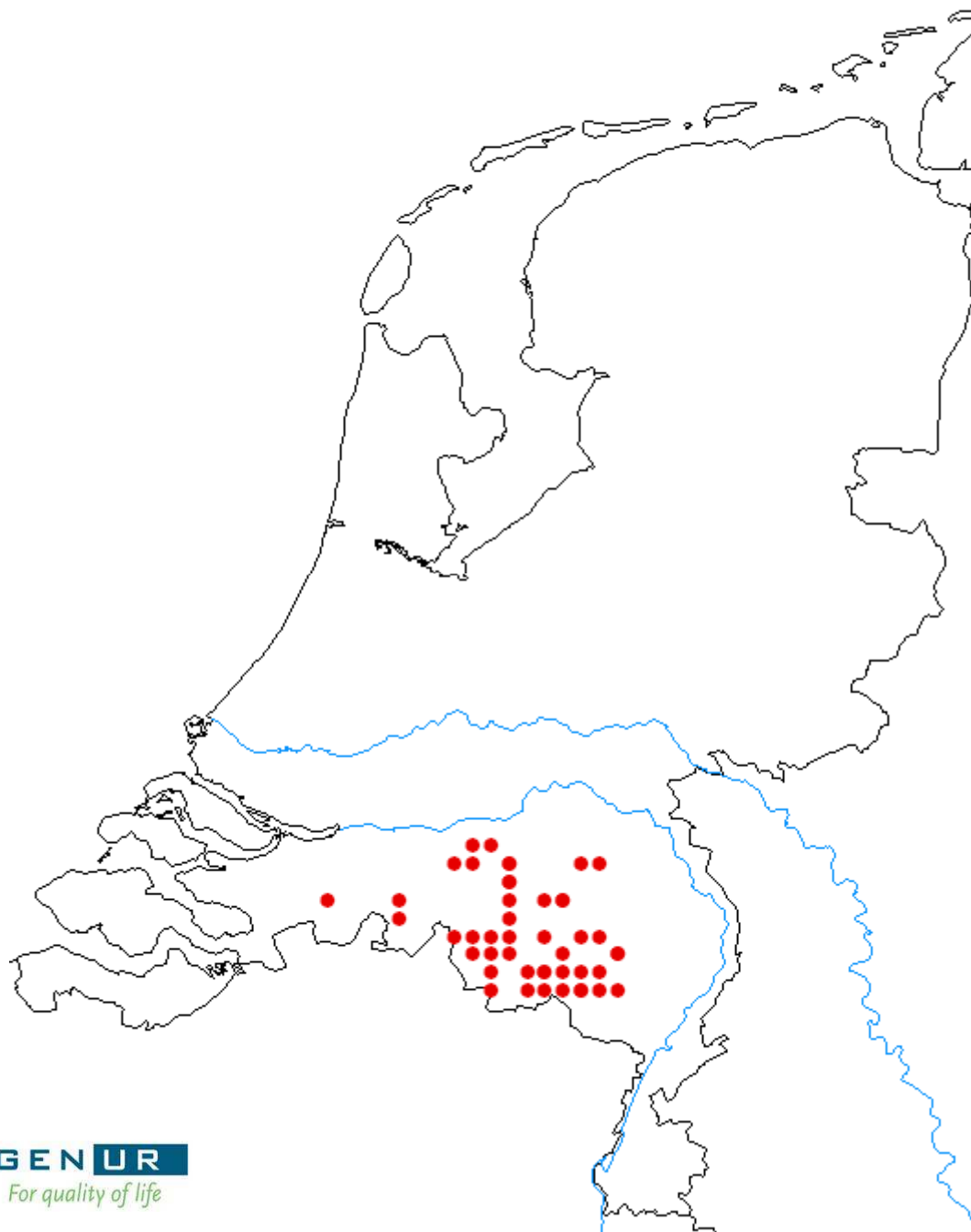
1992



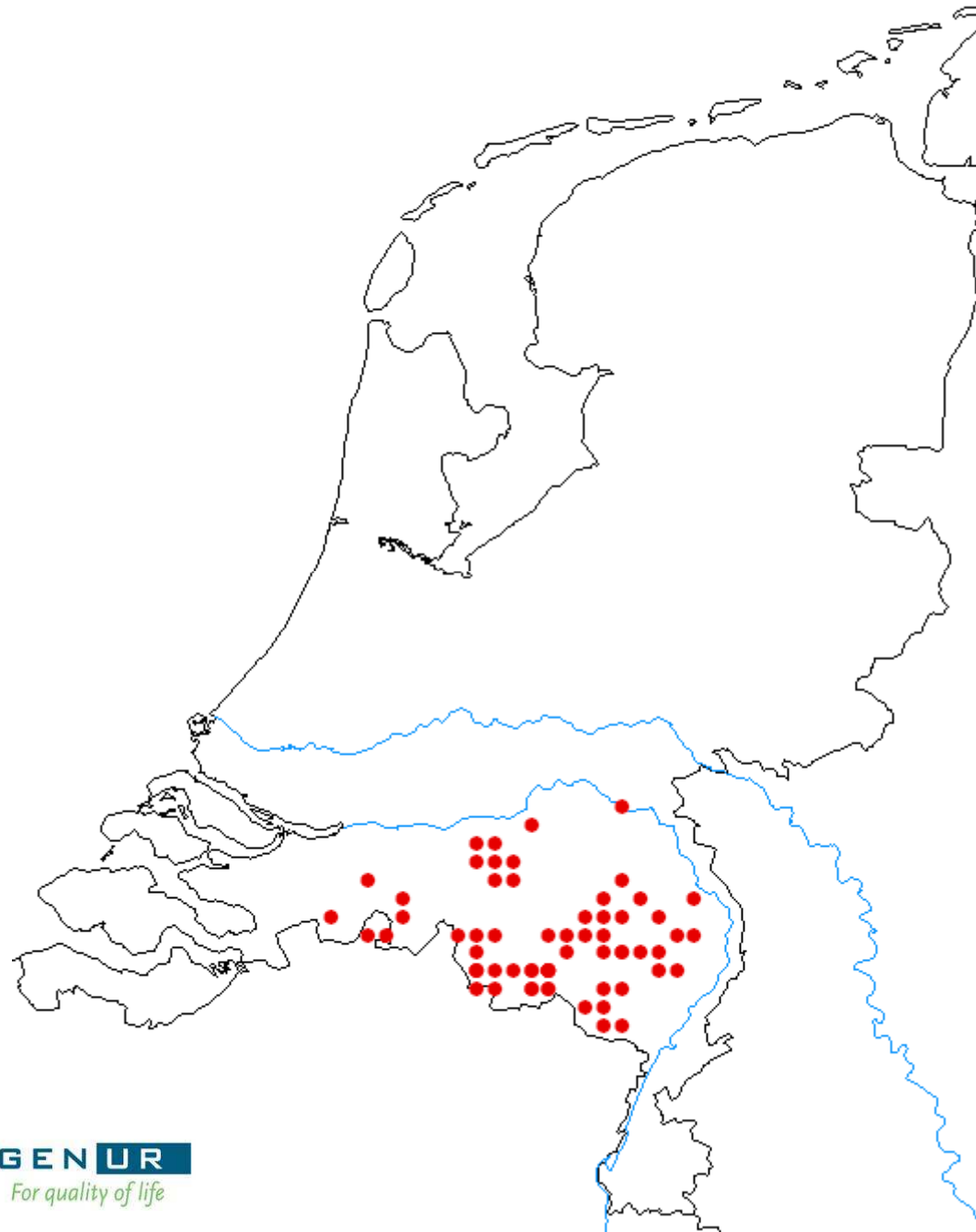
1993



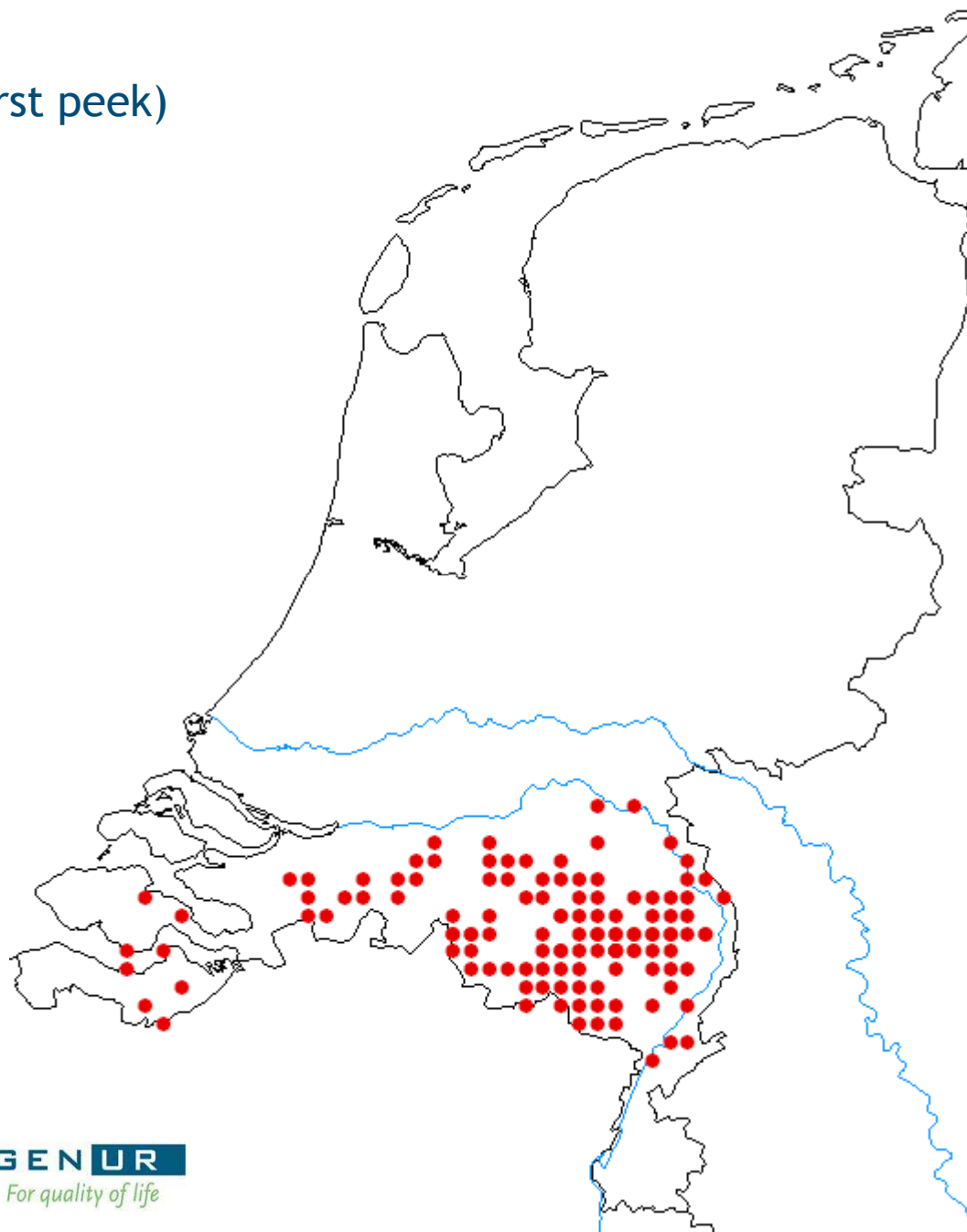
1994



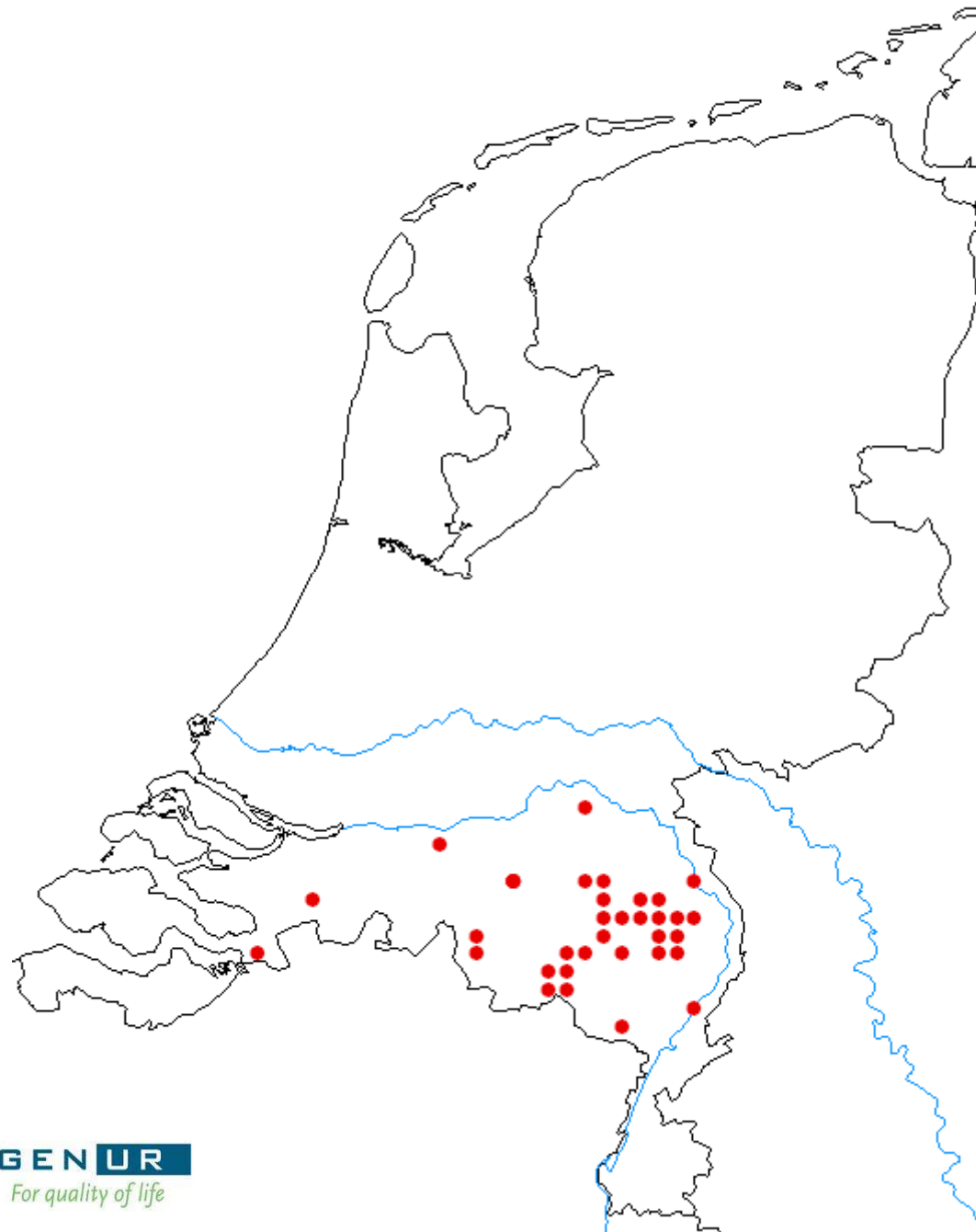
1995



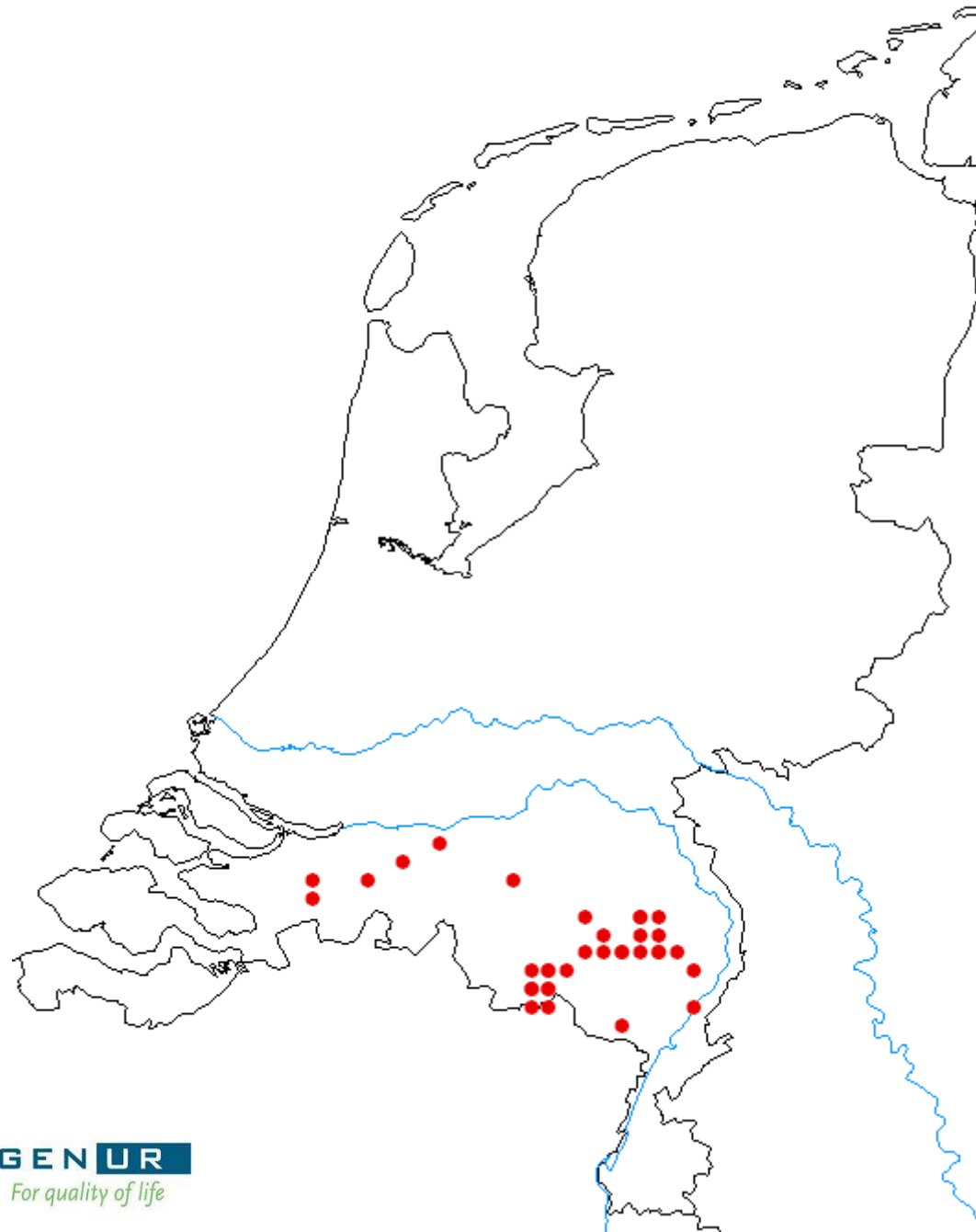
1996 (first peek)



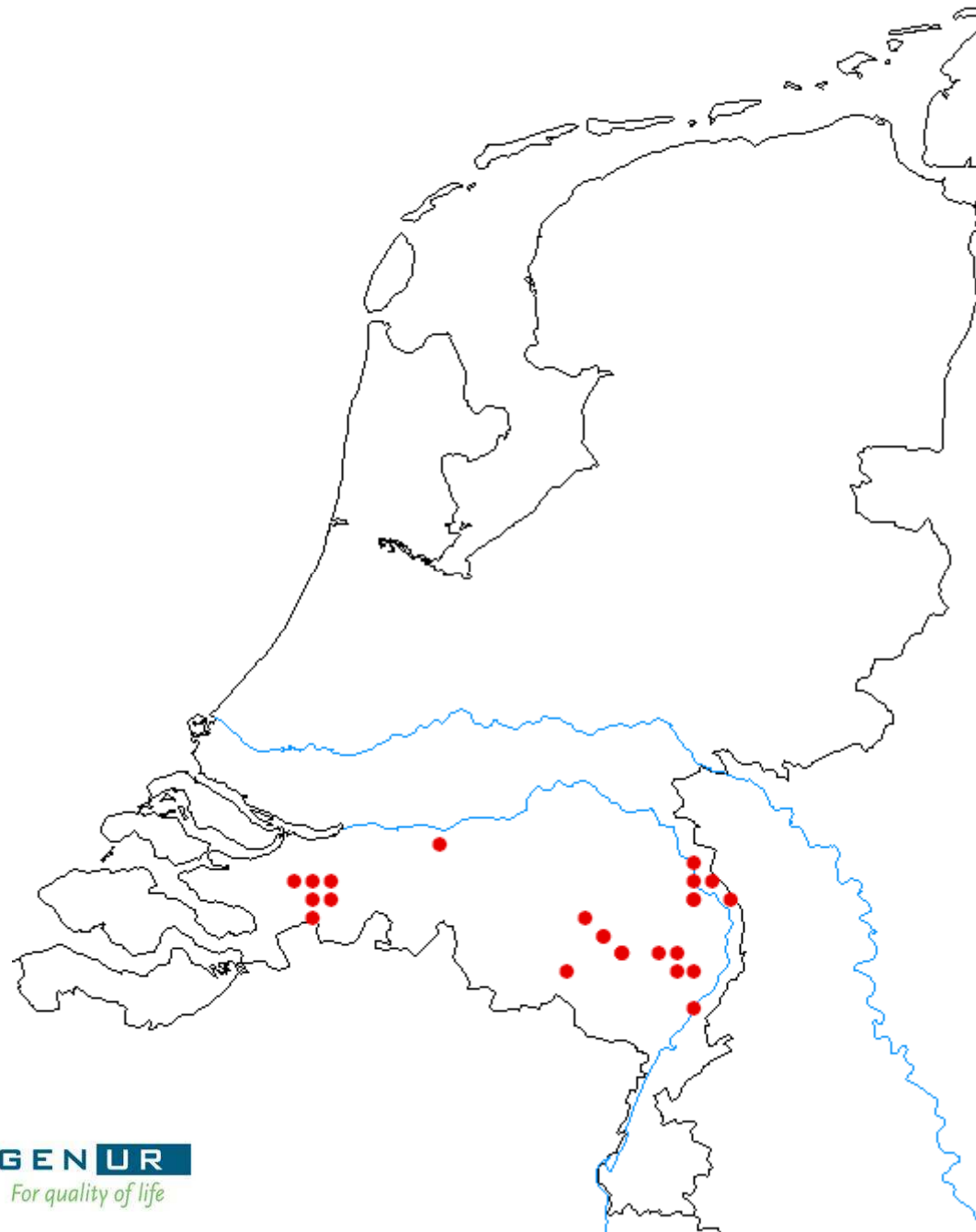
1997



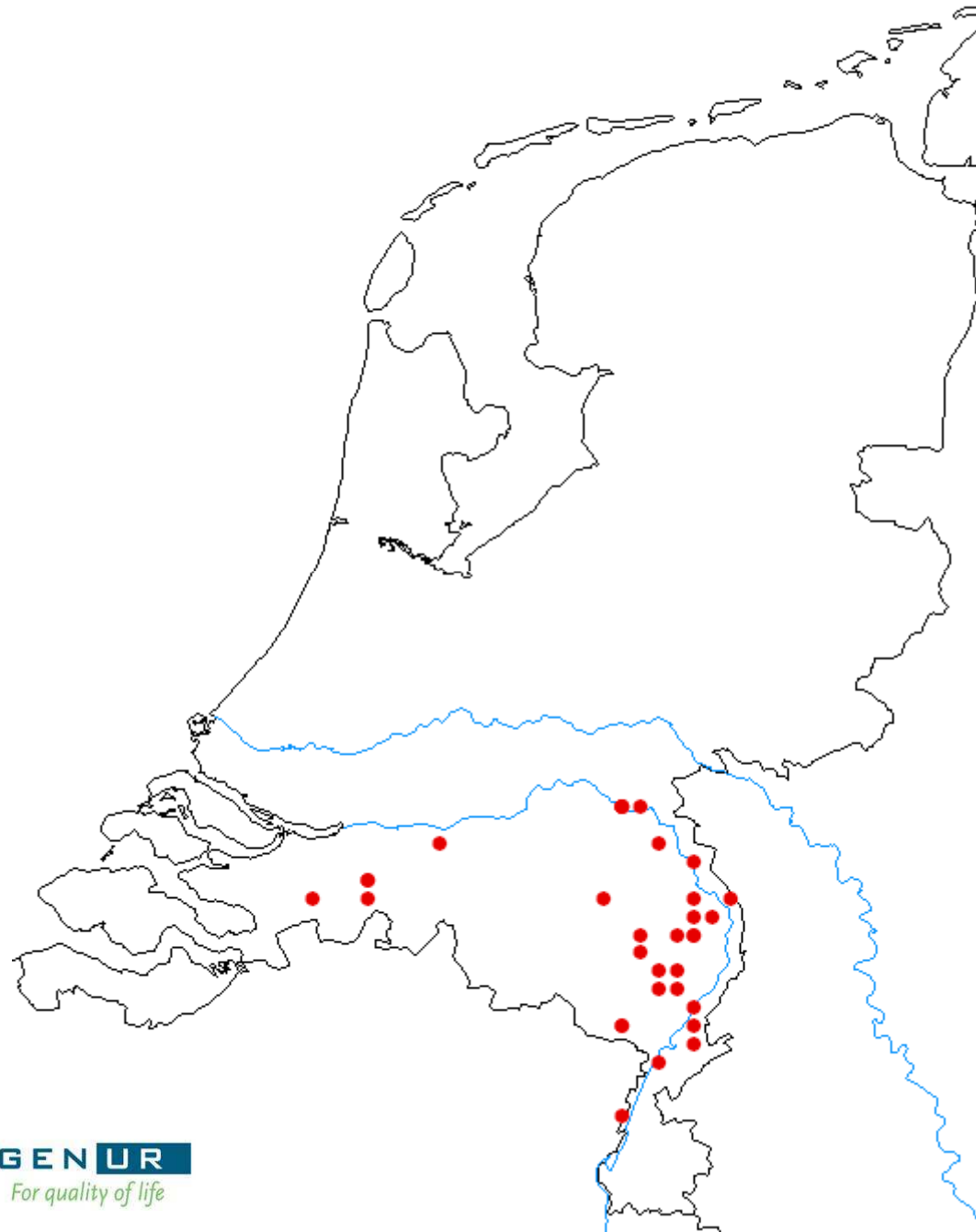
1998



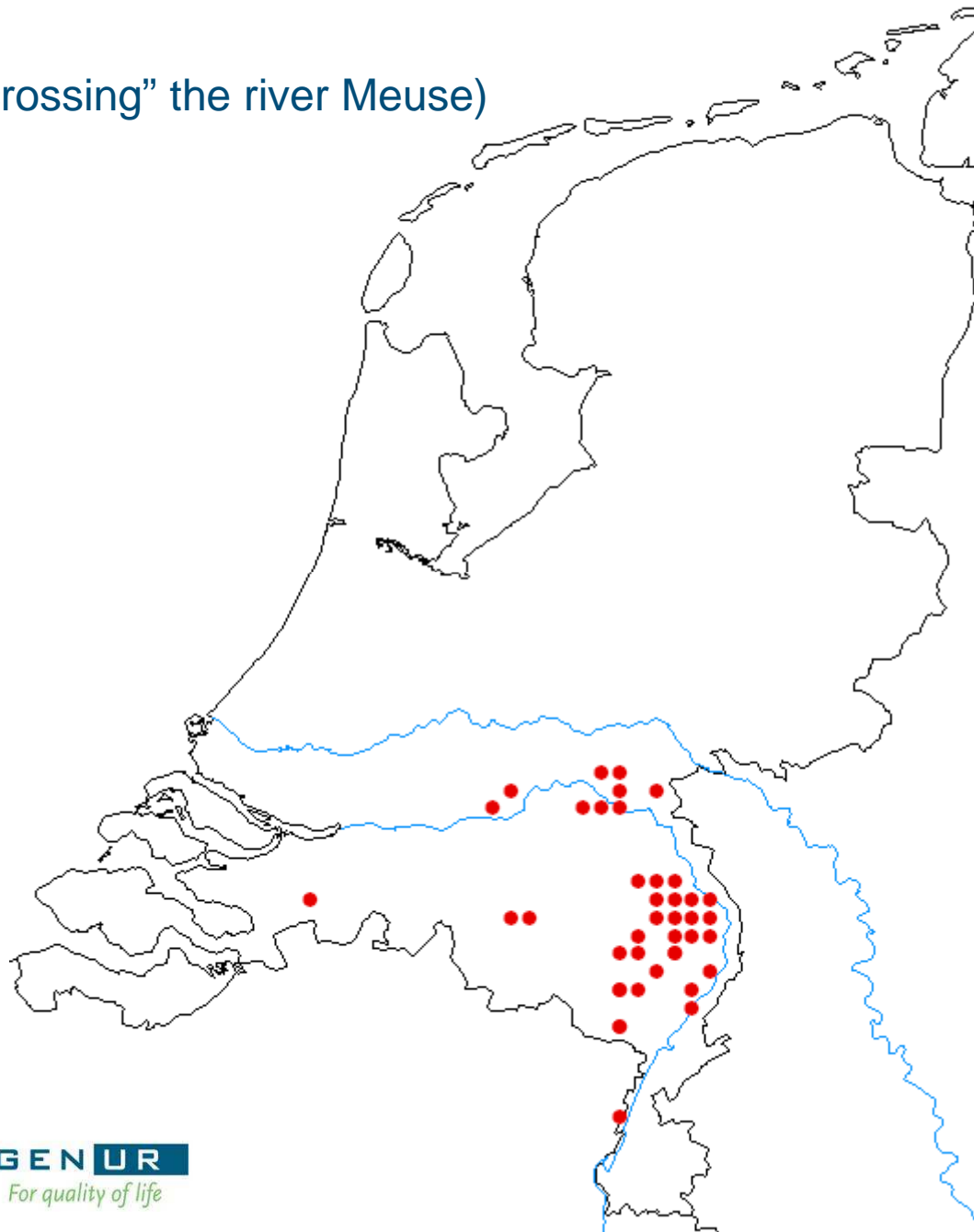
1999



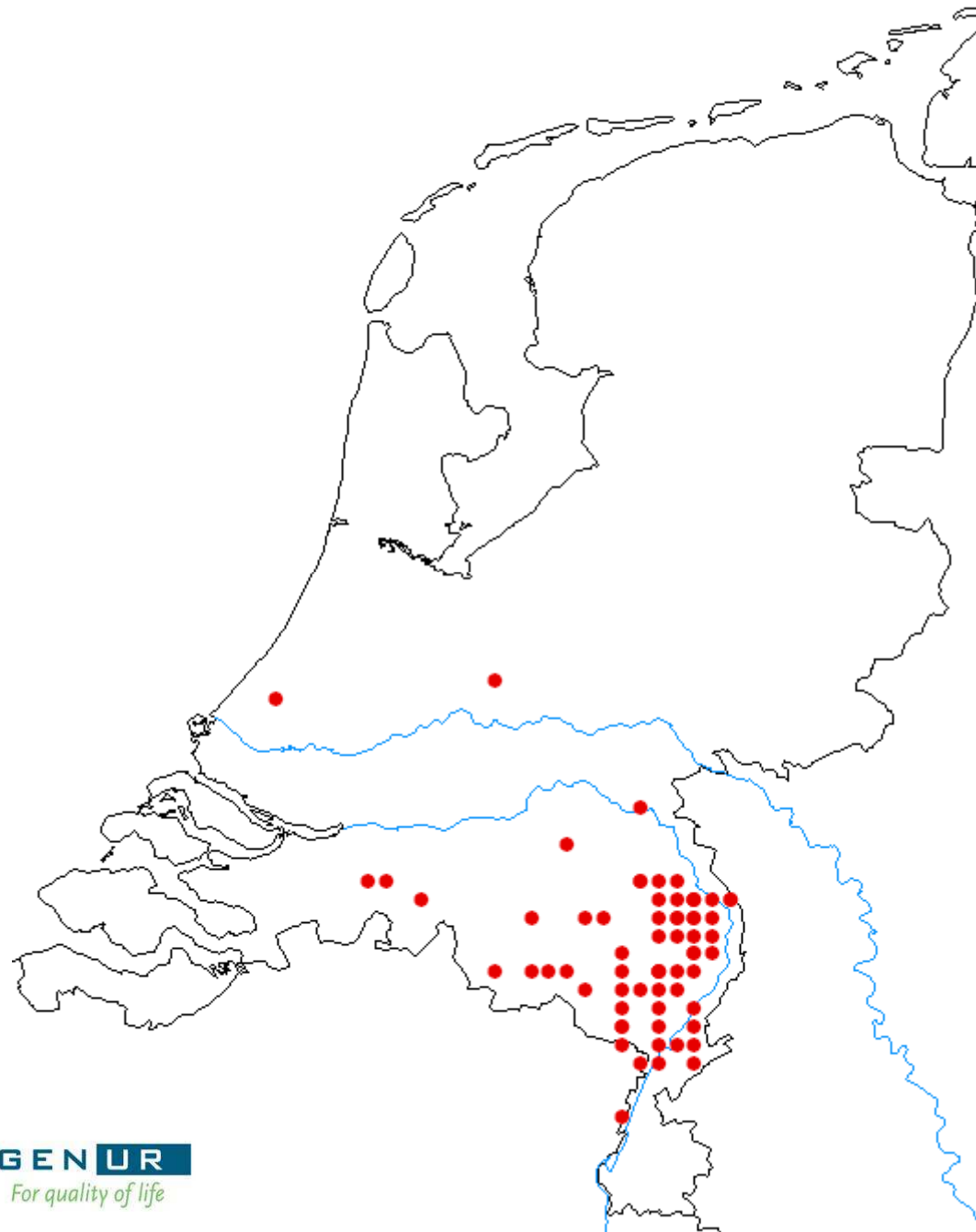
2000



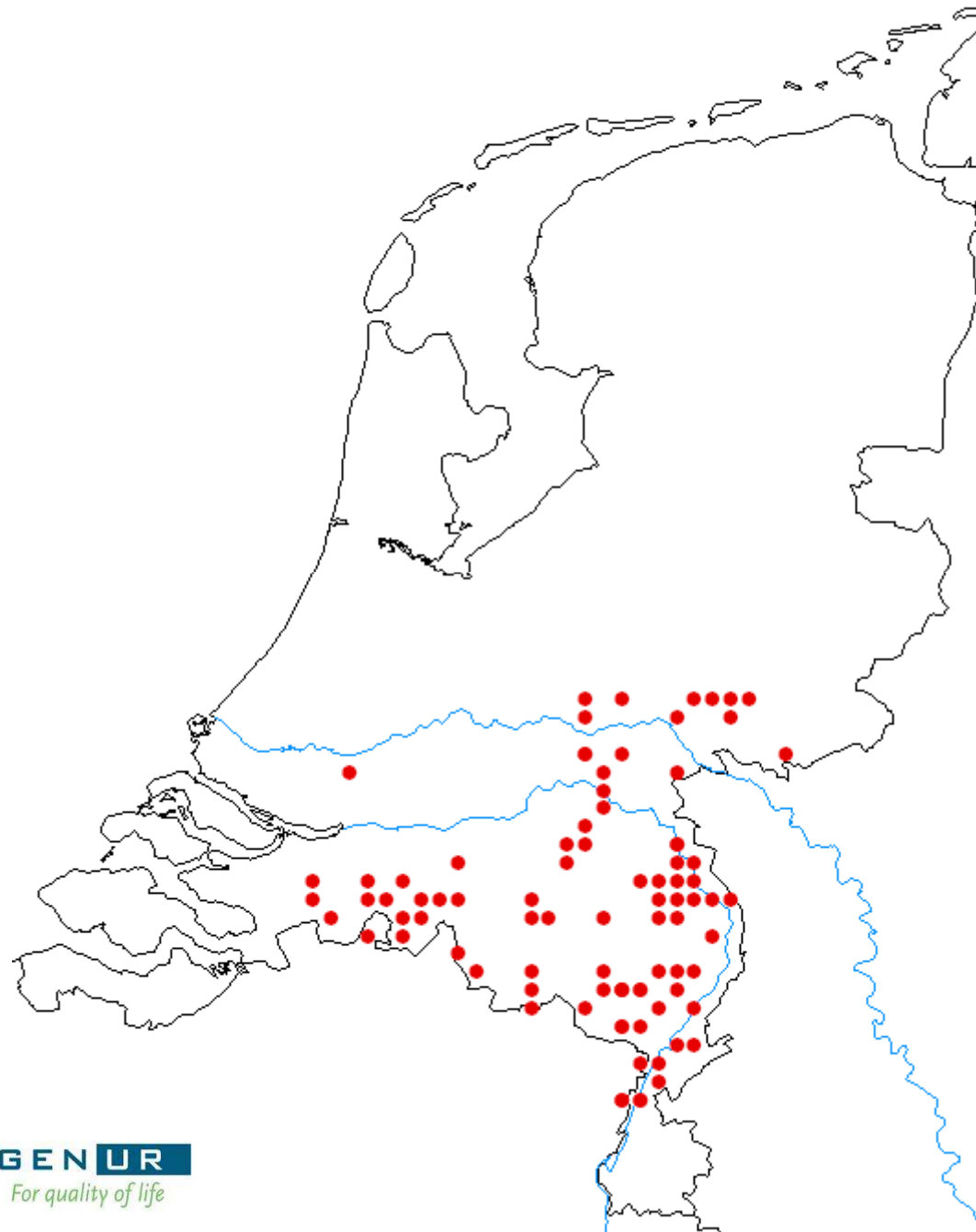
2001 (“crossing” the river Meuse)



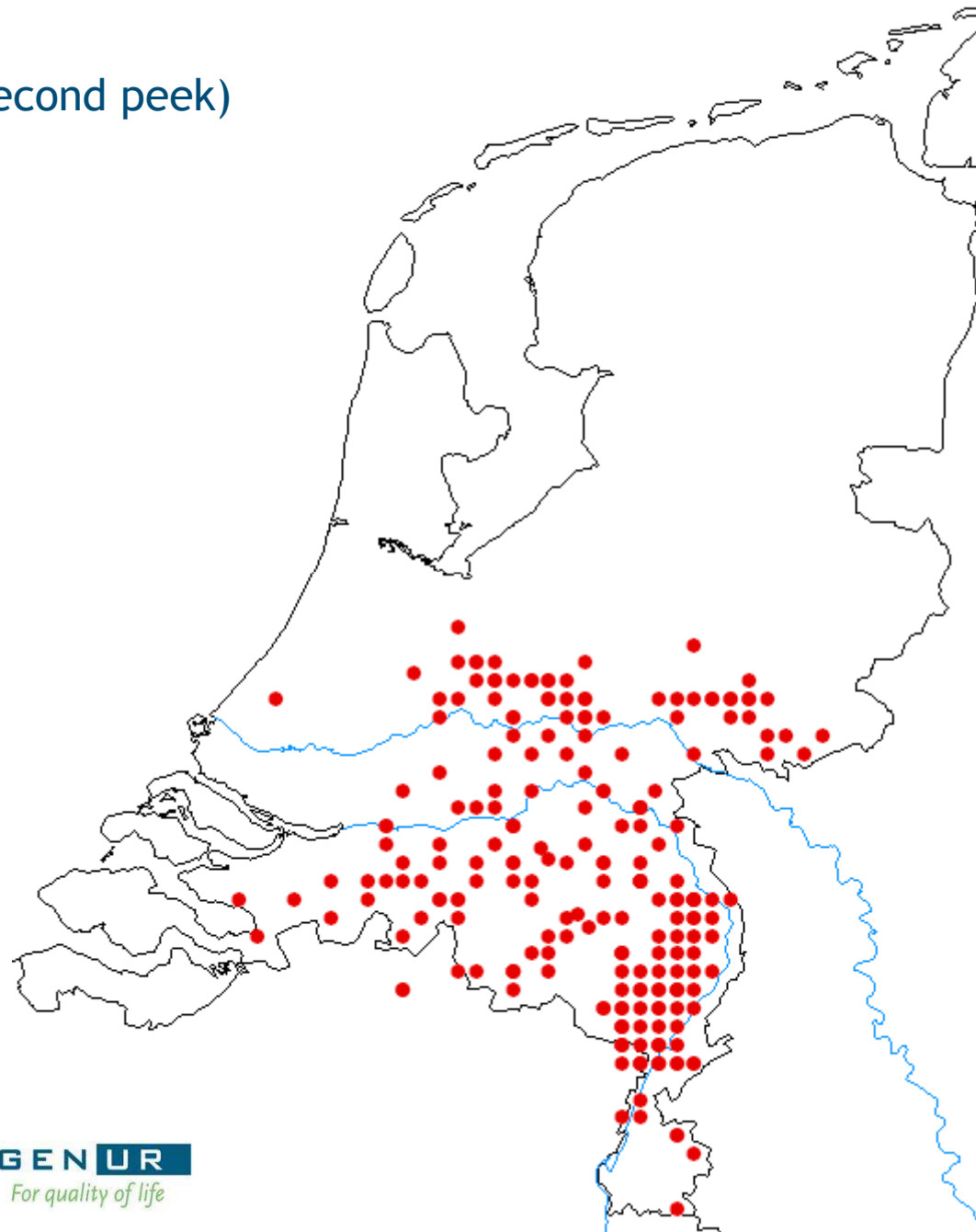
2002



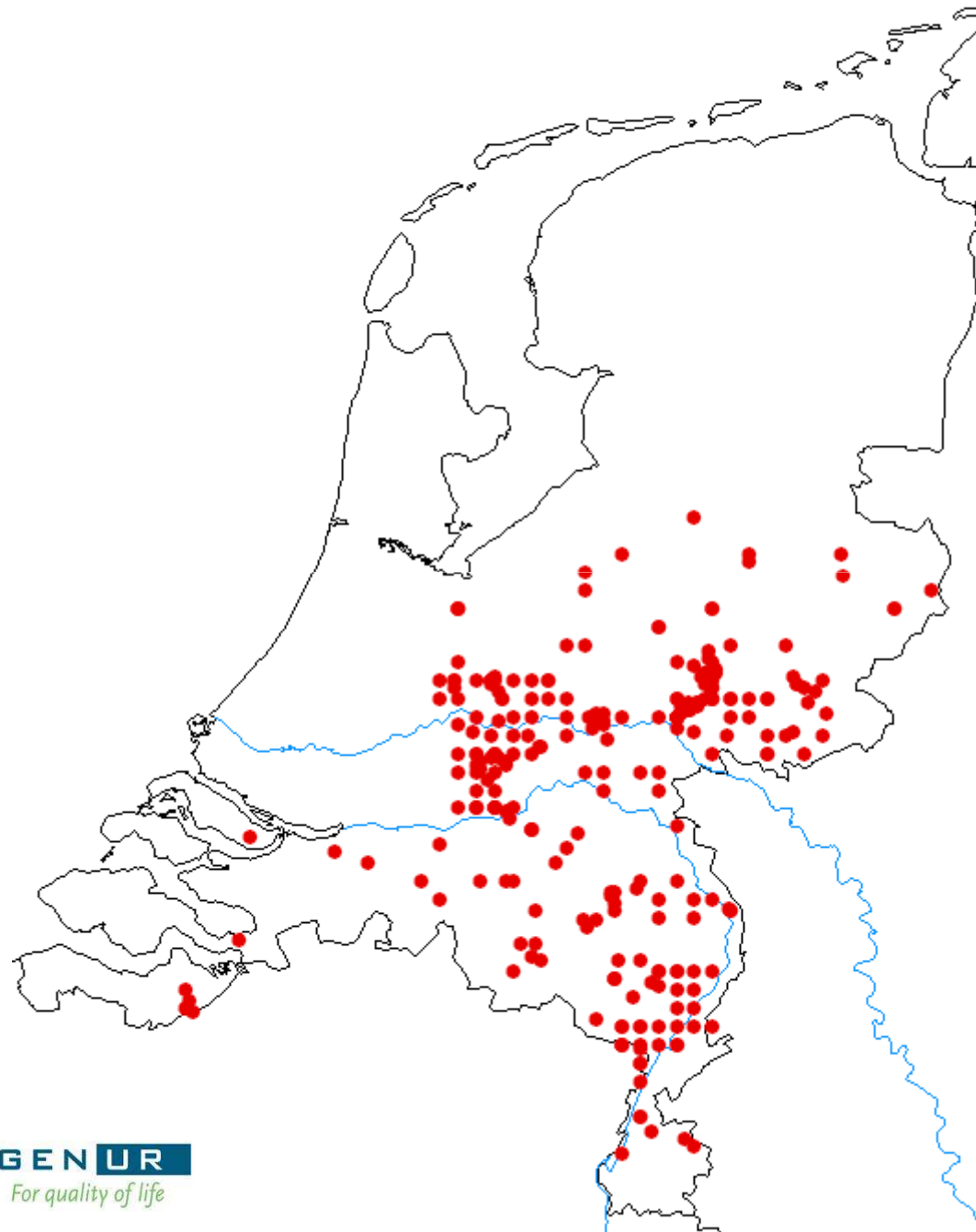
2003



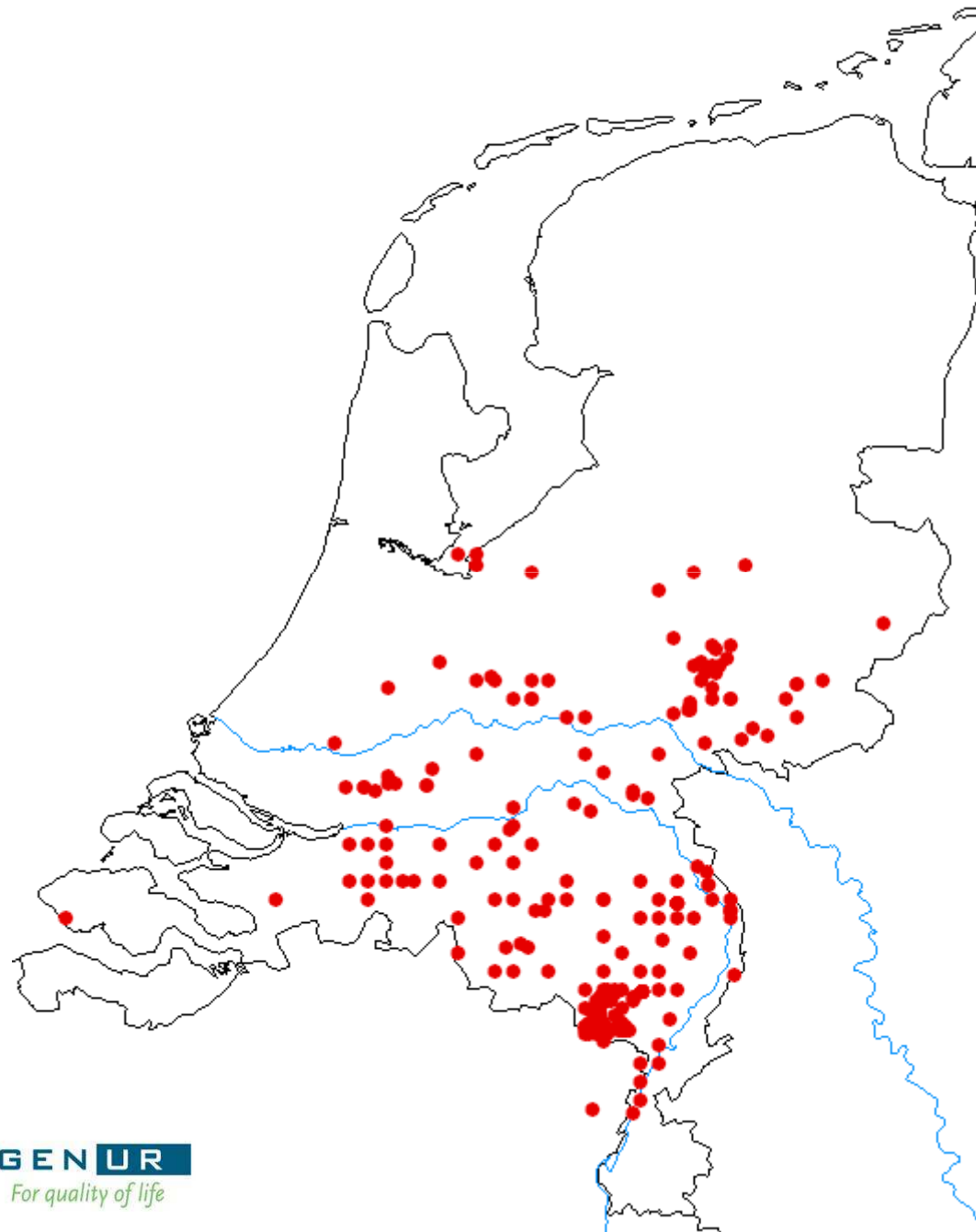
2004 (Second peek)



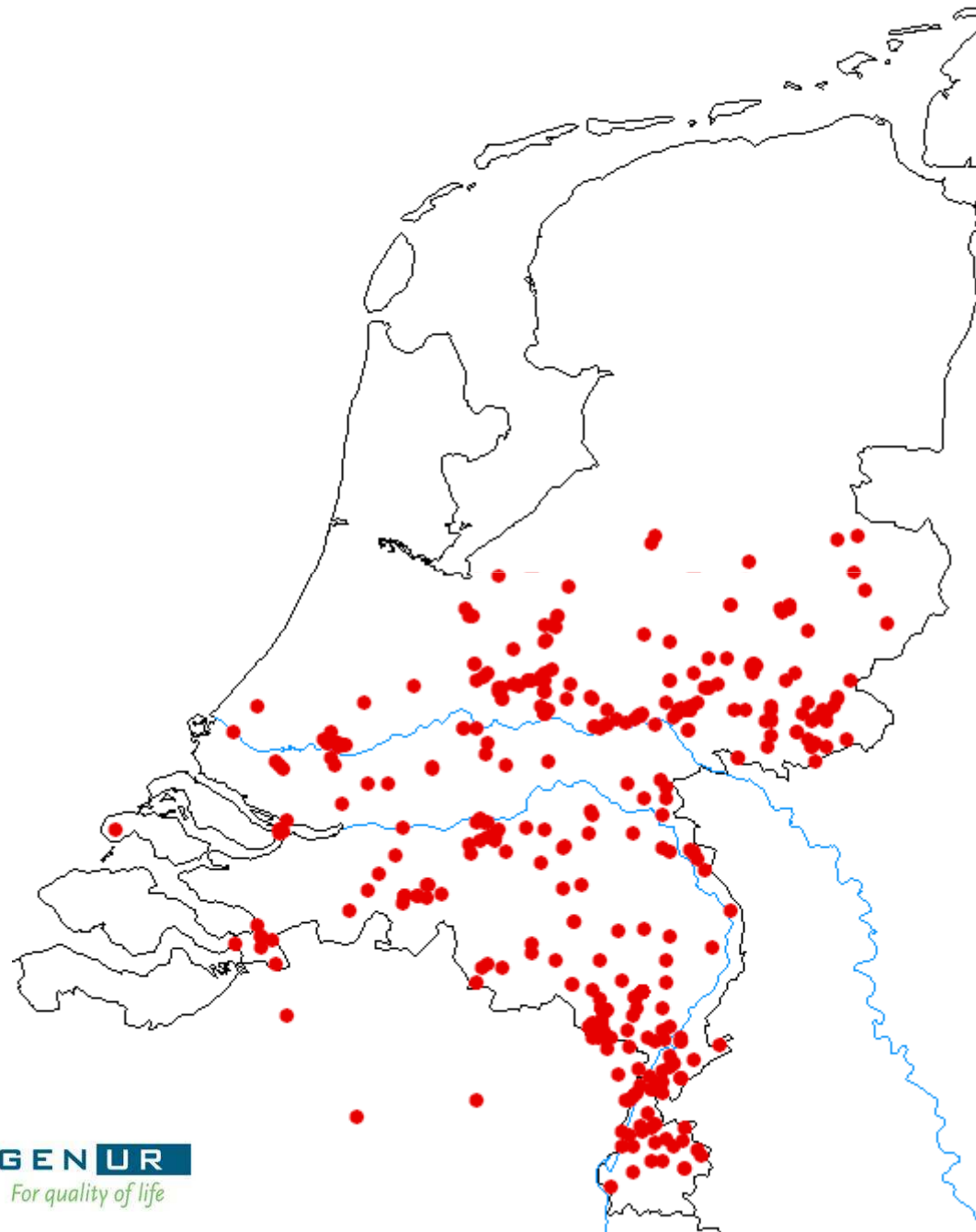
2005



2006



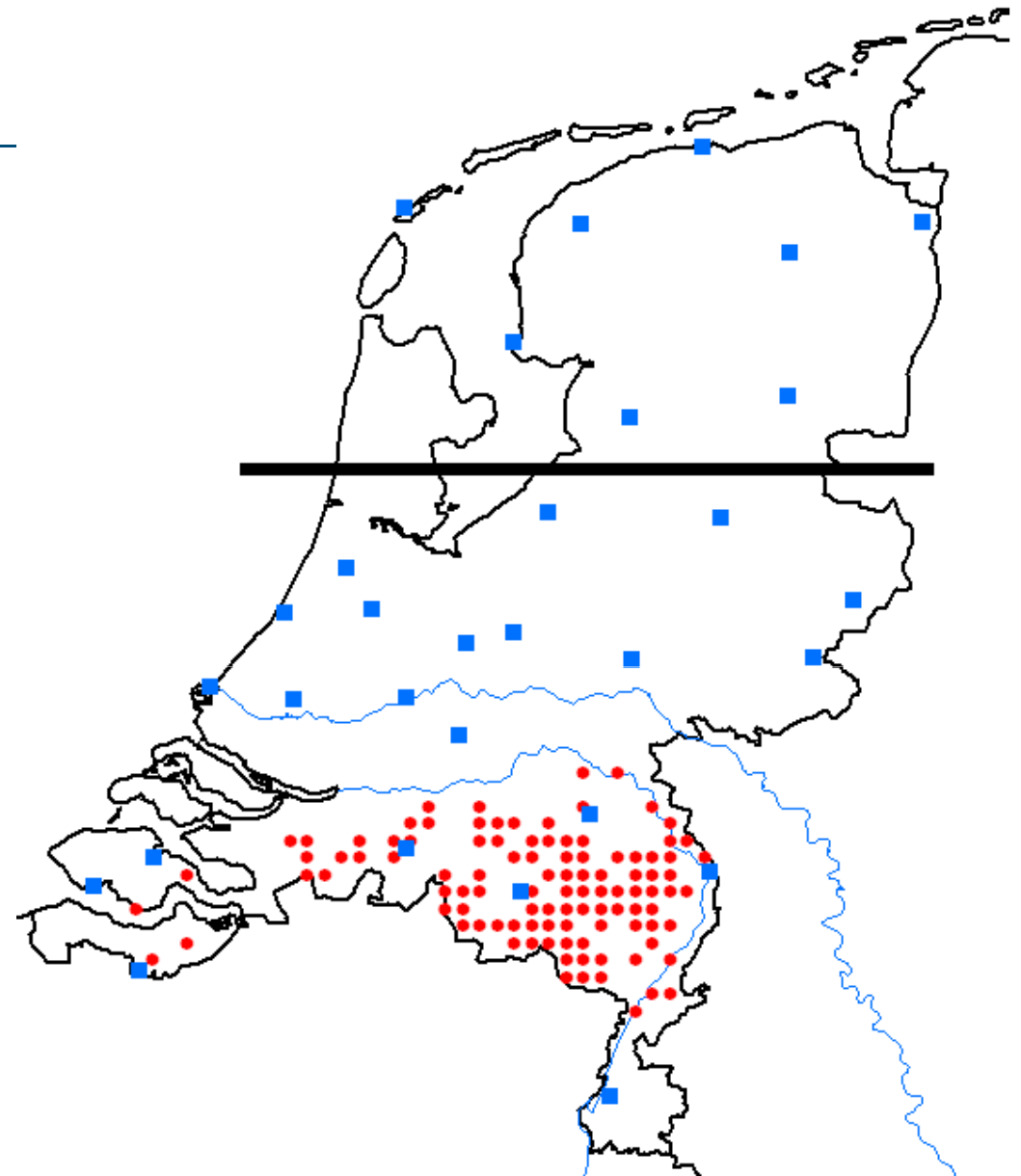
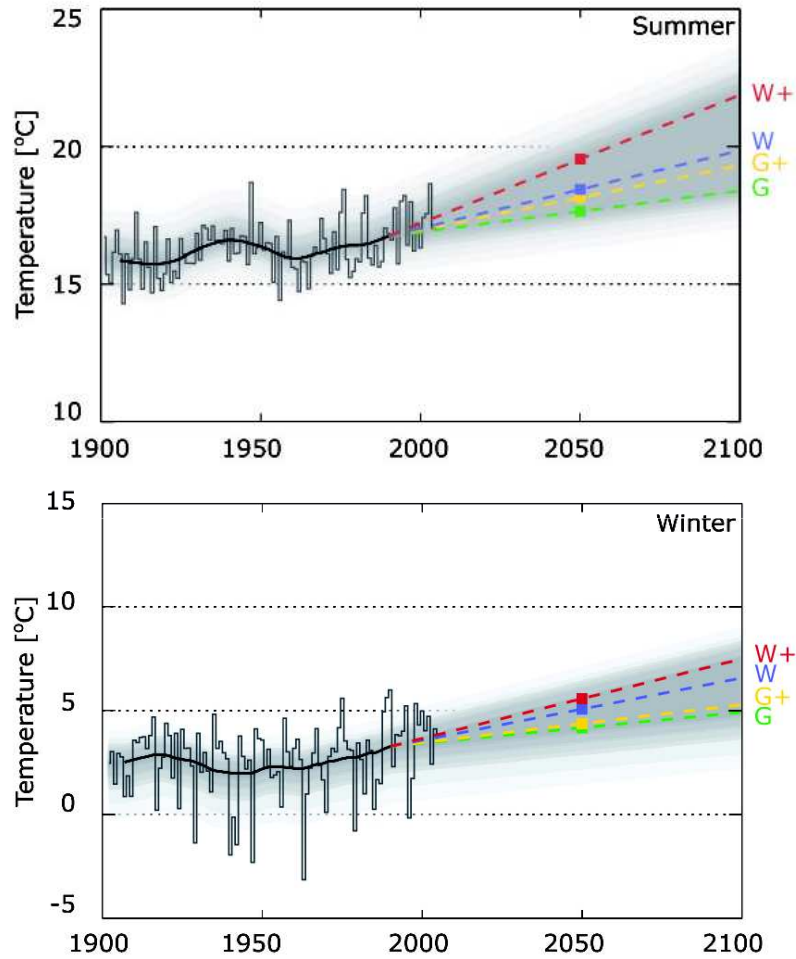
2007



Objective

- To determine:
 - Which climate variables explain the observed changes in spatial distribution and population dynamics;
 - The potential future changes under different climate scenarios

Methods used





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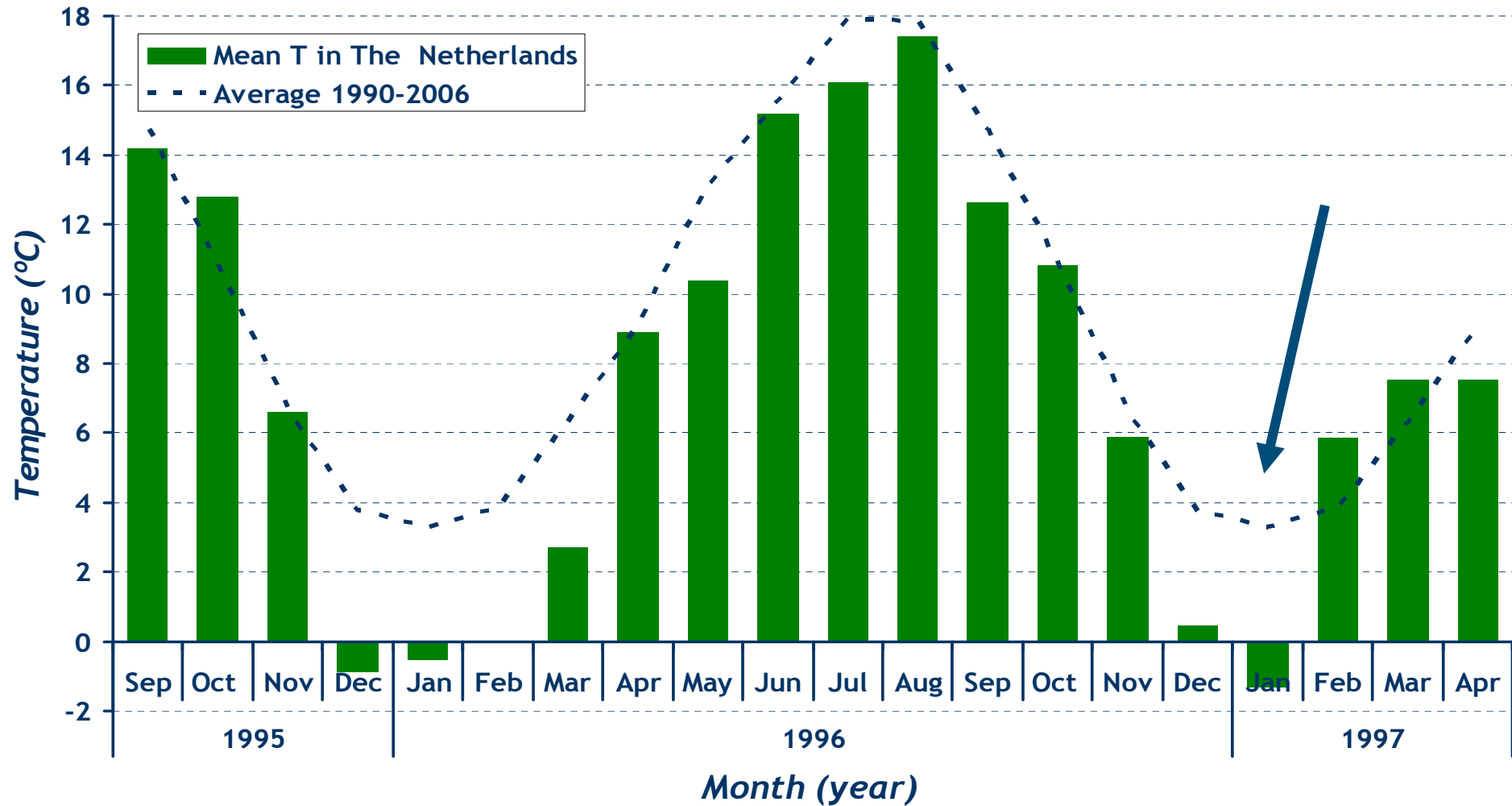
Regional temperature differences (°C)

Month	Region		
	OPC area	No OPC area	North NL
May	13.4 (13.2-13.6)	13.2 (13.0-13.4)	12.5 (12.3-13.7)
June	16.8 (16.5-17.0)	15.8 (15.6-16.0)	15.5 (15.2-15.7)
July	18.3 (18.0-18.7)	17.0 (16.8-17.2)	16.9 (16.6-17.2)
September	15.4 (15.1-15.7)	14.8 (14.6-14.9)	14.7 (14.5-15.0)
October	11.4 (11.0-11.9)	10.7 (10.5-11.0)	10.6 (10.2-11.0)

Regional temperature differences (°C)

Month	Region		
	OPC area	No OPC area	North NL
May			
June			
July			
September	48.5mm	77.4mm	76.4 mm
October			

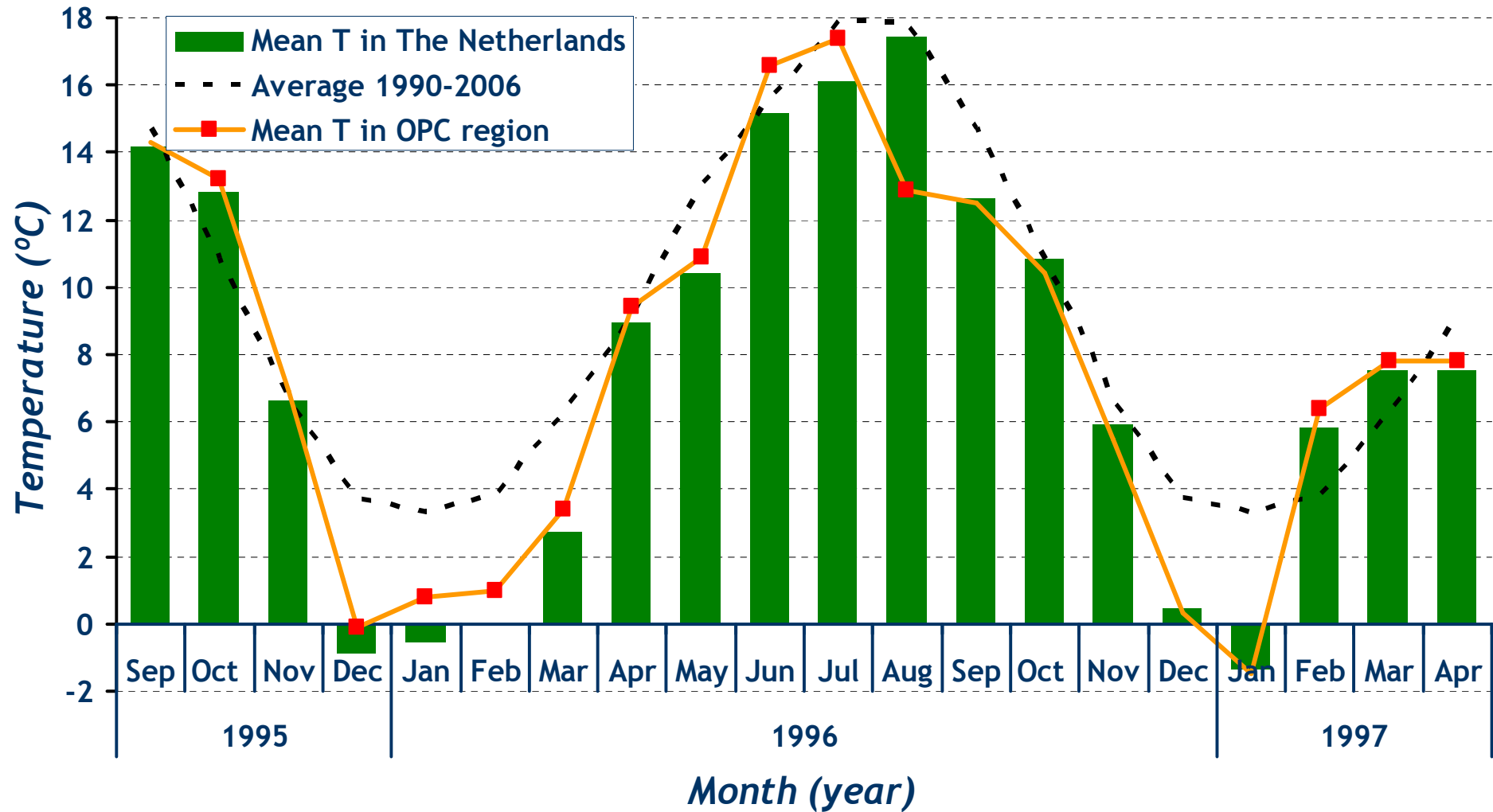
Peak period highlighted (1995-1997)



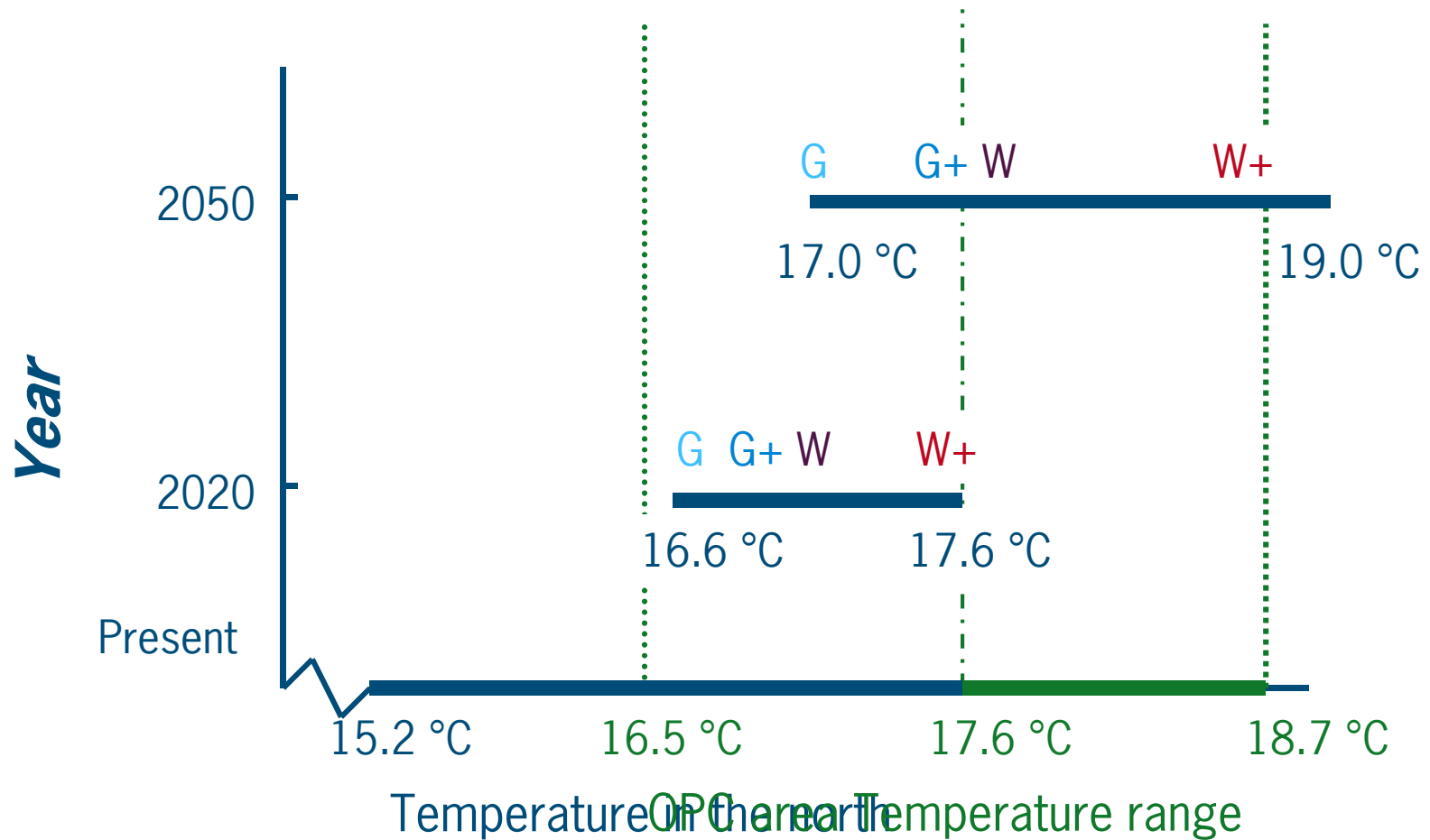
Winter 1997: “Eleven cities tour”



Temperature in 1995-1997



Scenarios: Summer temperature in the north



Conclusions

- The Oak processionary caterpillar is moving on
- Important for the OPC's development:
 - High temperature in spring / early summer months
 - Precipitation early autumn
- Situation is likely to worsen, unless...

Recommendations

- Need for more detailed information
 - Local environment (road, land cover etc.)
 - Case studies on location (Antwerp, Belgium)
- Couple management and observations
 - Municipalities & Nature's Calendar
 - Prediction / modelling

Questions / Remarks

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