



ICA2018

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RAGWEED POLLINATION EVOLUTION IN TEN FRENCH CITIES

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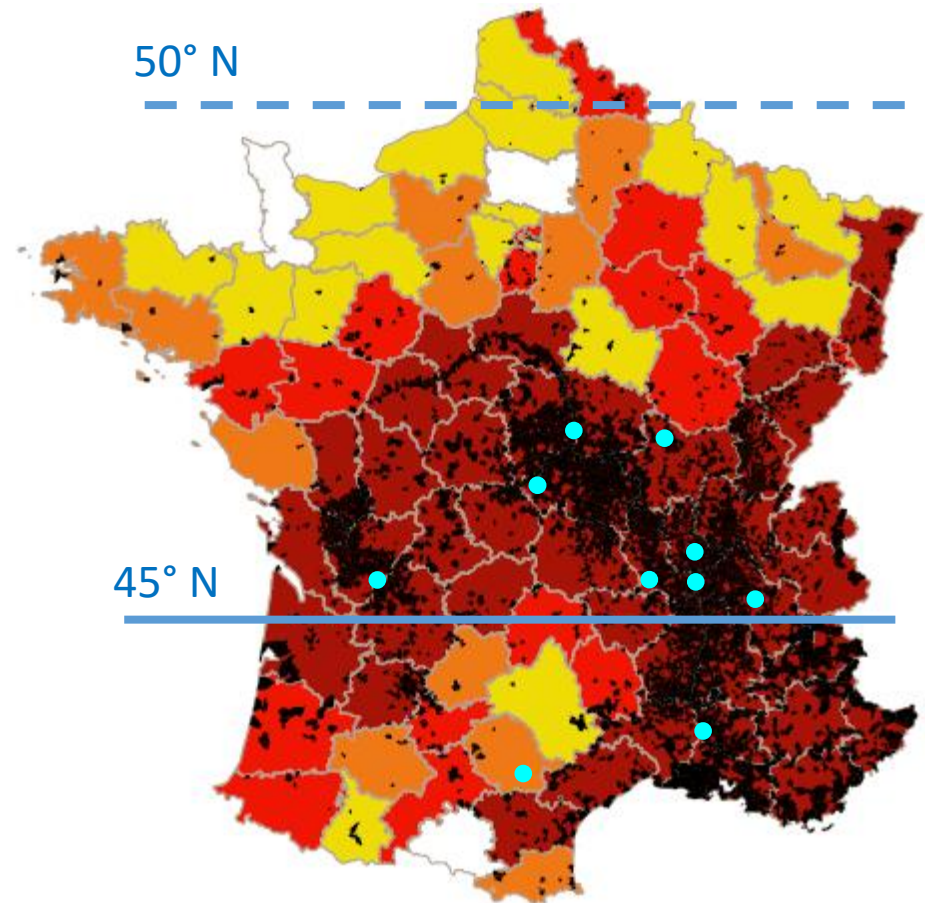
Réseau National de Surveillance Aérobiologique (RNSA), Brussieu,
France



Ten French cities

The ten French cities are chosen because there are different climate and different area of plant infestation.

Cities	Data begins
1 Avignon	2003
2 Castres	2005
3 Chalon sur Saône	1994
4 Grenoble	1996
5 Lyon	1987
6 Mareuil	2014
7 Montluçon	1989
8 Nevers	2004
9 Roussillon	2002
10 Saint Etienne	1991



Official map of the ragweed presence in France - Ministry of Health



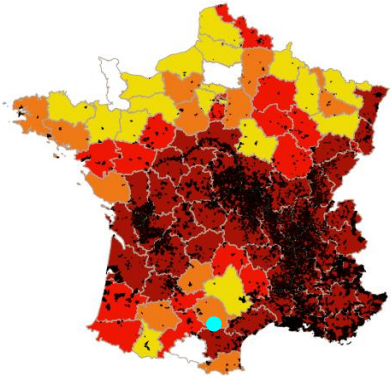
Pollen data



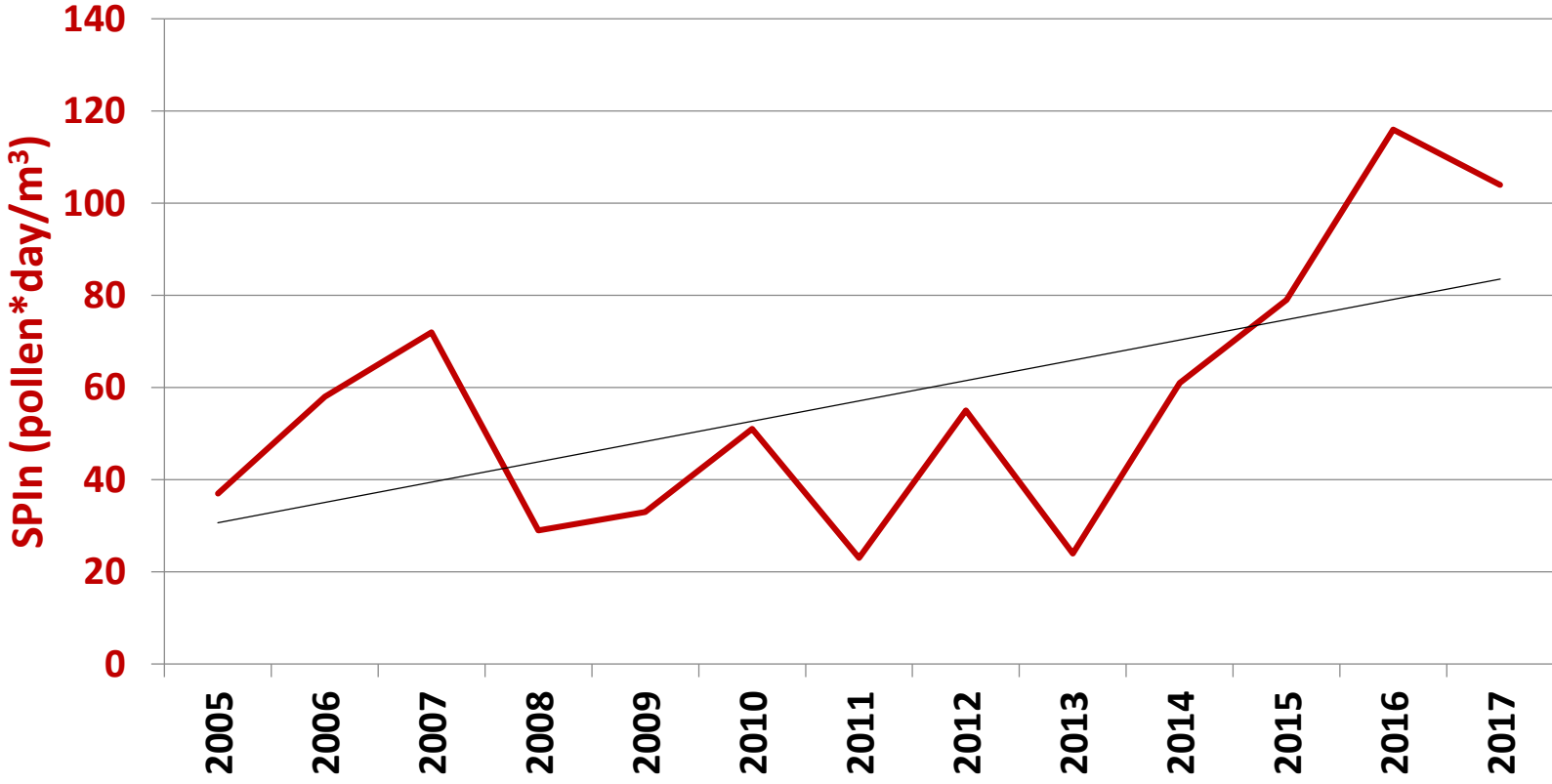
The data was obtained on Hirst trap with microscopic analysis.

Results

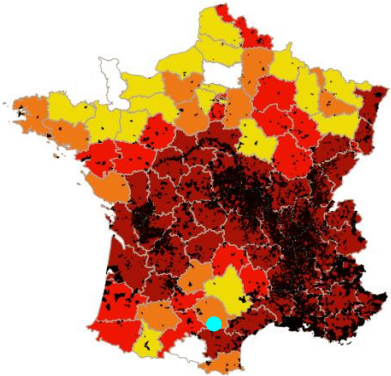
Castres - Seasonal Pollen Integral



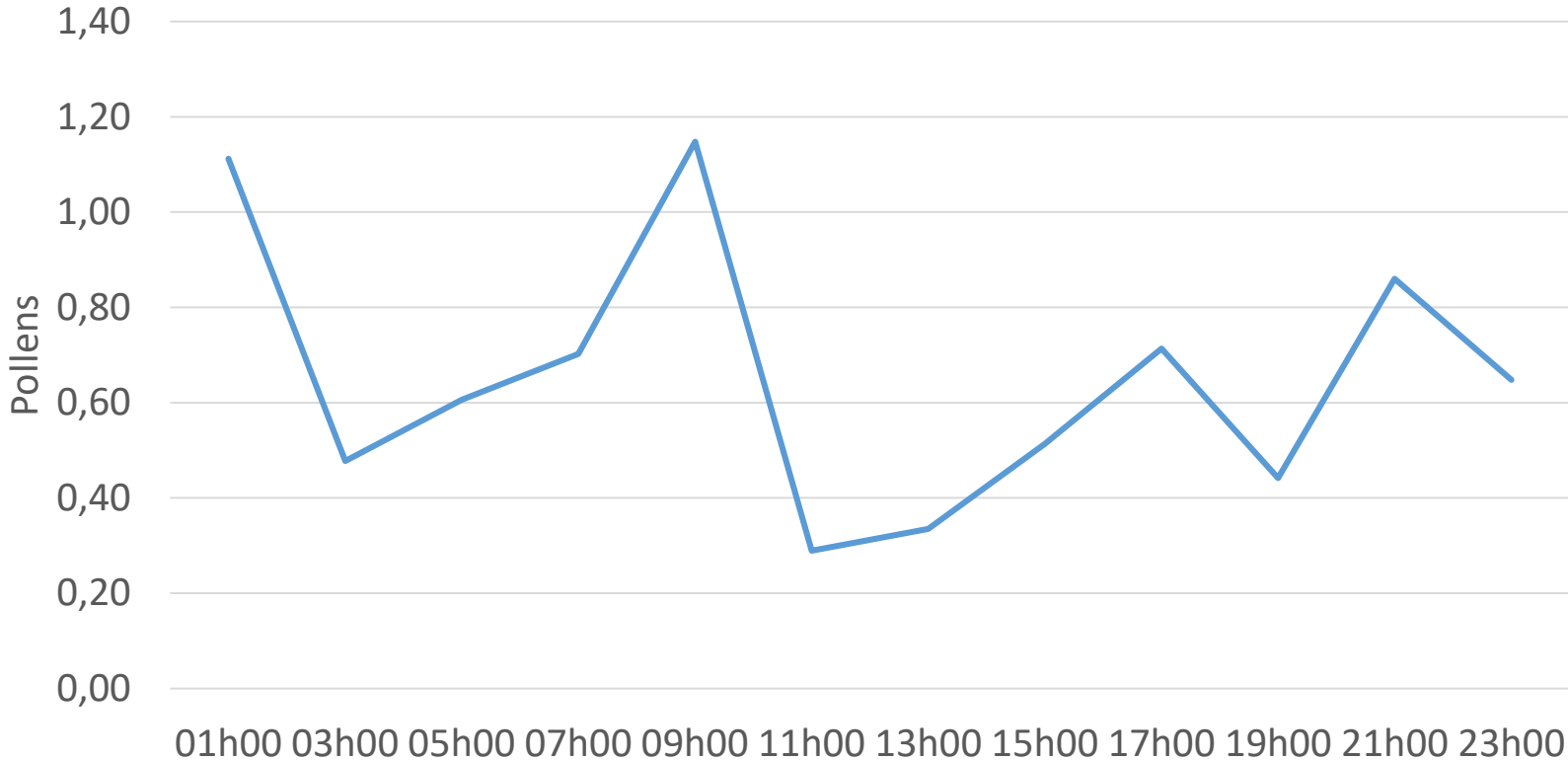
Castres



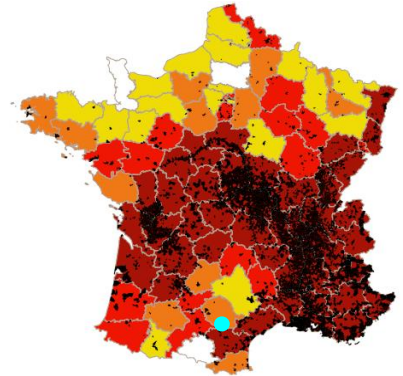
Castres – Bi-hourly data



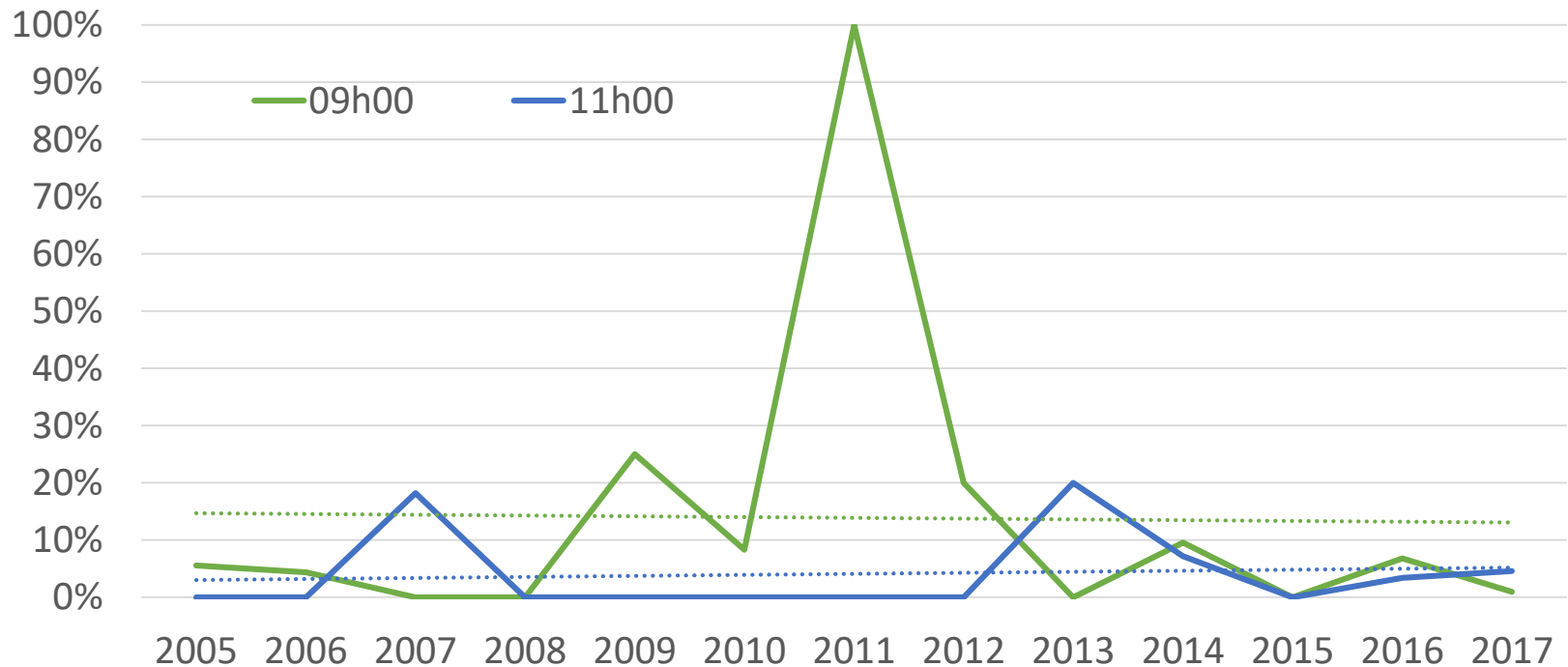
Castres - Average of Bi-Hourly data



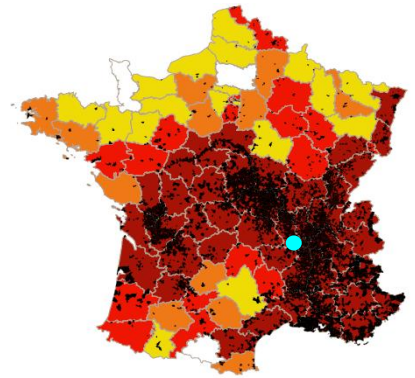
Castres – Bi-hourly data



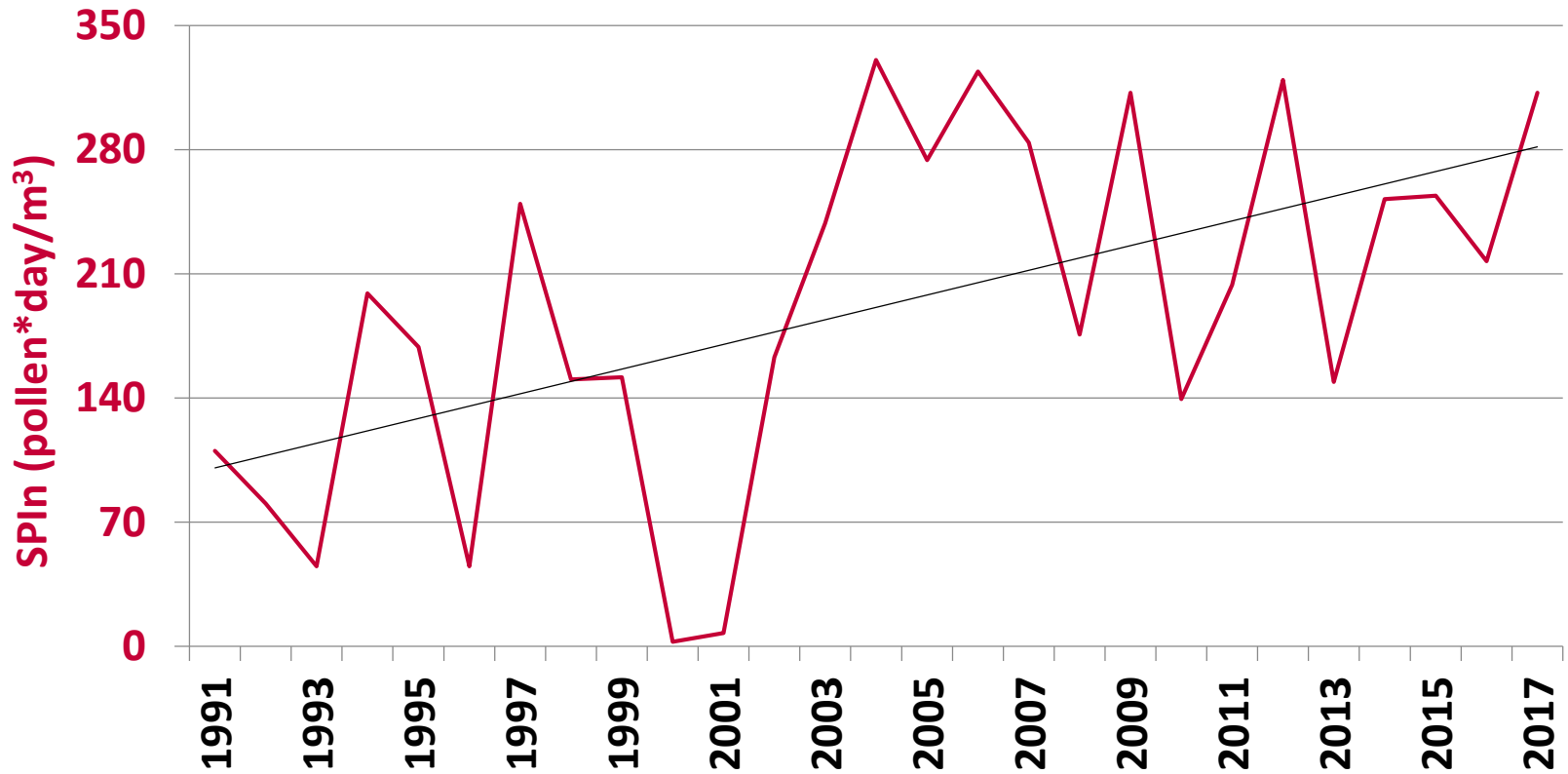
Castres - Percentage of pollen



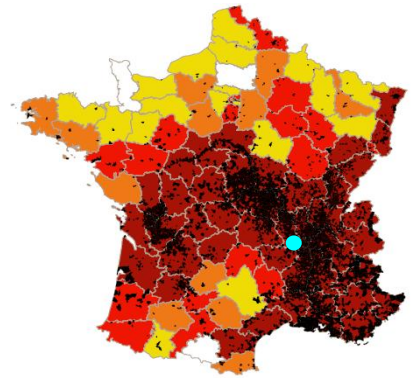
St Etienne - Seasonal Pollen Integral



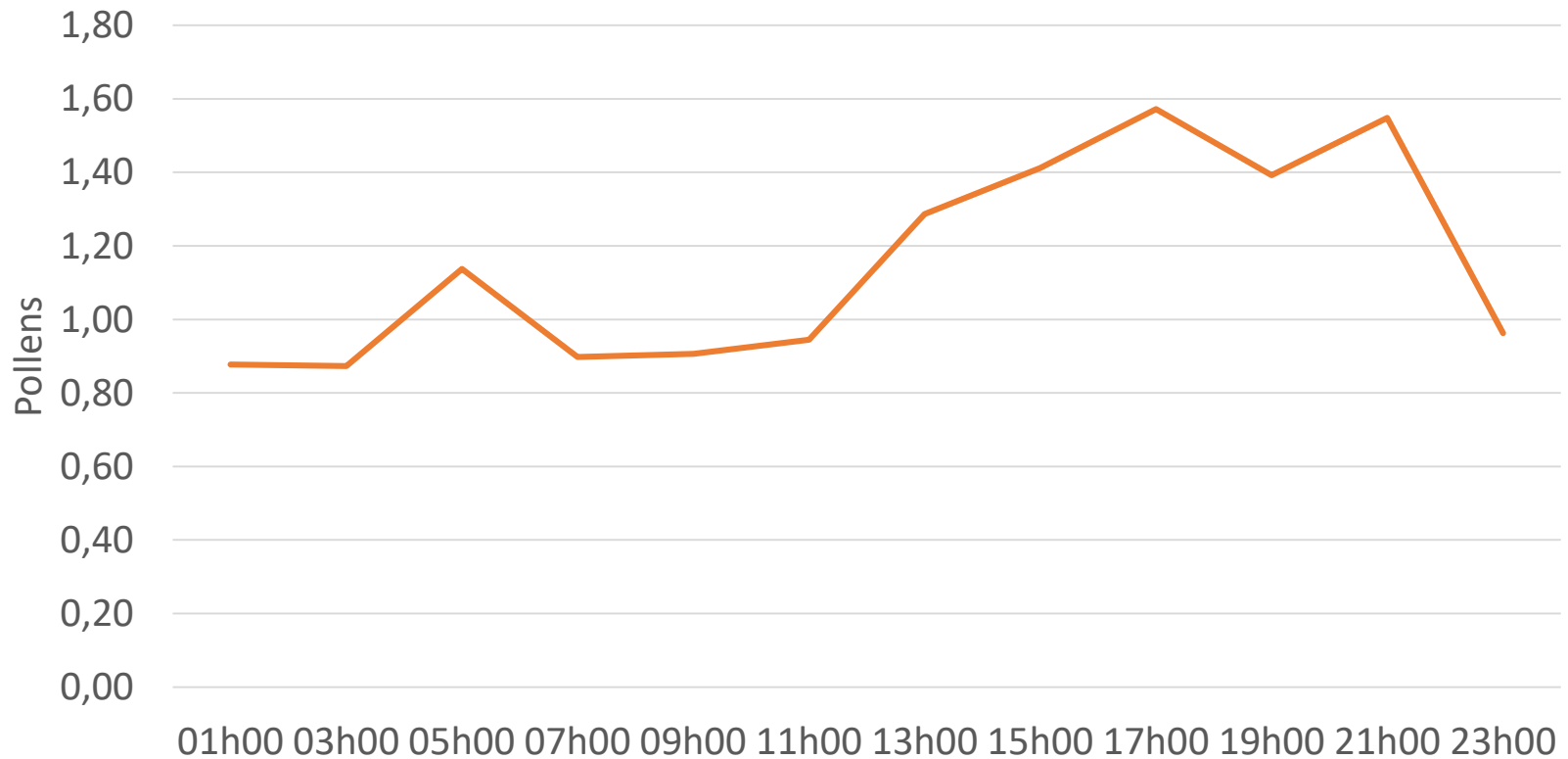
Saint-Etienne



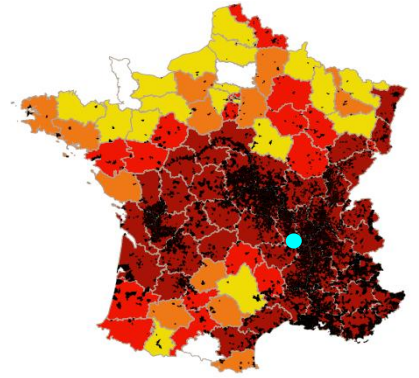
St Etienne - Bi-hourly data



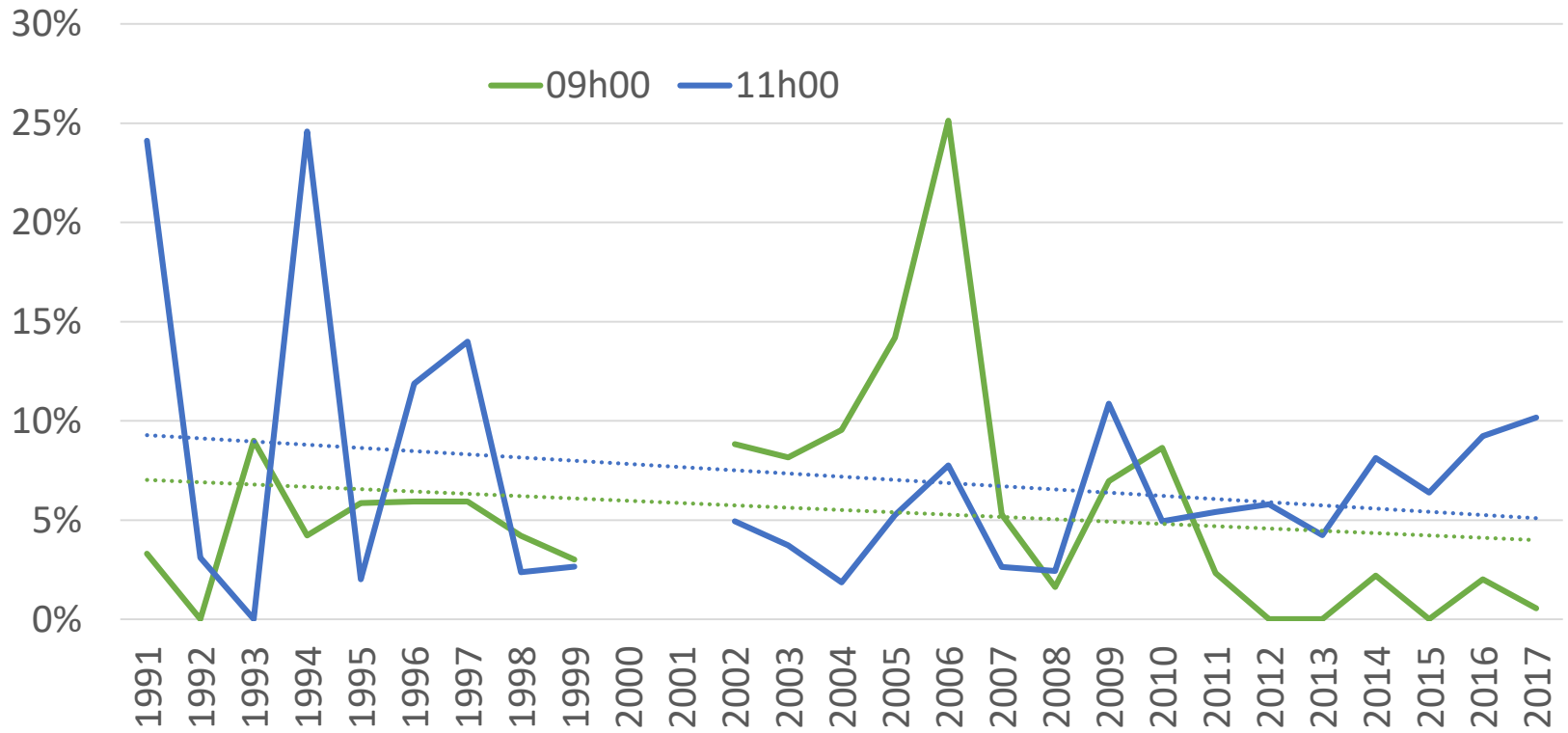
St Etienne - Average of Bi-Hourly data



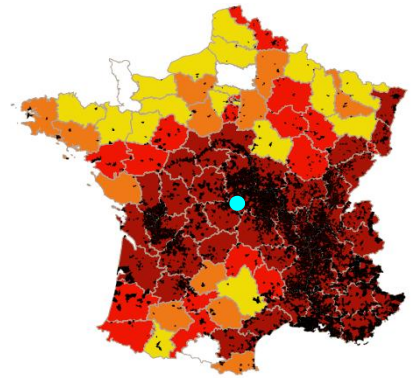
St Etienne - Bi-hourly data



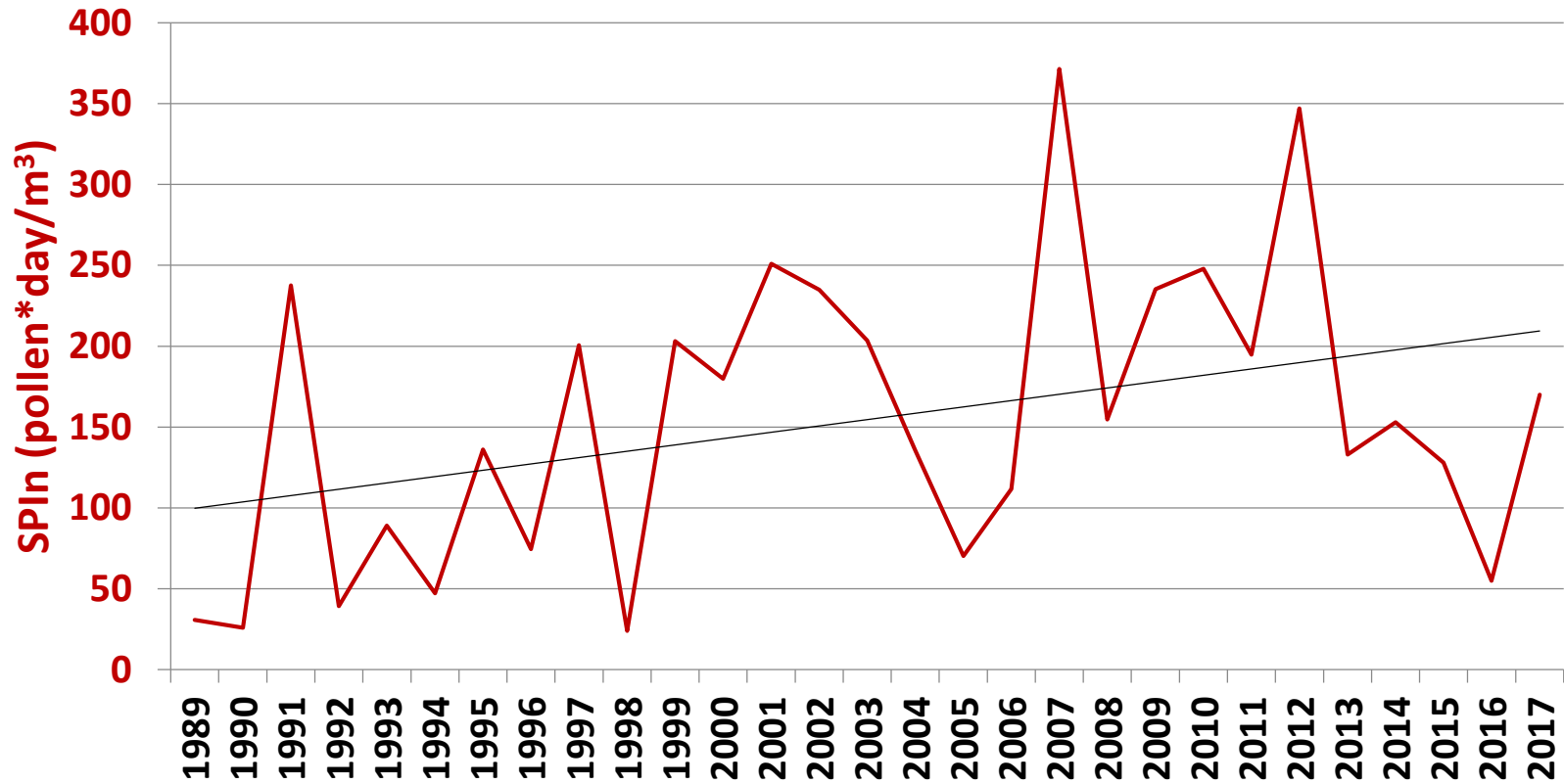
St Etienne - Percentage of pollen



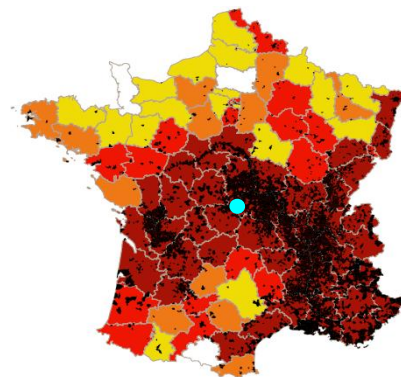
Montluçon - Seasonal Pollen Integral



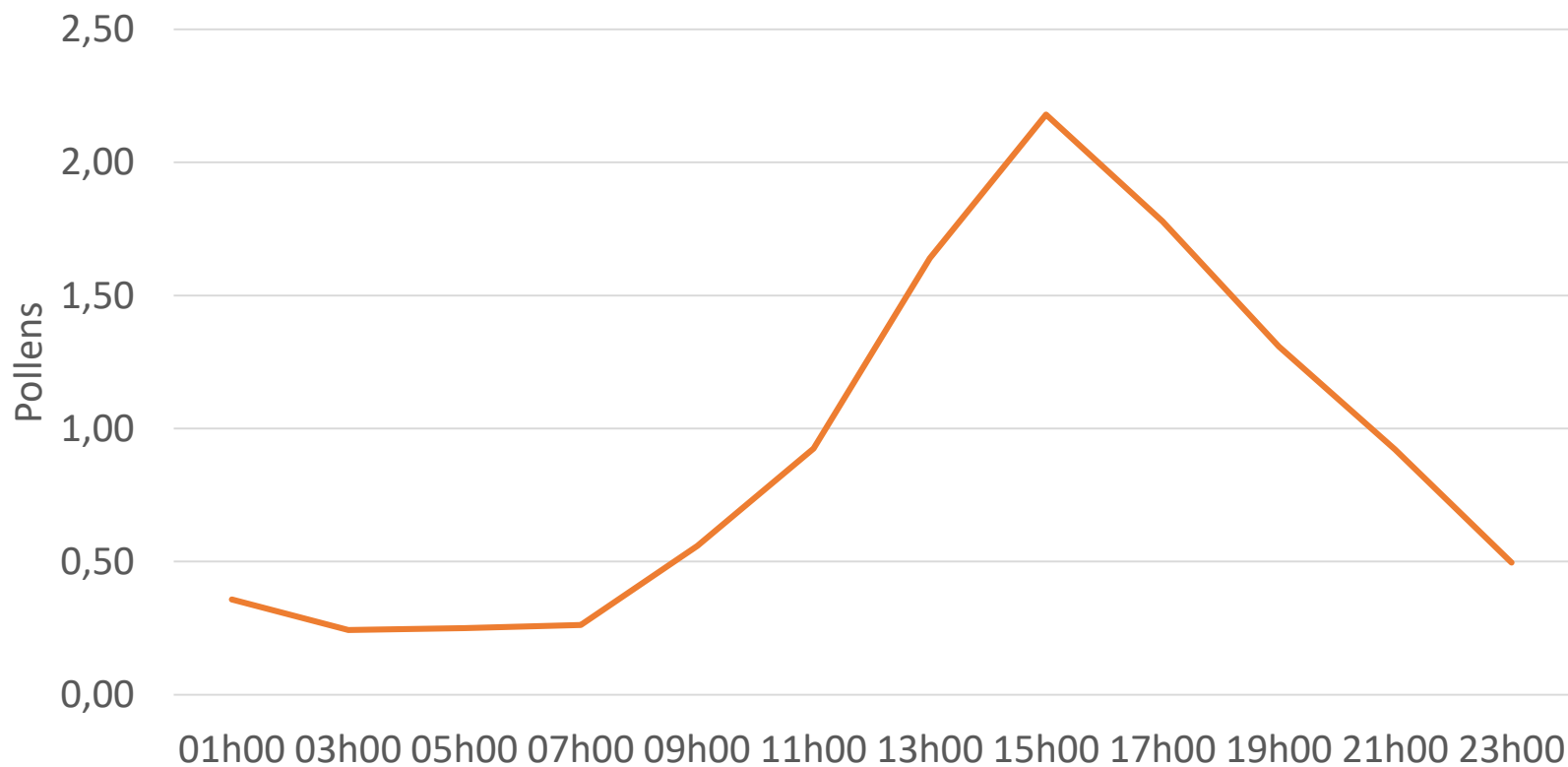
Montluçon



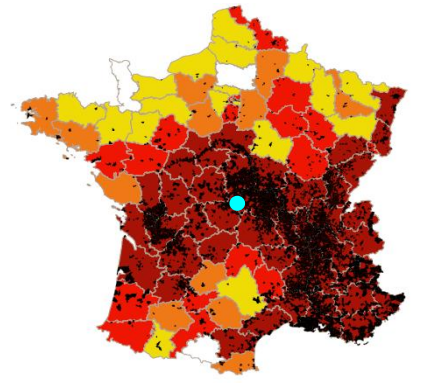
Montluçon - Bi-hourly data



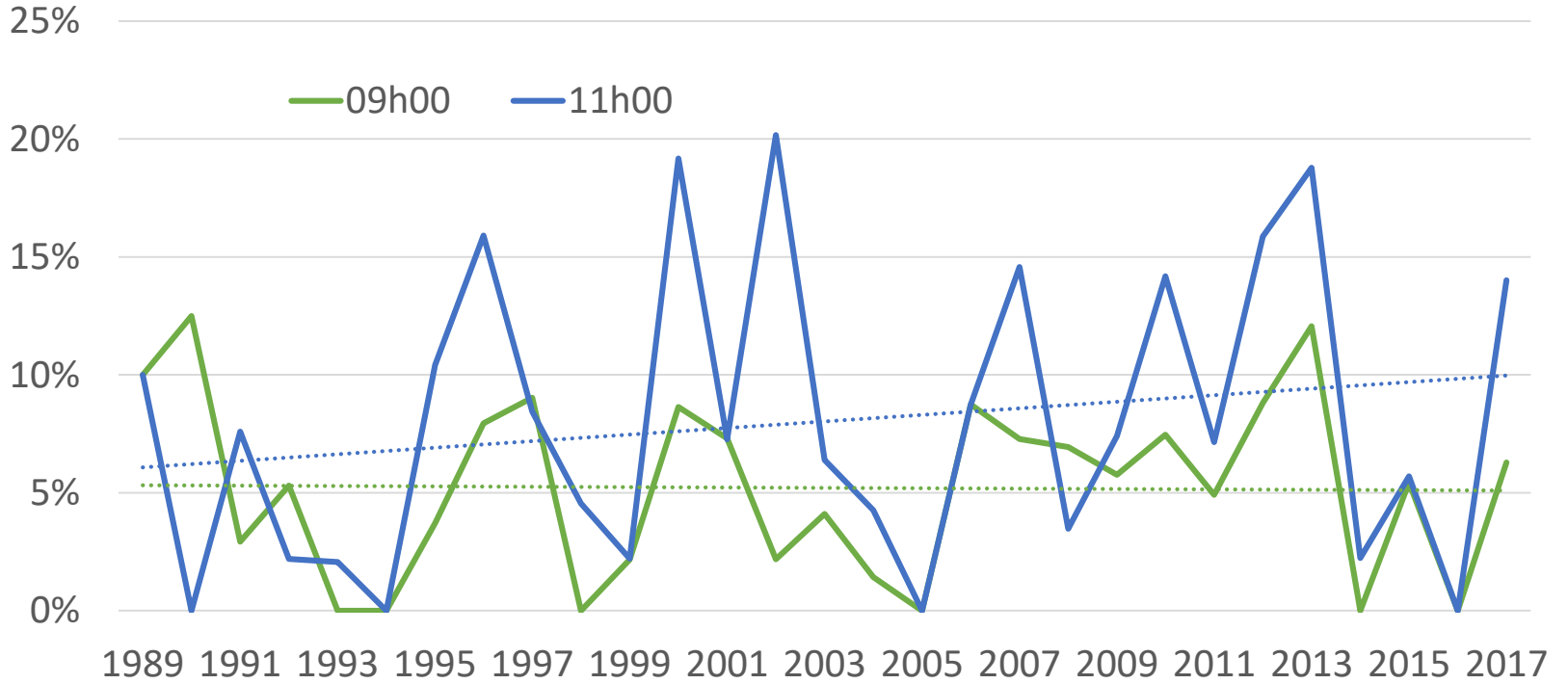
Montluçon - Average of Bi-Hourly data



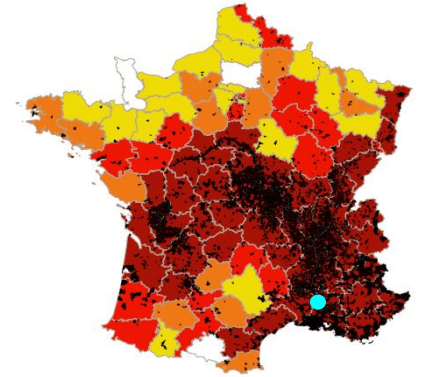
Montluçon - Bi-hourly data



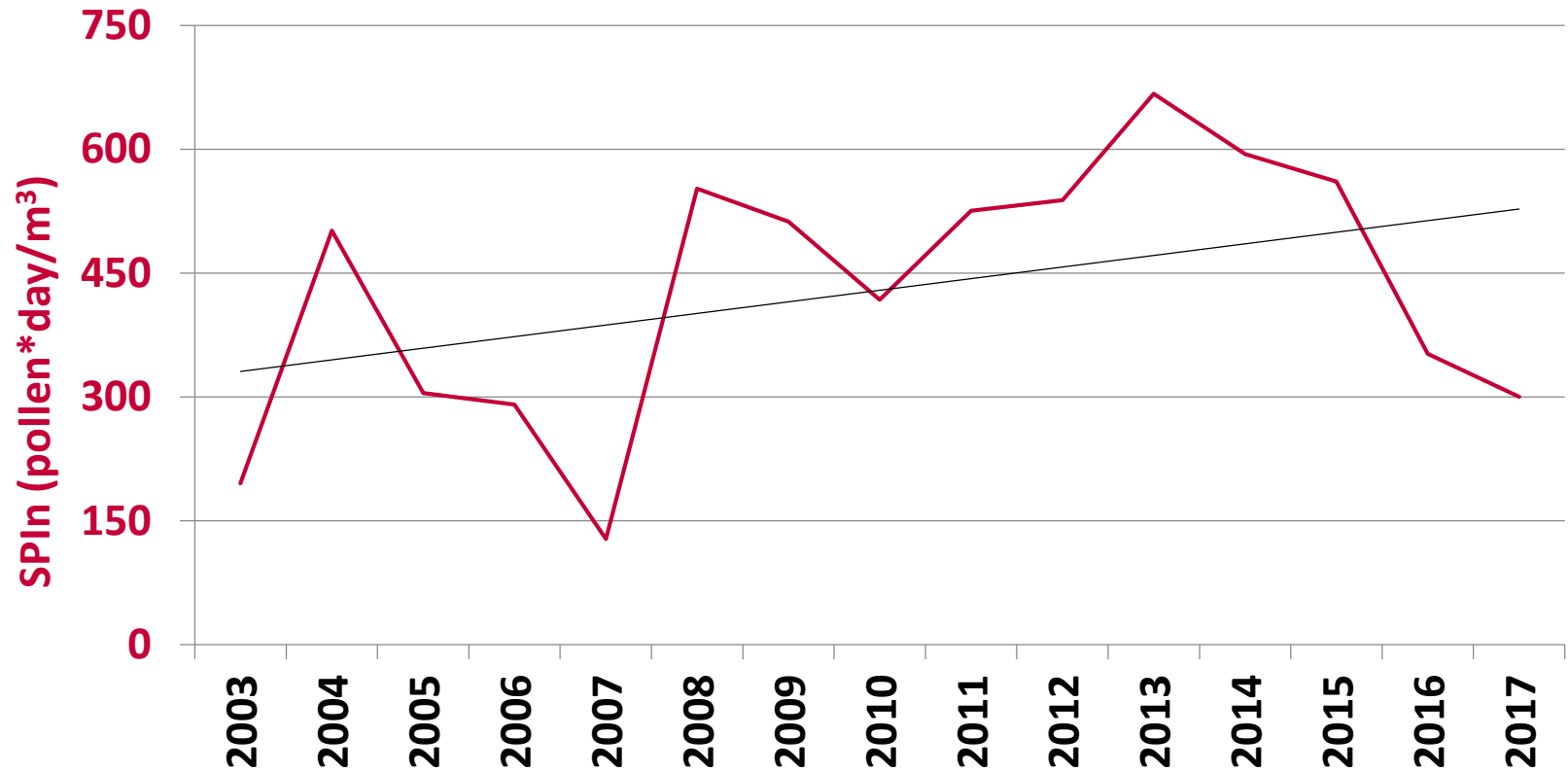
Montluçon - Percentage of pollen



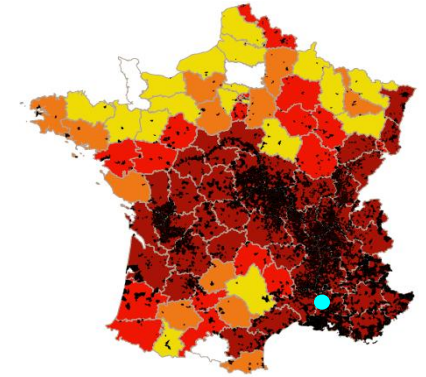
Avignon - Seasonal Pollen Integral



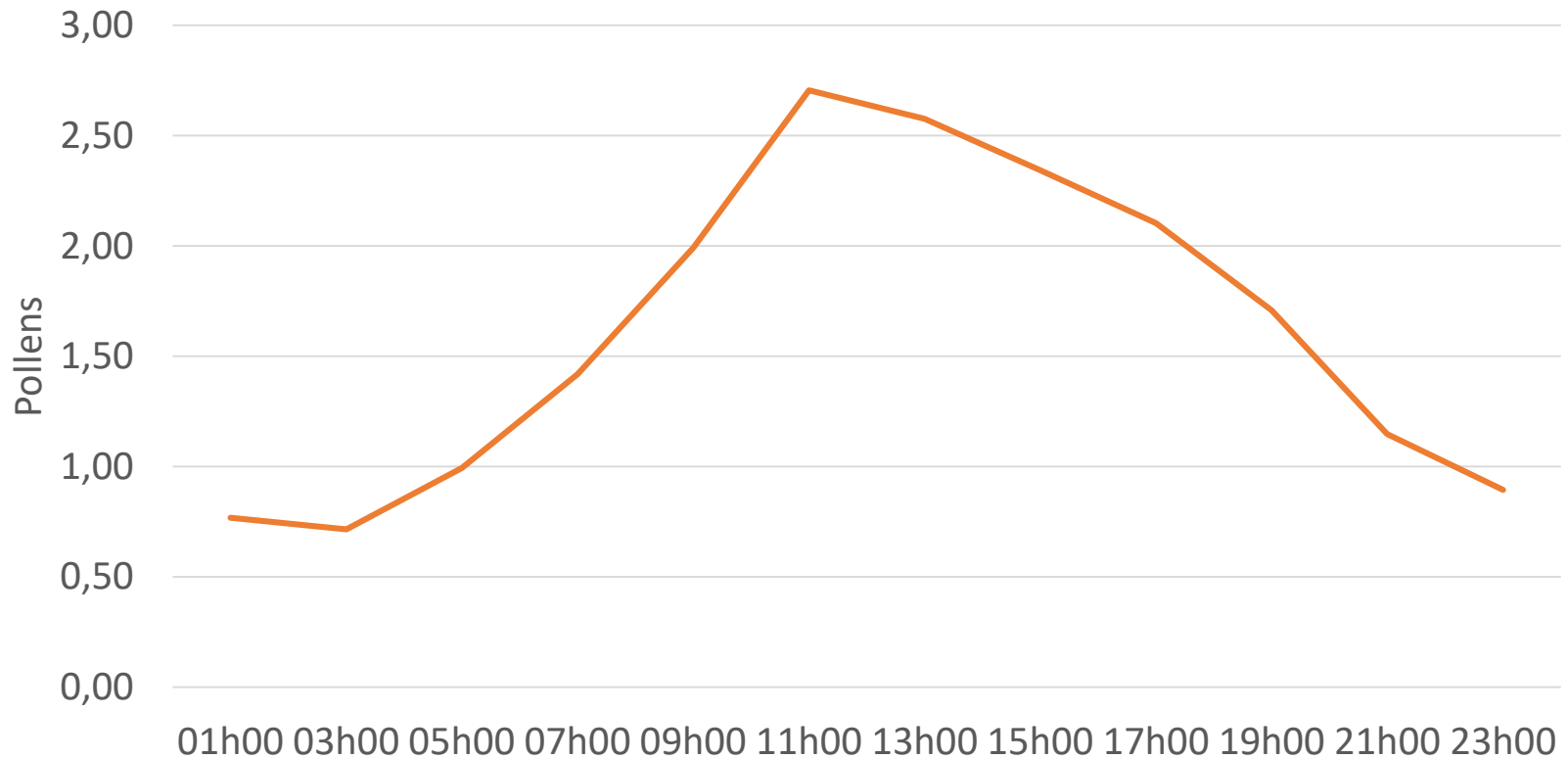
Avignon



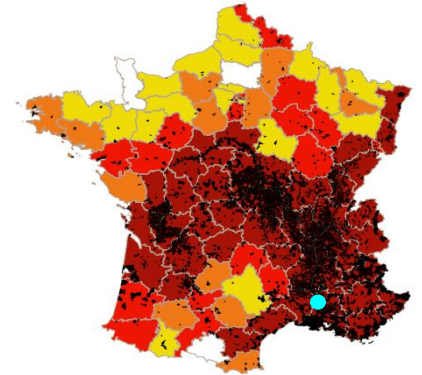
Avignon - Bi-hourly data



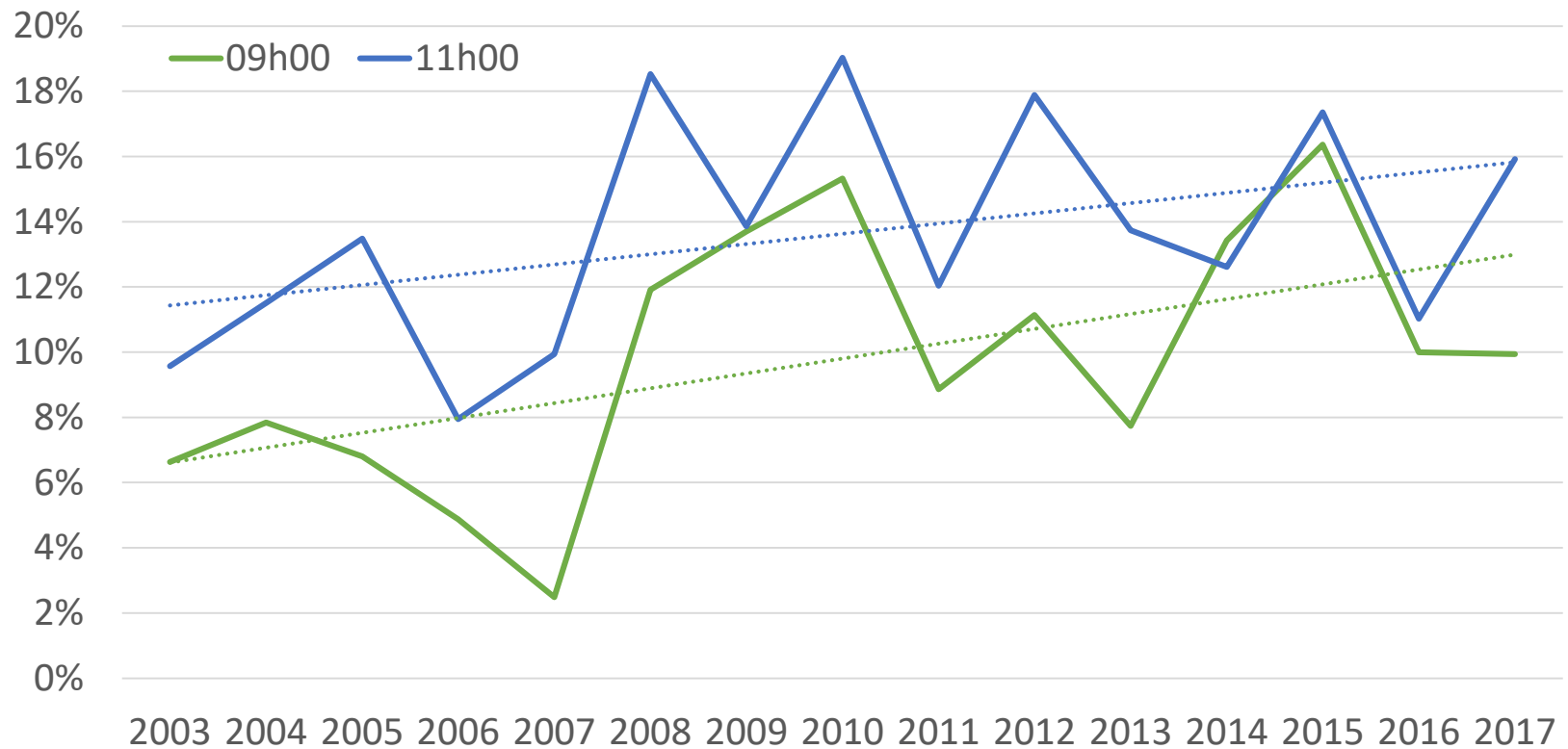
Avignon - Average of Bi-Hourly data



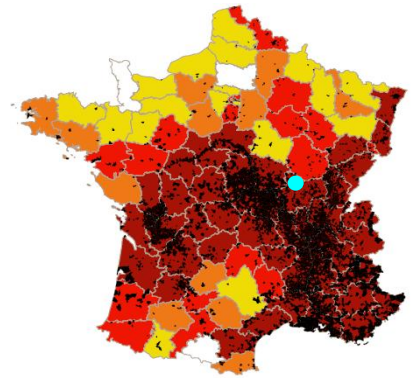
Avignon - Bi-hourly data



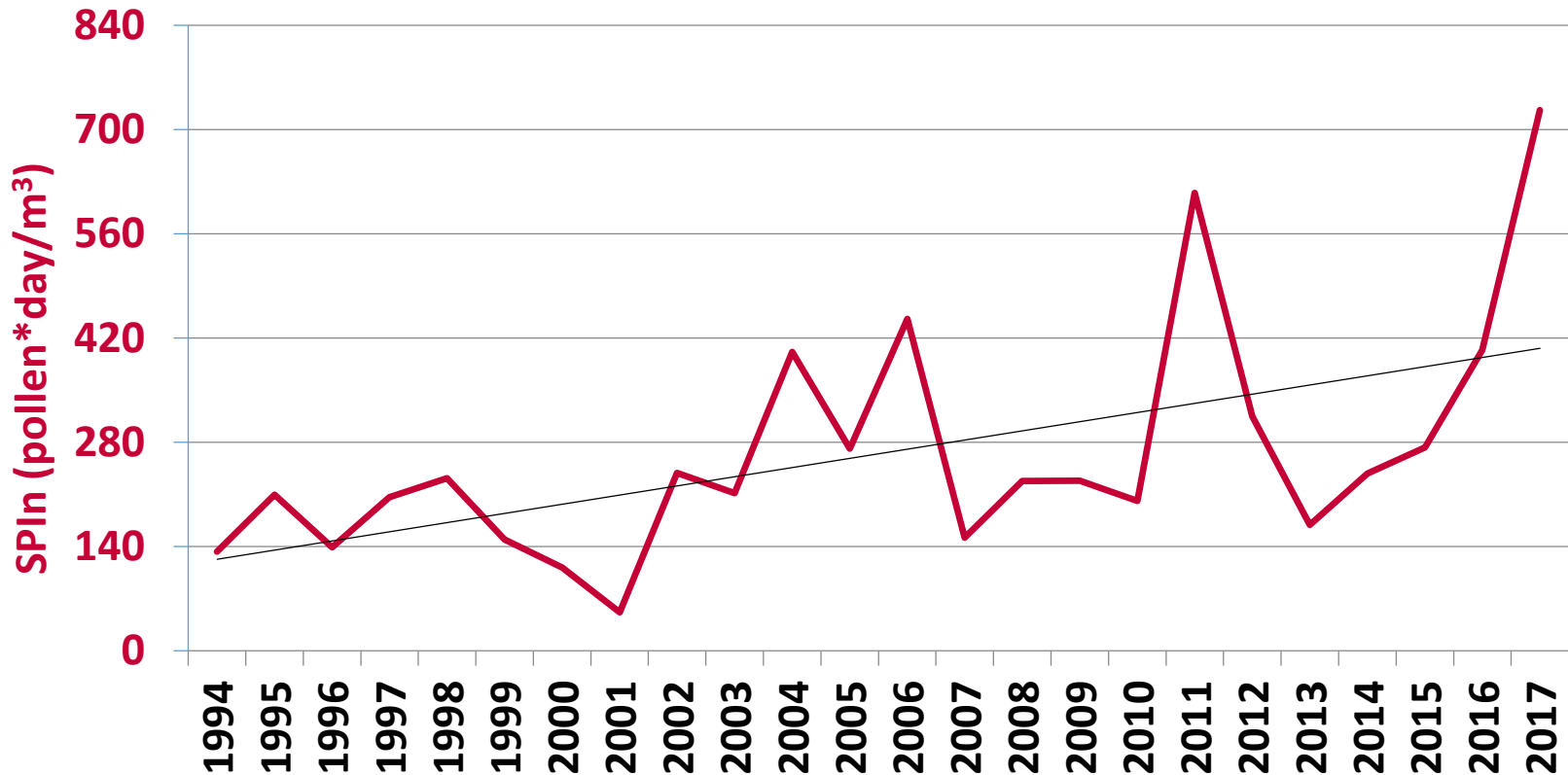
Avignon - Percentage of pollen



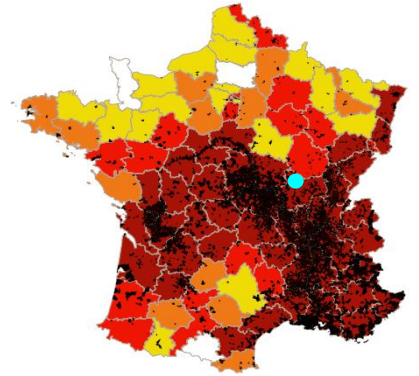
Chalon - Seasonal Pollen Integral



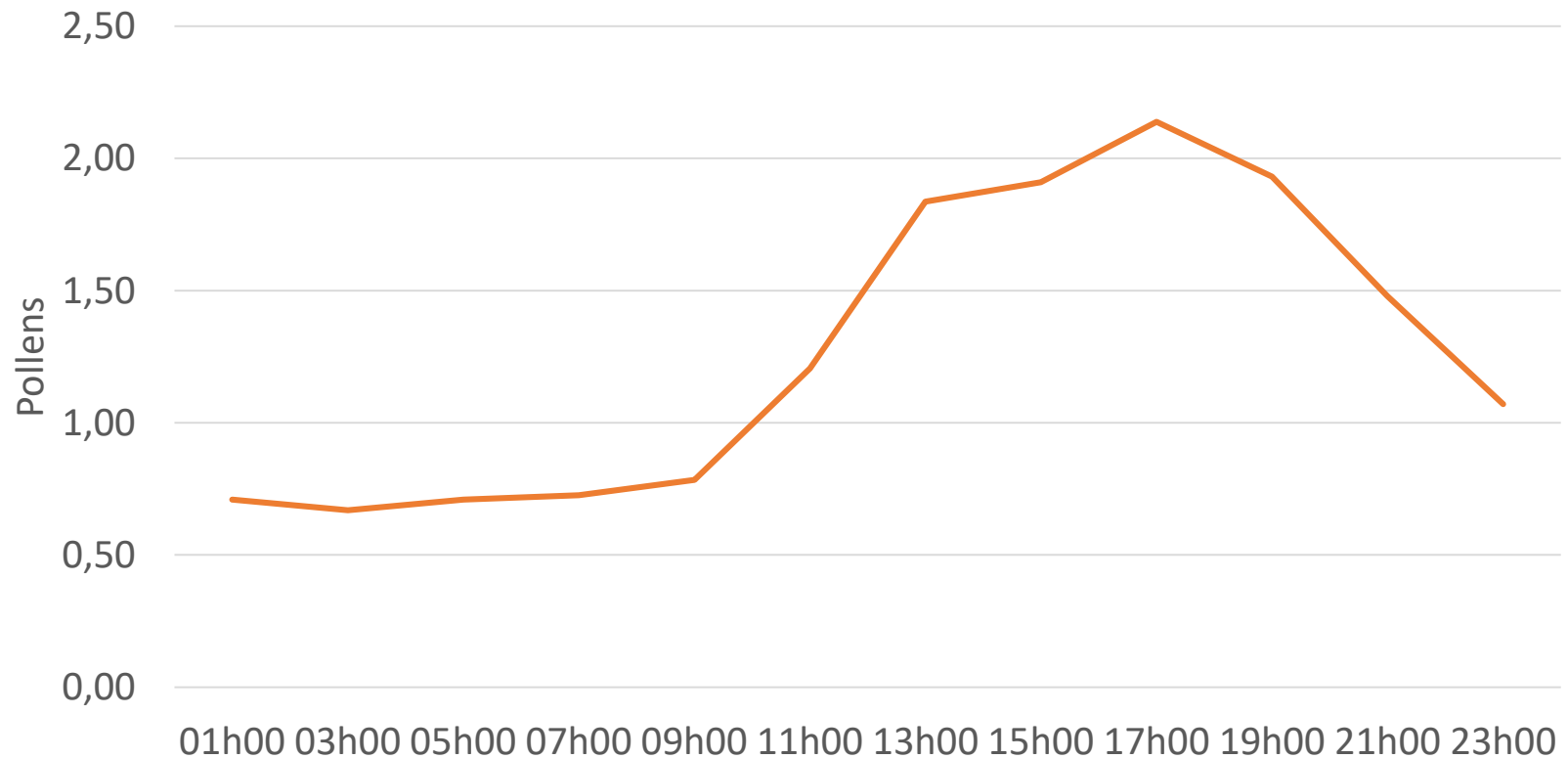
Chalon-sur-Saône



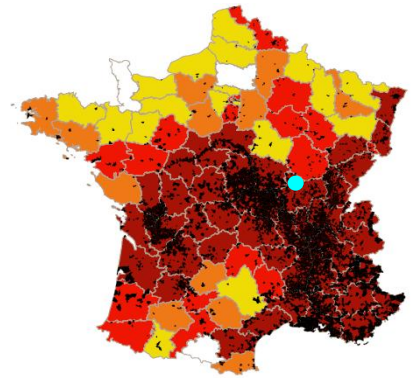
Chalon - Bi-hourly data



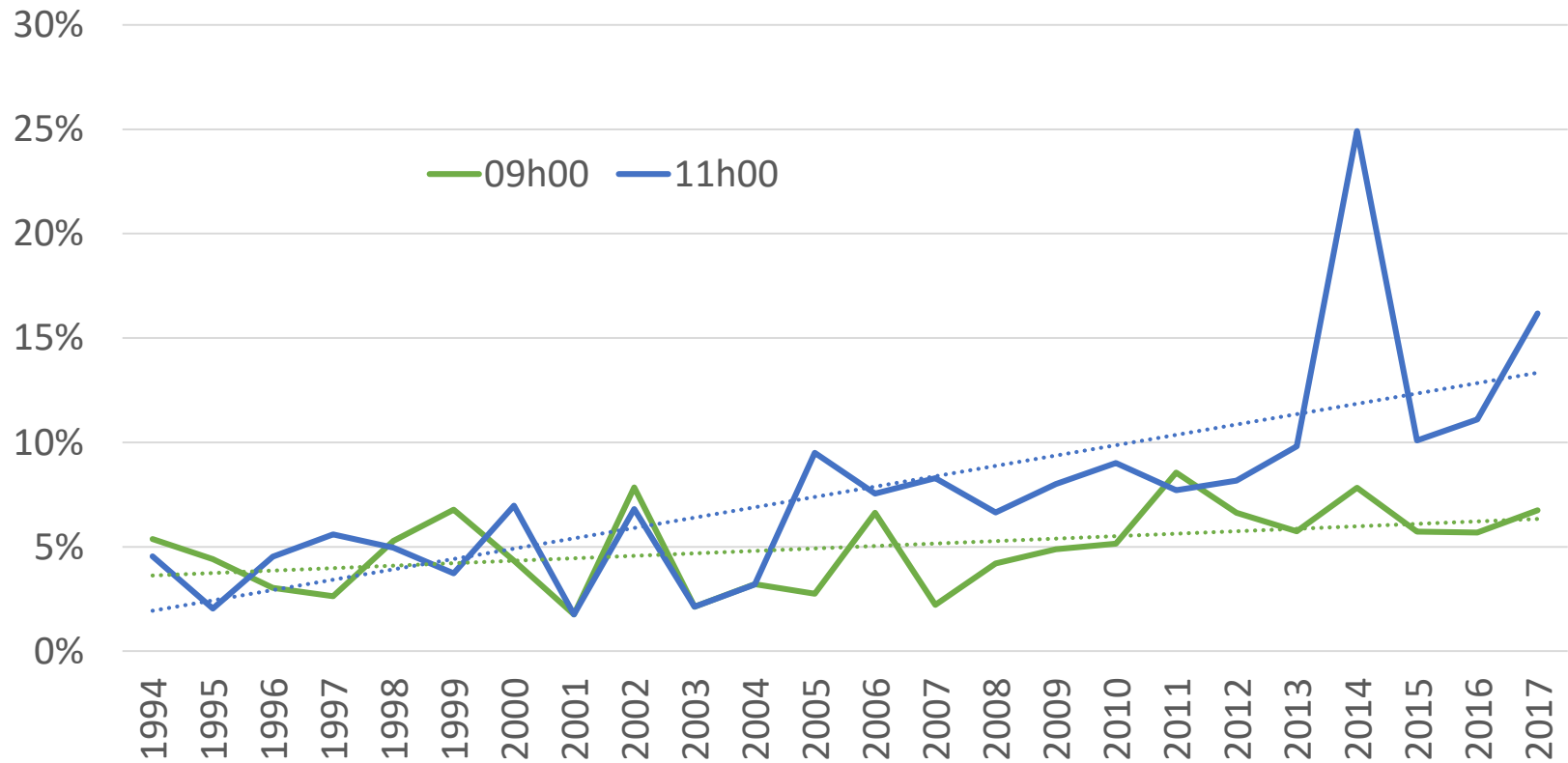
Chalon - Average of Bi-Hourly data



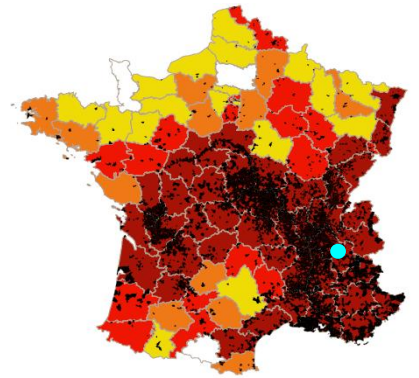
Chalon - Bi-hourly data



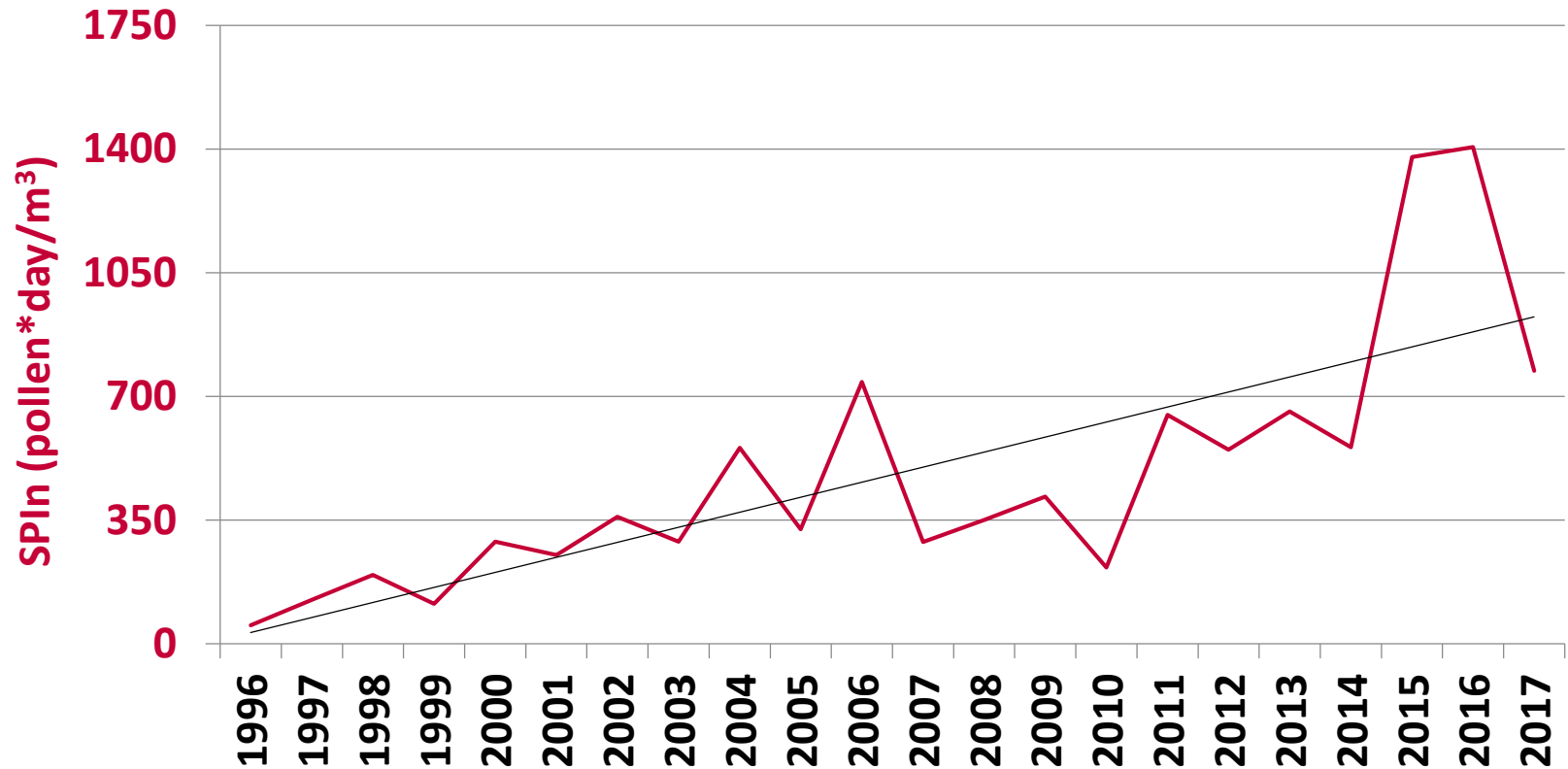
Chalon - Percentage of pollen



Grenoble - Seasonal Pollen Integral



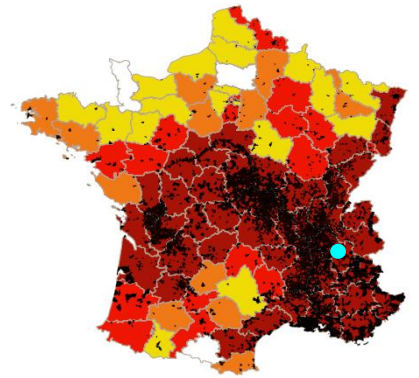
Grenoble



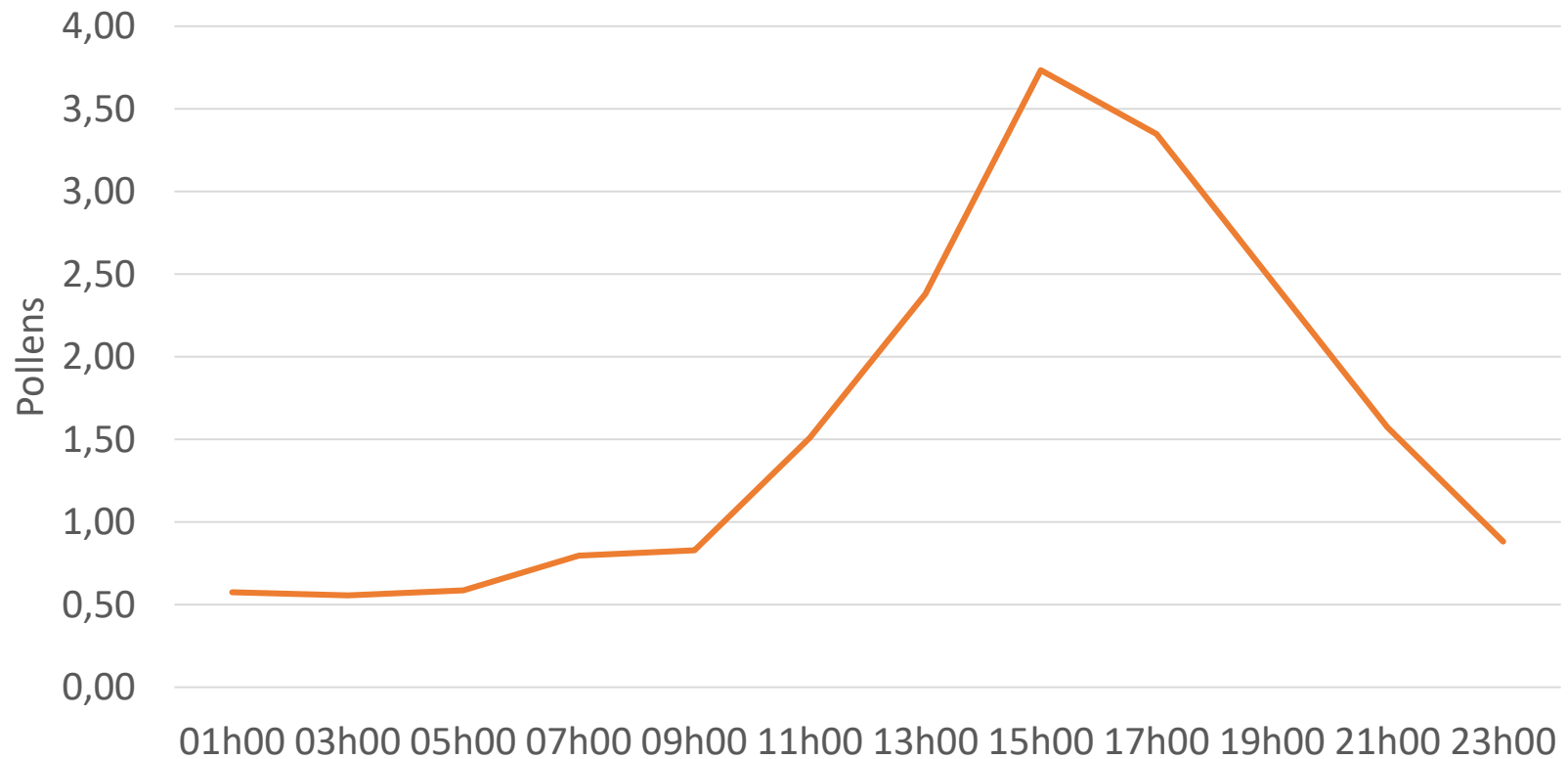
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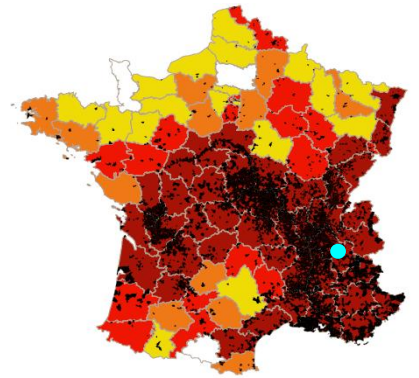
Grenoble - Bi-hourly data



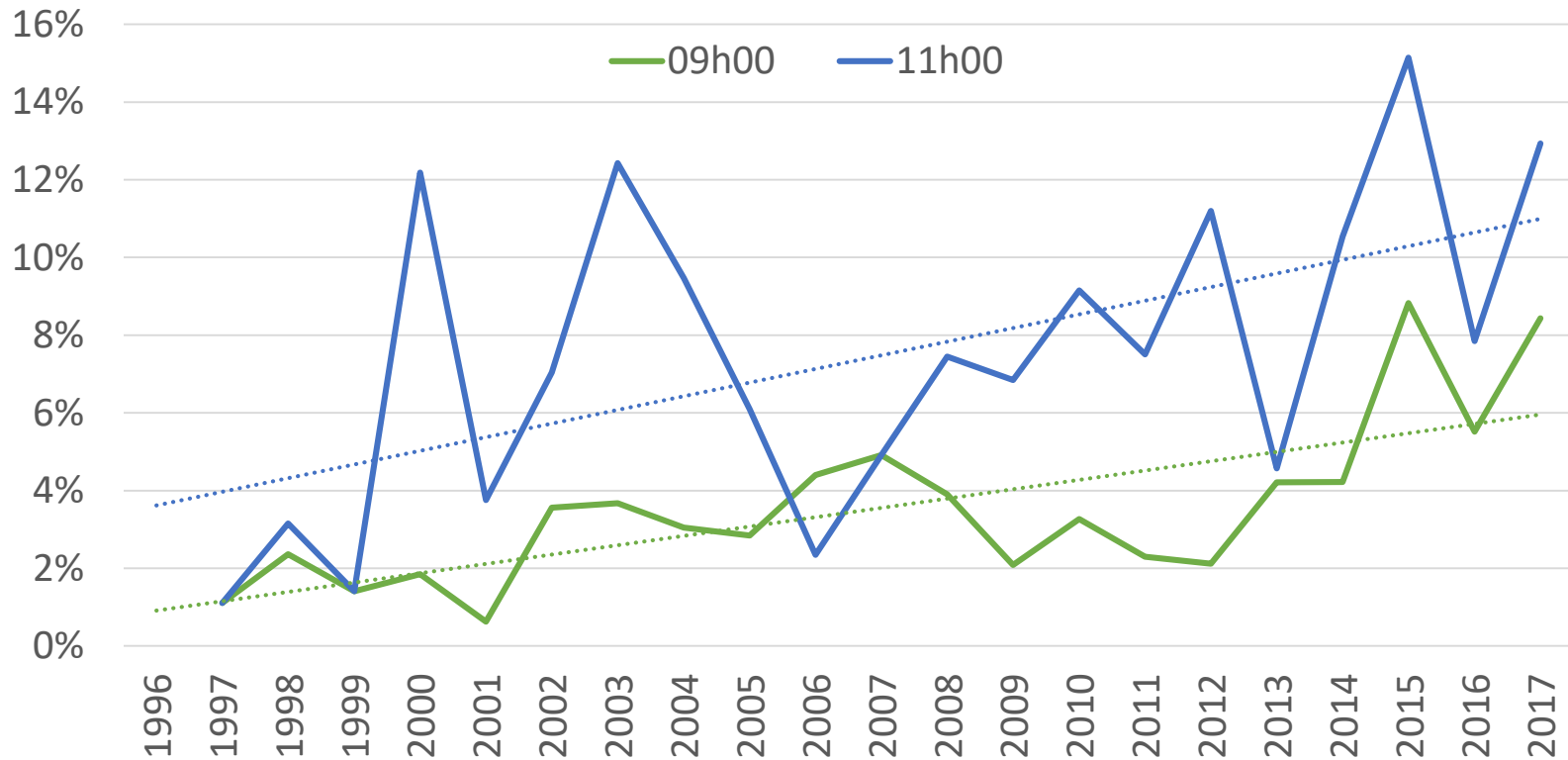
Grenoble - Average of Bi-Hourly data



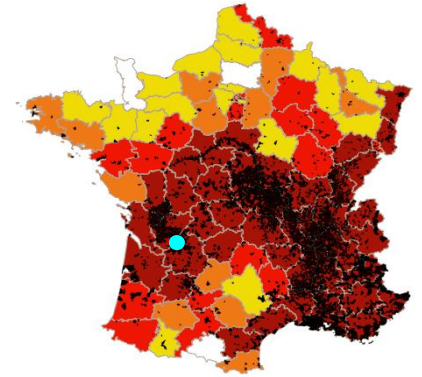
Grenoble - Bi-hourly data



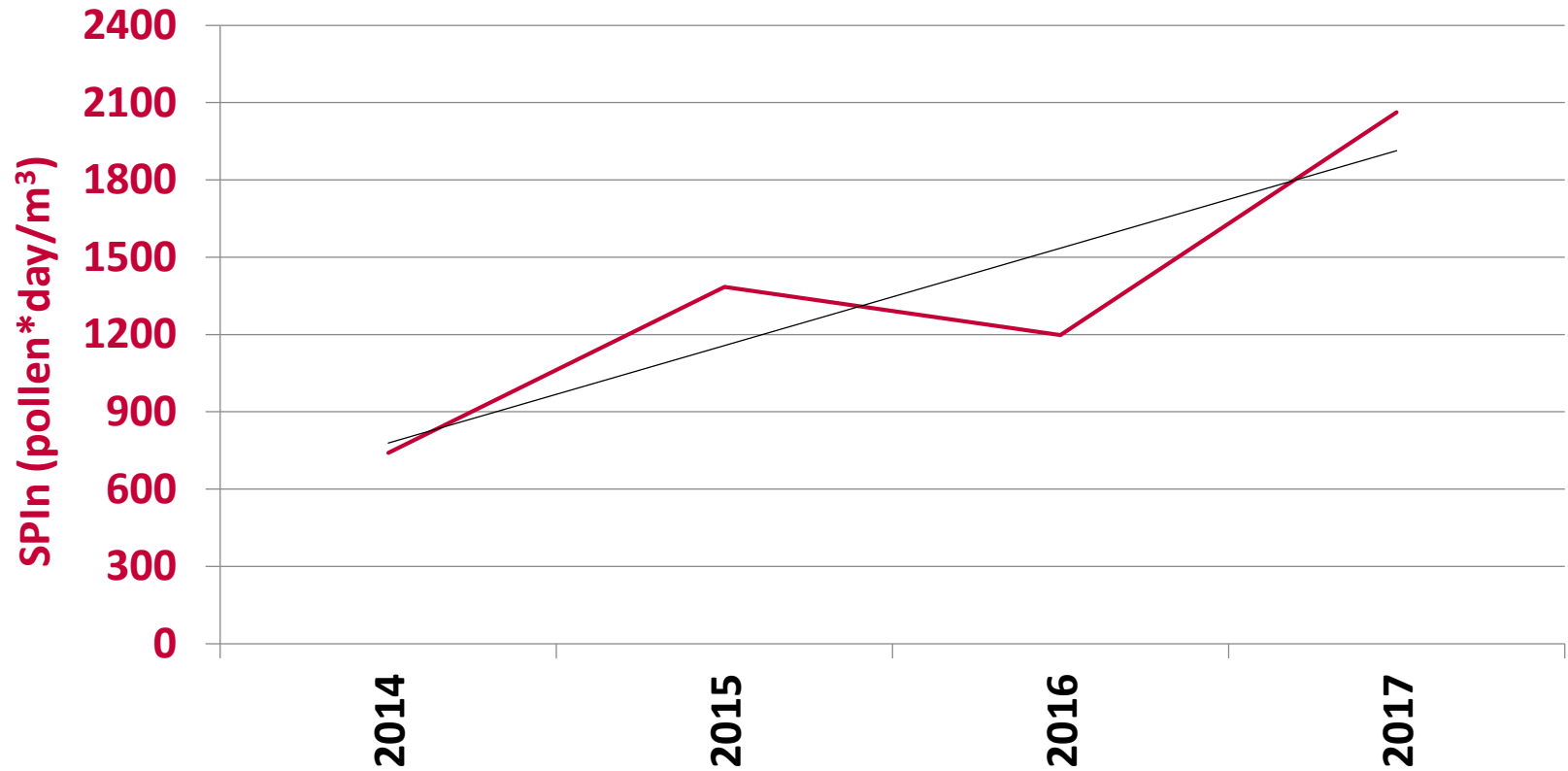
Grenoble - Percentage of pollen



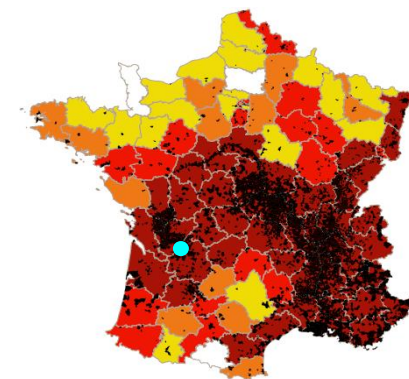
Mareuil - Seasonal Pollen Integral



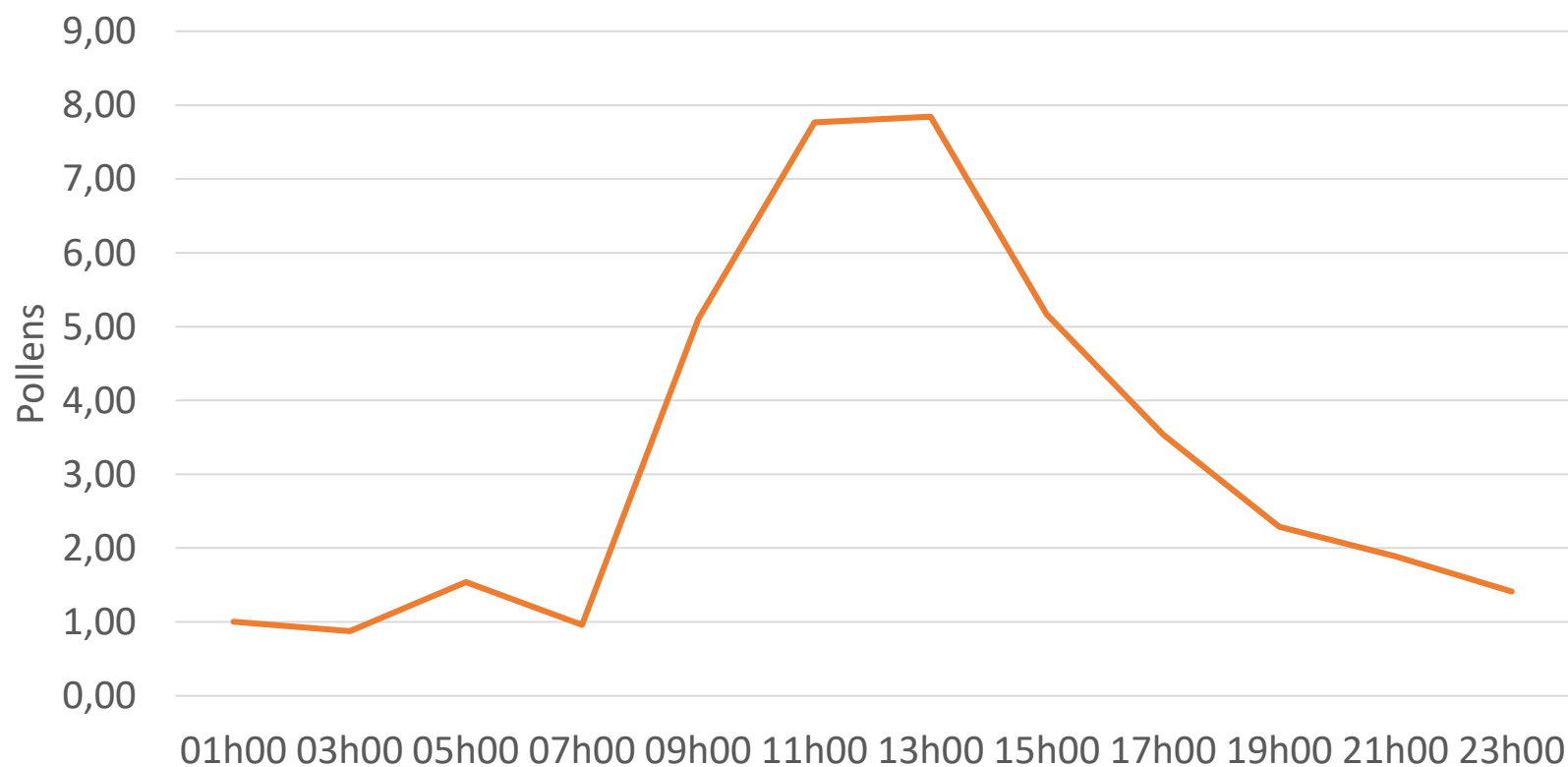
Mareuil



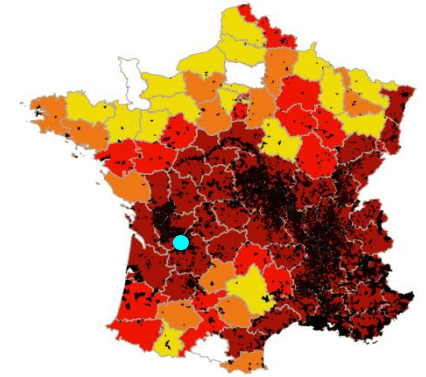
Mareuil – Bi-hourly data



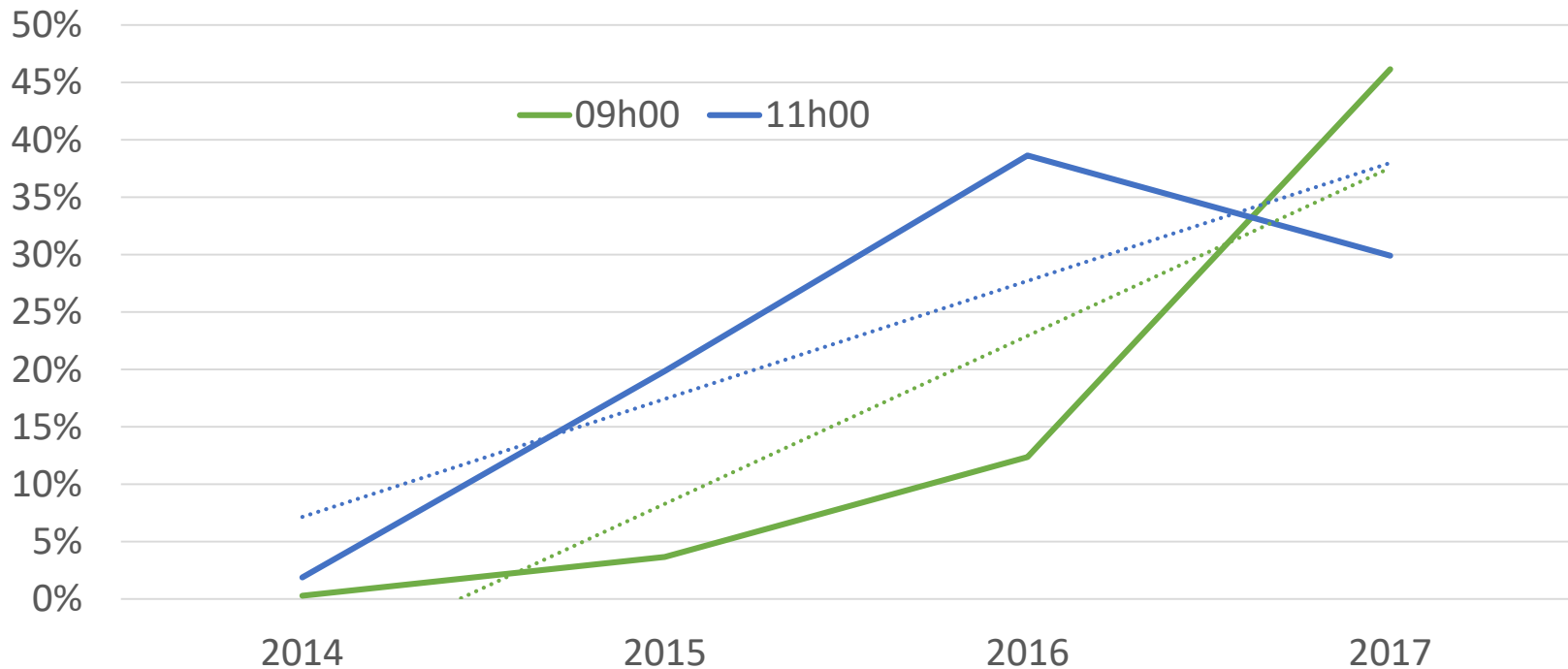
Mareuil - Average of Bi-Hourly data



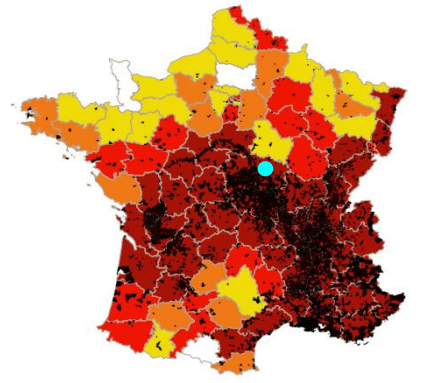
Mareuil – Bi-hourly data



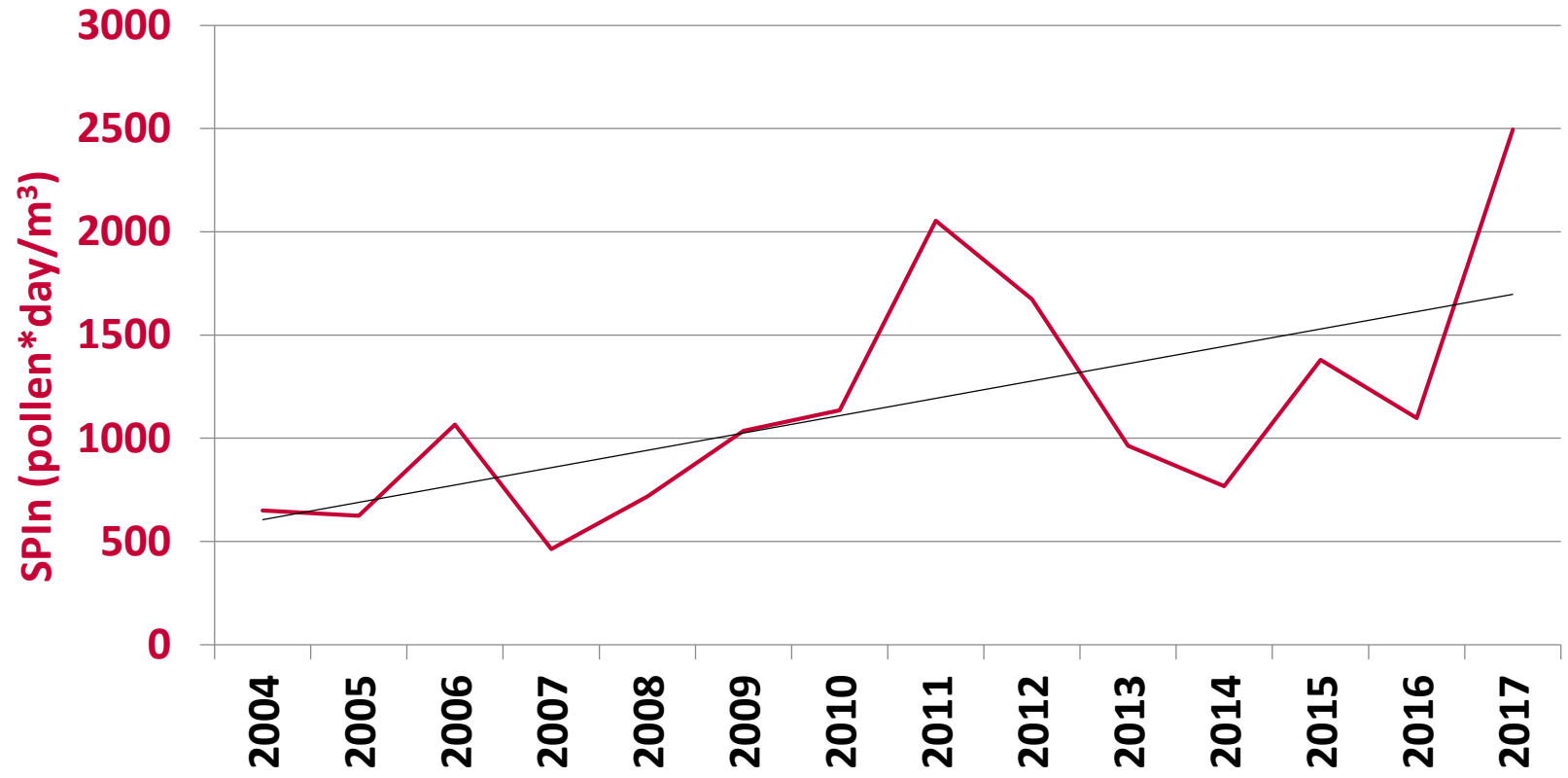
Mareuil - Percentage of pollen



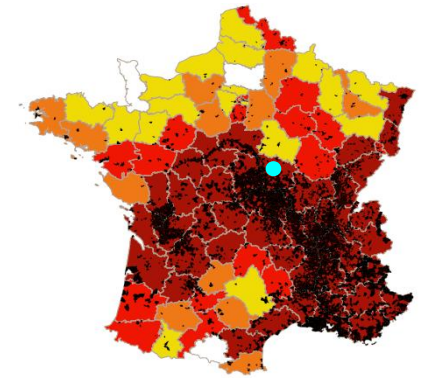
Nevers - Seasonal Pollen Integral



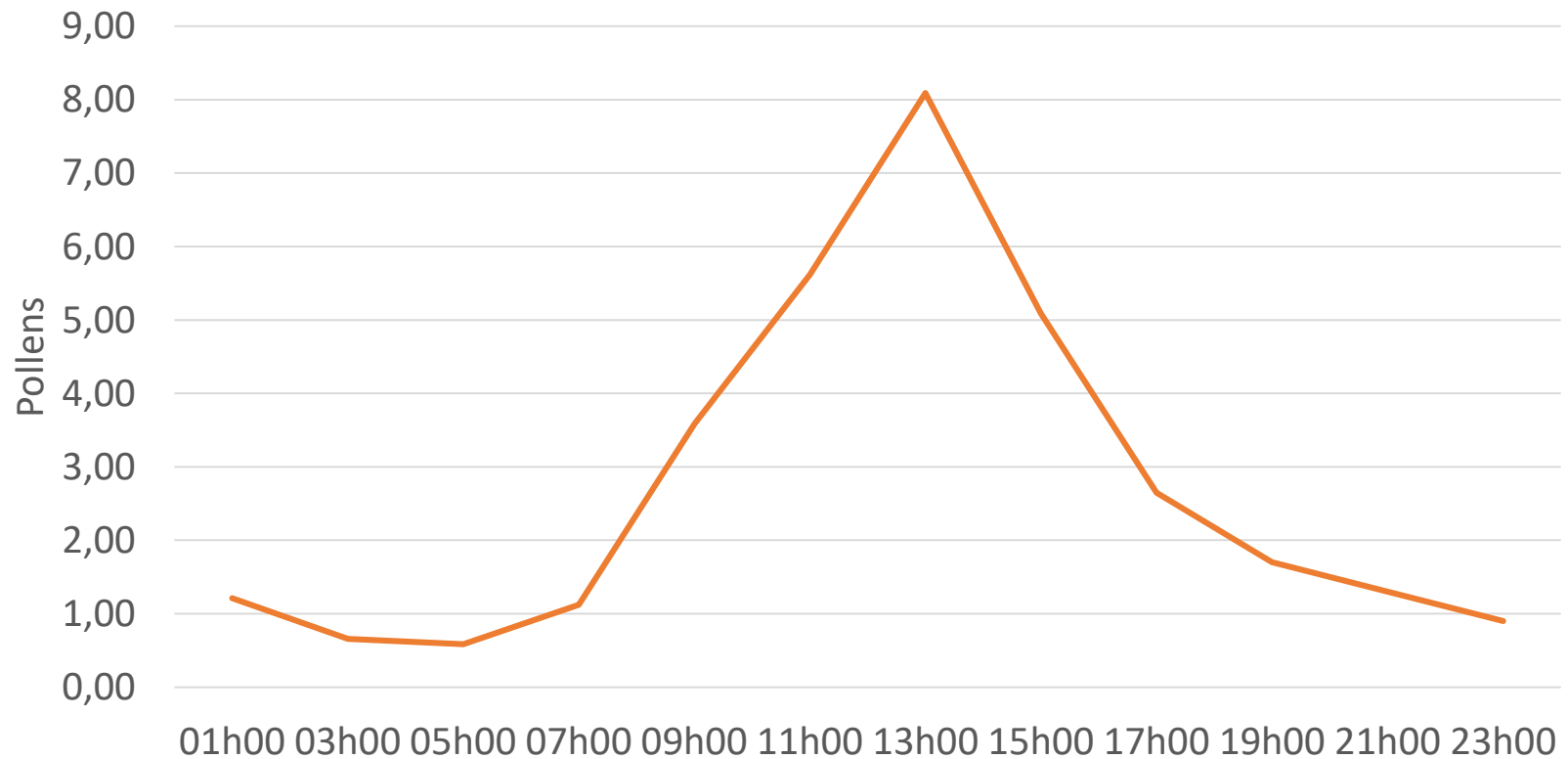
Nevers



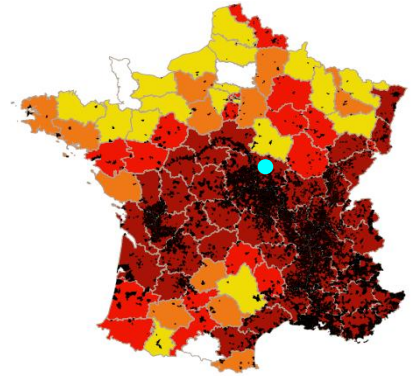
Nevers - Bi-hourly data



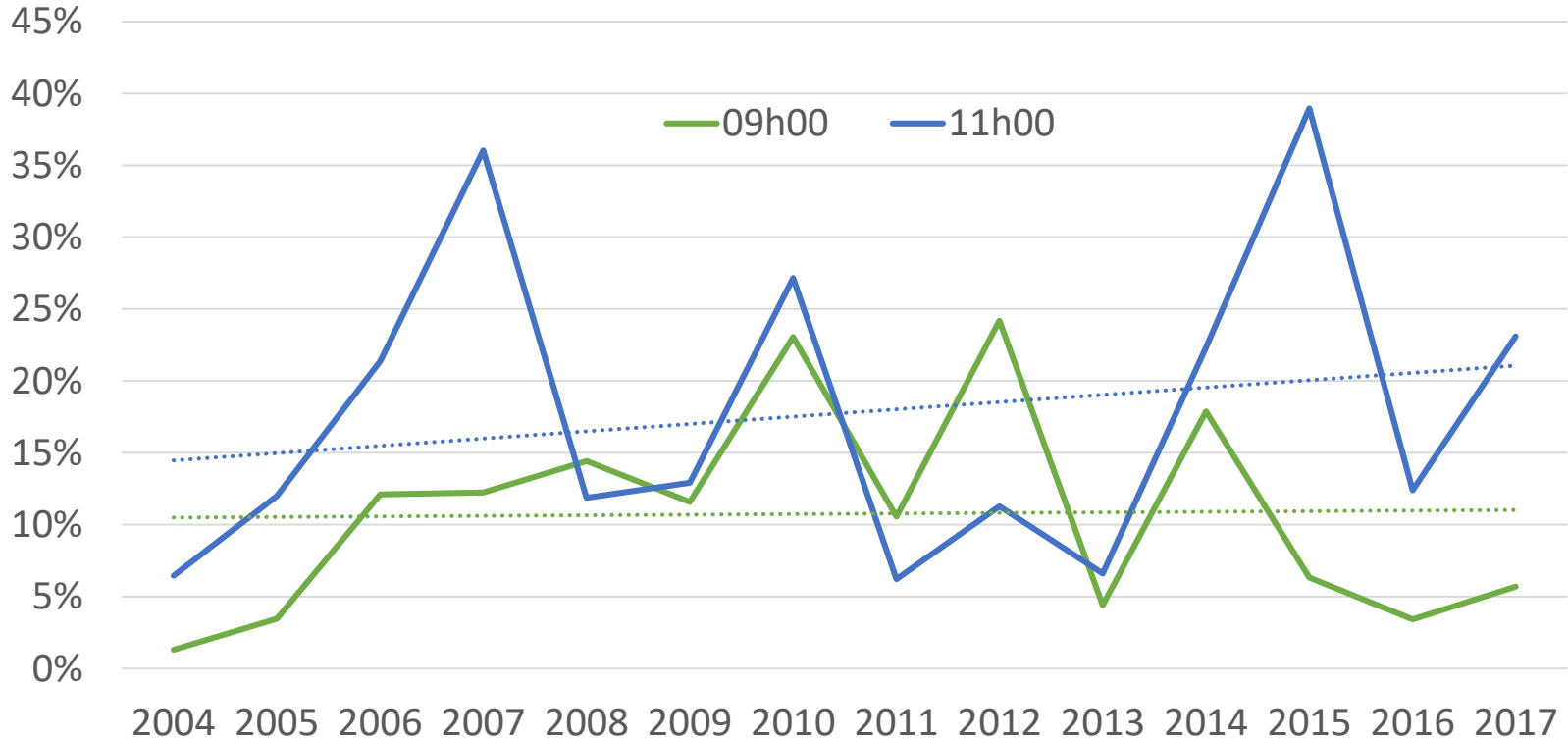
Nevers - Average of Bi-Hourly data



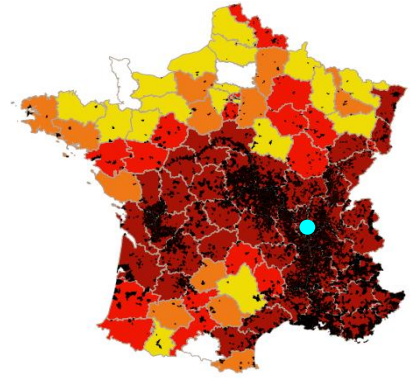
Nevers - Bi-hourly data



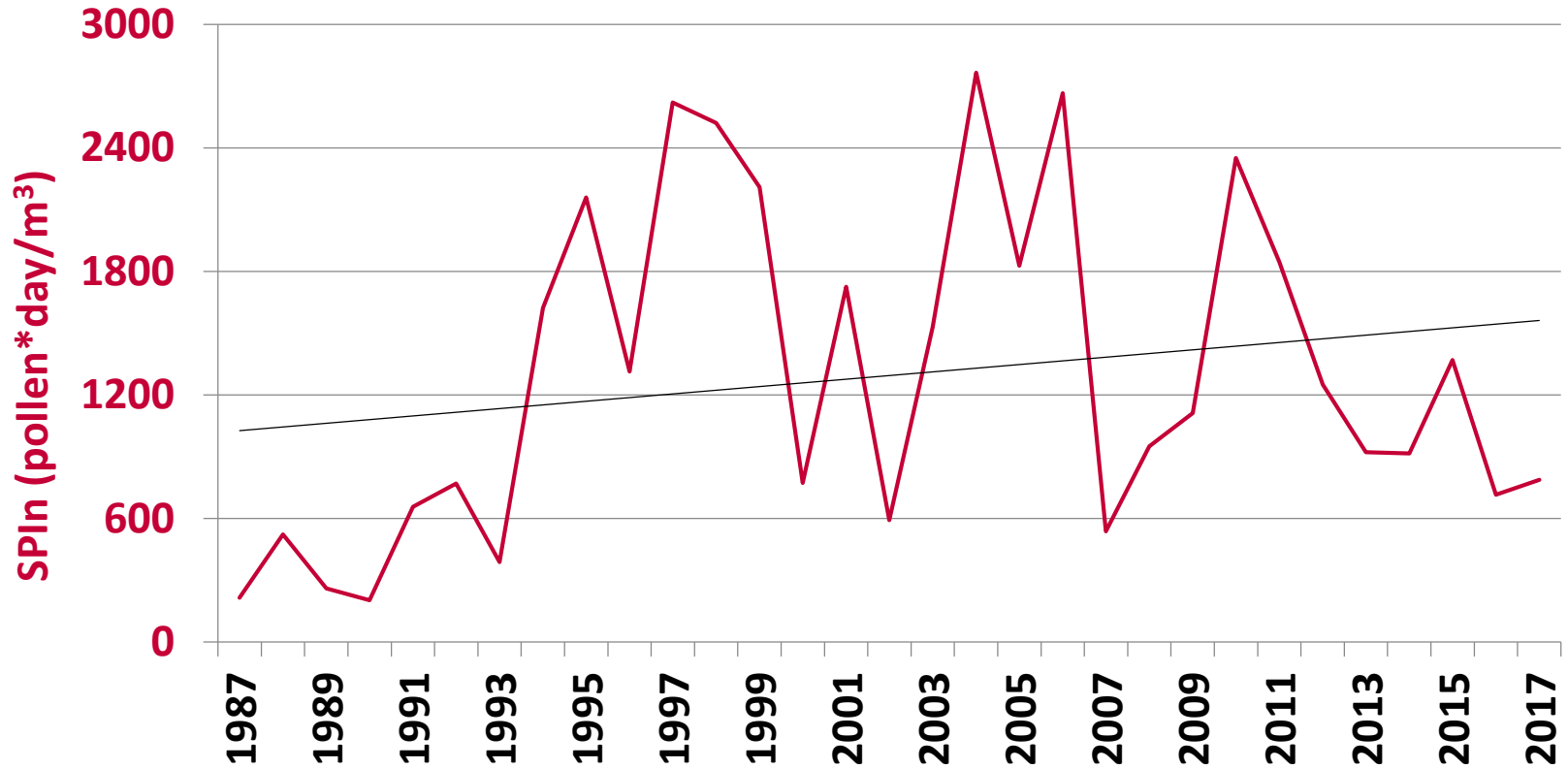
Nevers - Percentage of pollen



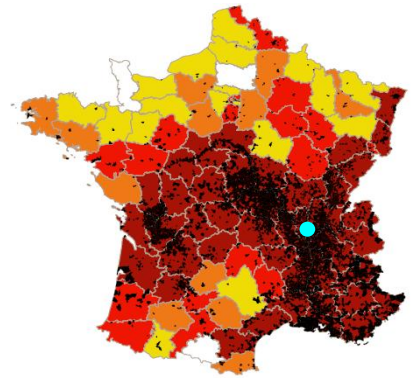
Lyon - Seasonal Pollen Integral



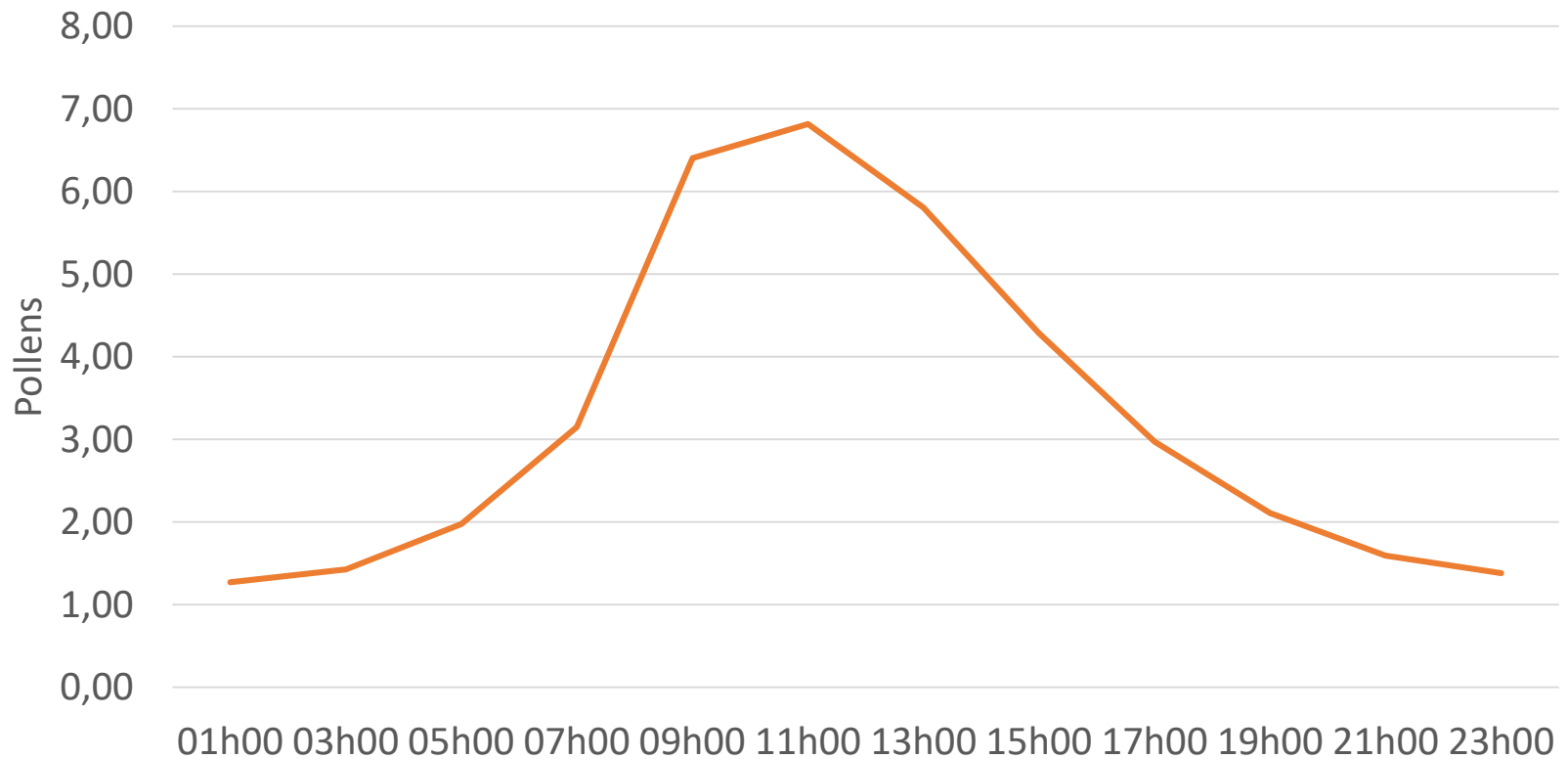
Lyon



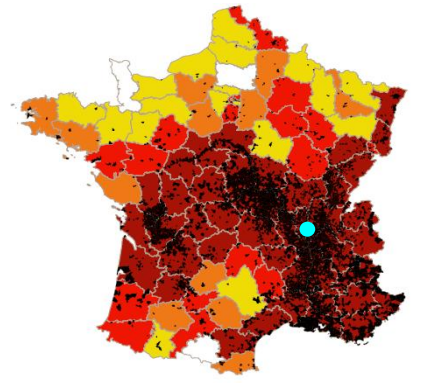
Lyon - Bi-hourly data



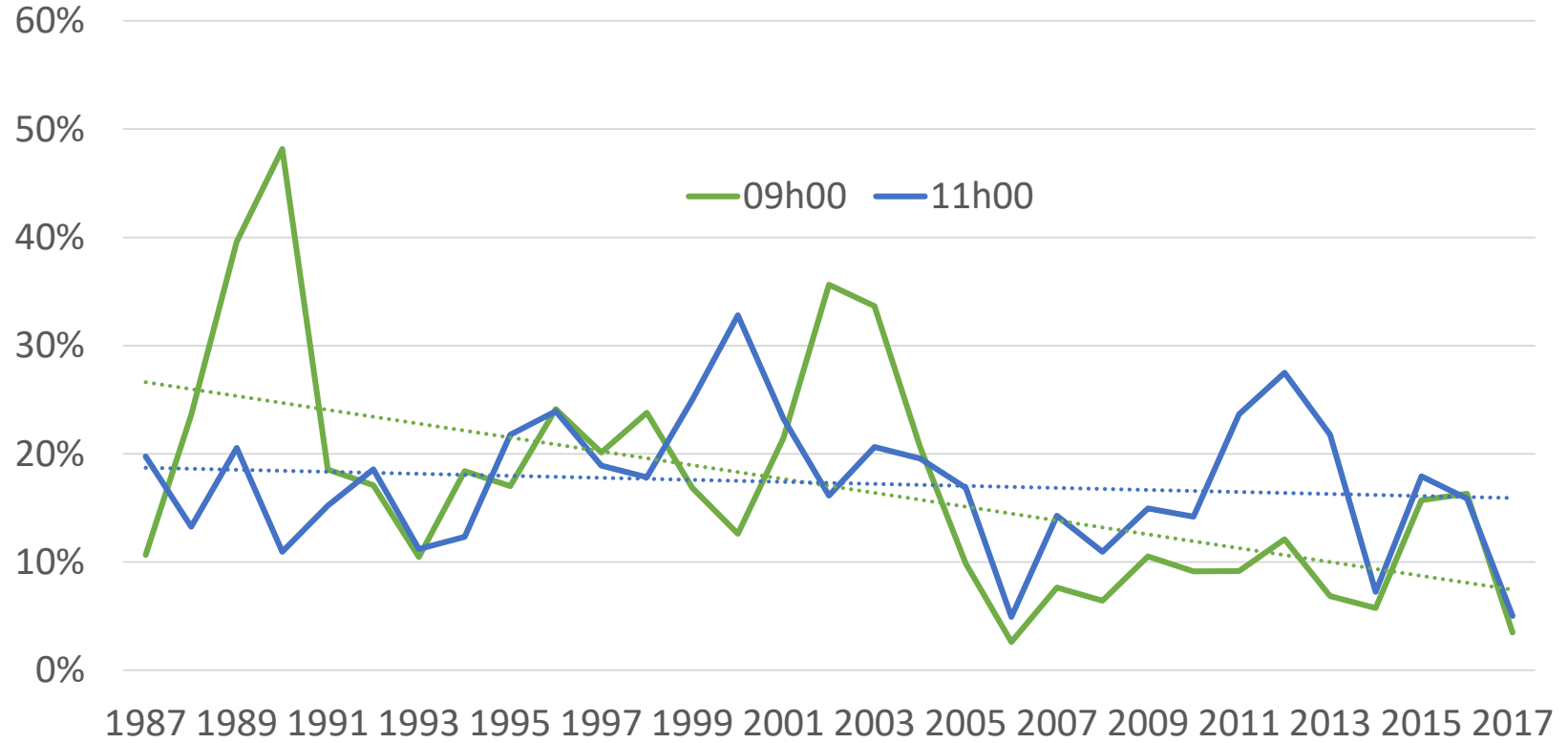
Lyon - Average of Bi-Hourly data



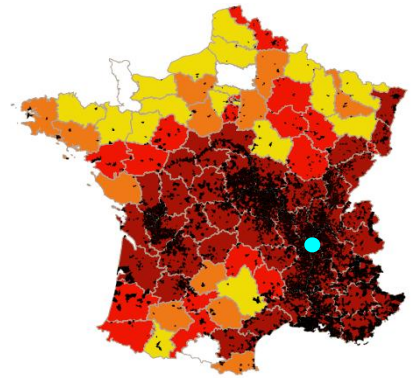
Lyon - Bi-hourly data



Lyon - Percentage of pollen



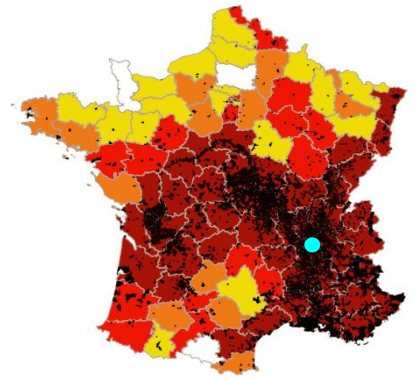
Roussillon - Seasonal Pollen Integral



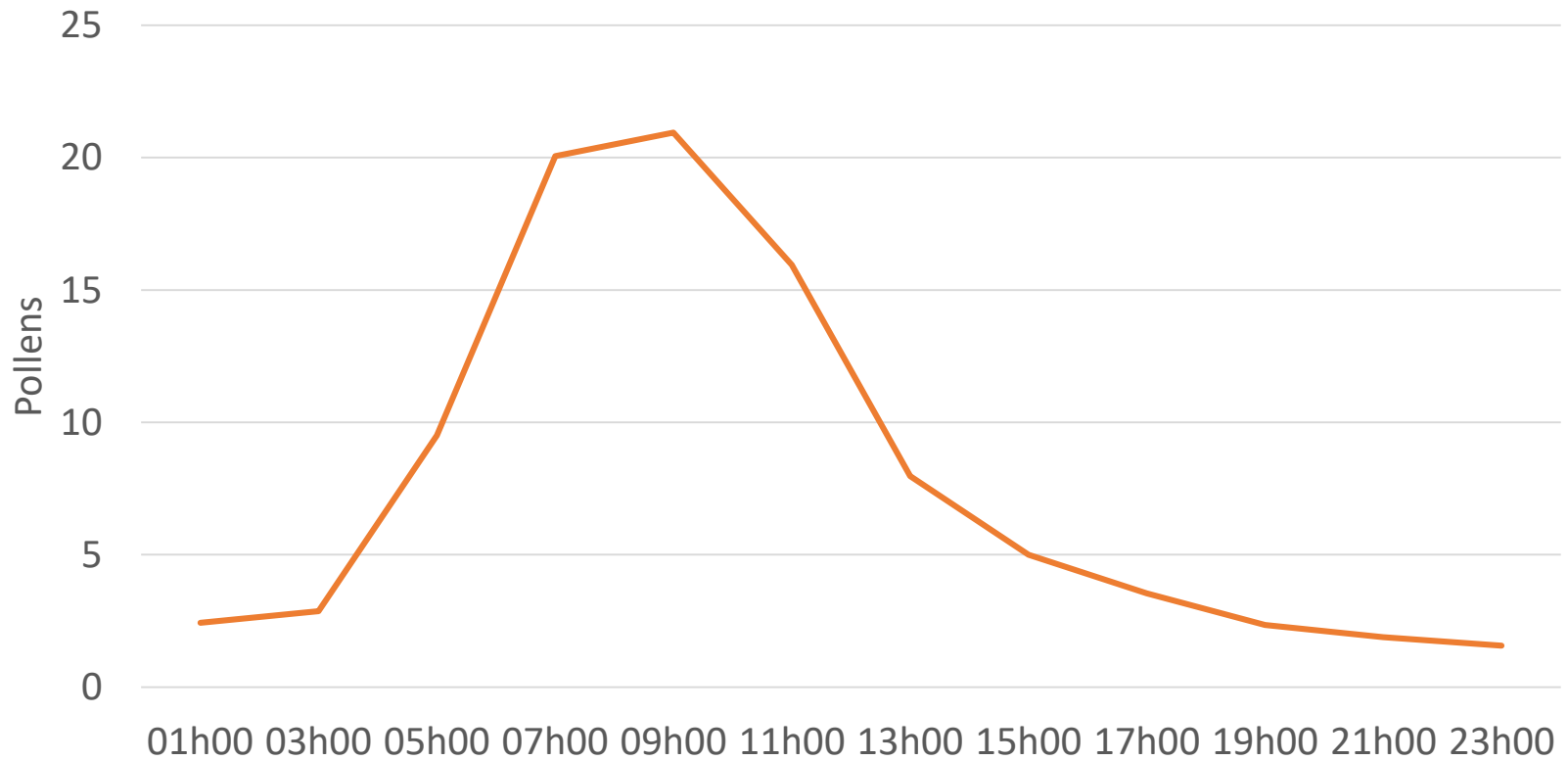
Roussillon



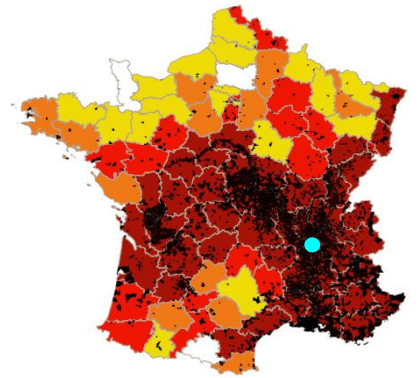
Roussillon - Bi-hourly data



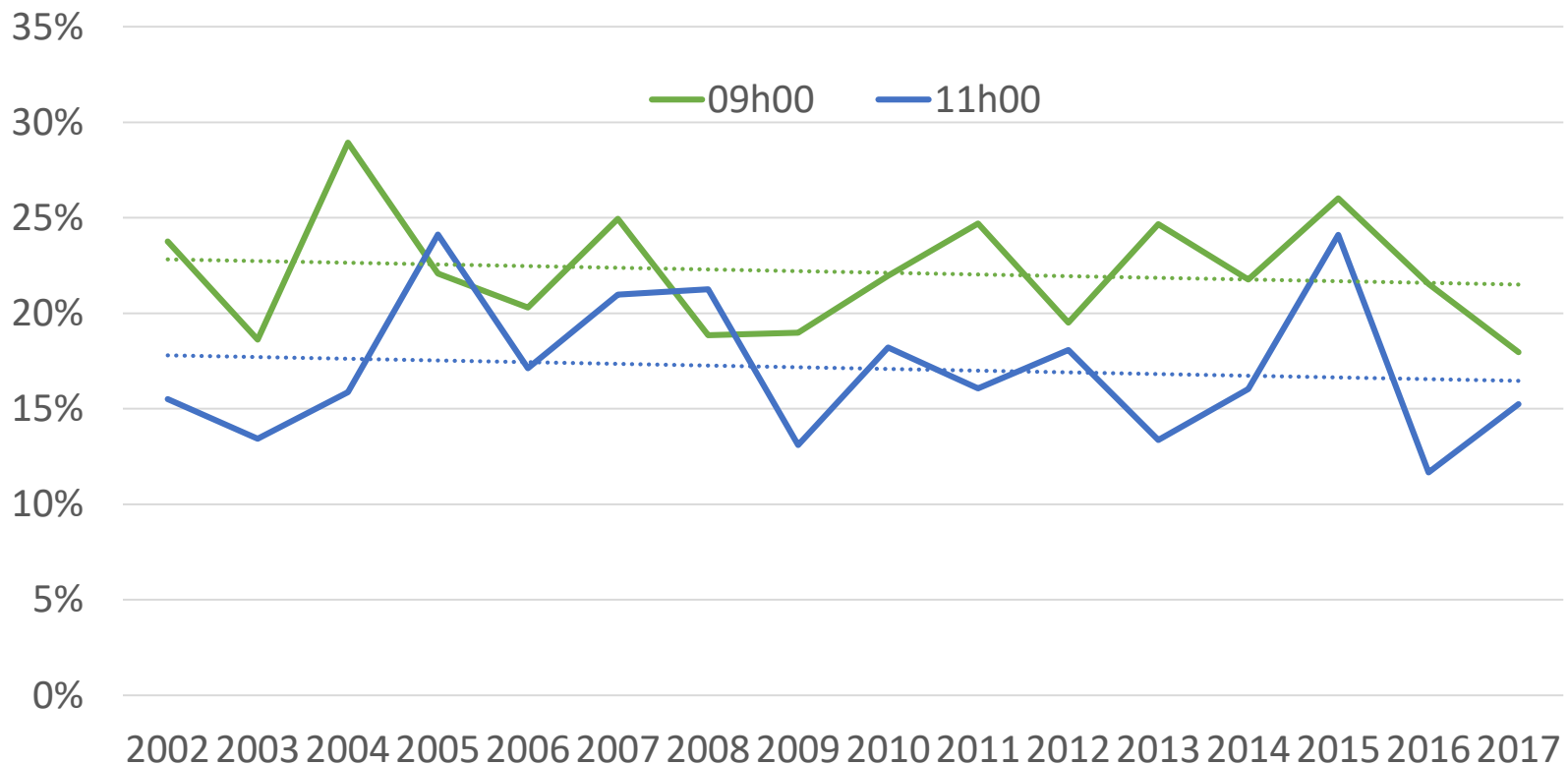
Roussillon - Average of Bi-Hourly data



Roussillon - Bi-hourly data



Roussillon - Percentage of pollen



Conclusion

- Overall, the annual amounts of ragweed pollen are increasing.
- The traps in the full historical zone of infestation have local pollens. Other traps are often a mixture of local and imported pollens.
- The percentage of local pollens in the areas surrounding the infestation is increasing.

**Thank you for
your attention**