

Powdery mildew evolution in cool climate regions in response climate change: the example of Burgundy

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IUUV



Viticulture-environment challenges in a context of climate change

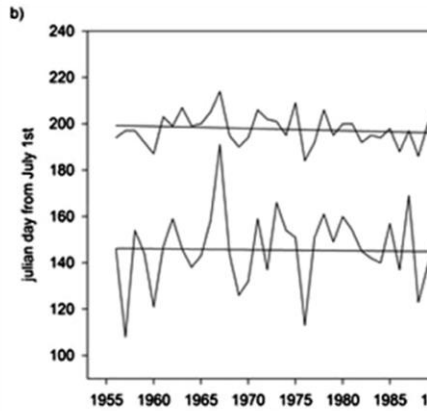
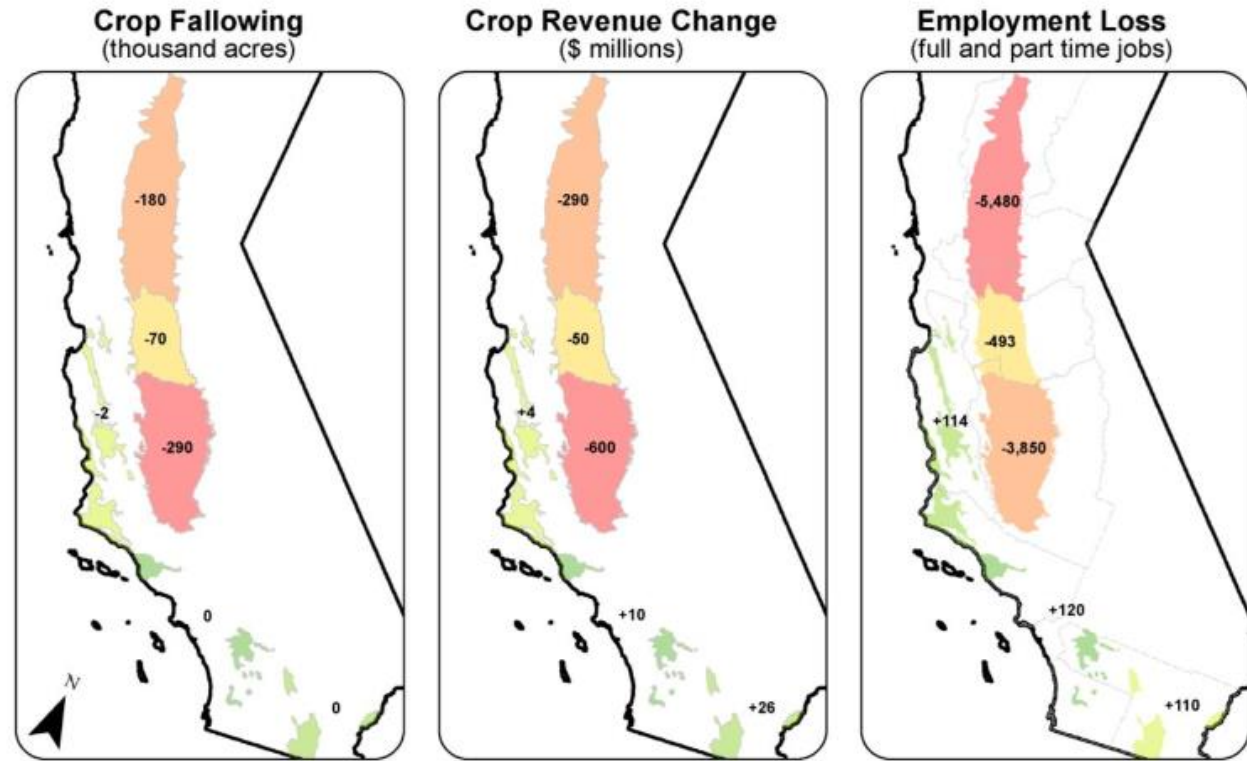
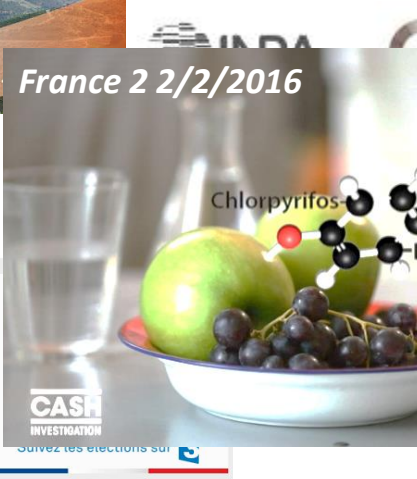


Fig. 6 – Changes in the dates of glacier annual discharge (CM).

Mendoza (Castex et al. 201).





Basse-Normandie Calvados Caen-la-mer / Caen

Les pesticides alt rent le go t du vin, la d monstration du Professeur Seralini

Le professeur de biologie avait d j d montr  la dangerosit  des OGM sur les organismes des mammif res, cette fois il fait la d monstration que les pesticides acidifient le vin.

France 3 Normandie | Publi  le 01/12/2015 | 08:34

84 Partager Tweeter Partager A+ A-  



France 3 Basse-Normandie – 1/12/2015

appli France 3 R gions



Le d bat sur les pesticides fait salle comble et effraye

9 COMMENTAIRES Publi  le 05/11/2015   10h20 , modifi  le 05/11/2015   10h17 par O

Mardi soir, plus de 200 personnes ont  coul  le cri d'alerte des docteurs Maz  et P rinaud. Au pays de la vigne reine, le sujet est  minemment sensible.



Sud Ouest – 5/11 2015

Pesticides : la famille d'un vigneron porte plainte pour «homicide involontaire»

ACTUALIT  SCIENCES & ENVIRONNEMENT Par Marianne Storck | Mis   jour le 29/04/2015   18:27 | Publi  le 23/04/2015   19:48

Le Figaro- 29/04/2015

Pesticides: mesures de pr caution apr s neuf cas de cancers en Gironde

ACTUALIT  SOCI T  Par lefigaro.fr | Mis   jour le 11/09/2015   17:48 | Publi  le 11/09/2015   16:33

1 mois d'essai offert sans engagement

LES AUTEURS SUR LE M ME SUJET R AGIR (21) PARTAGER IMPRIMER

Le Figaro- 11/09/2015

Pesticides : ouverture d'une enqu te pr liminaire apr s la mort d'un viticulteur de Gironde

LE MONDE | 07/07/2015   17h55 - Mis   jour le 08/07/2015   17h41 | Par Laetitia Van Eeckhout

Abonnez vous   partir de 1   R gler Classer Partager (8 117)

Le Monde - 08/07/2015

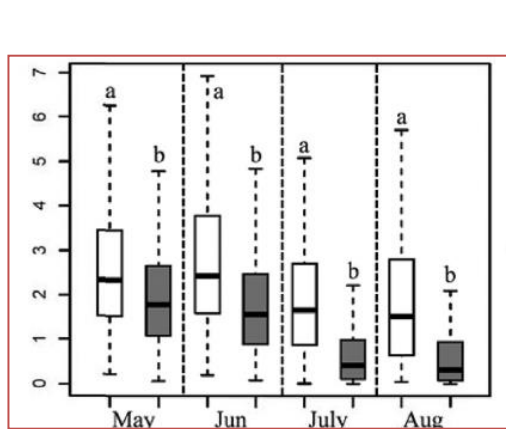
Pesticides : le calvaire de ceux qui habitent   c t 

Par Arnaud Gonzagge Voir tous ses articles | Publi  le 30-01-2015   14h03

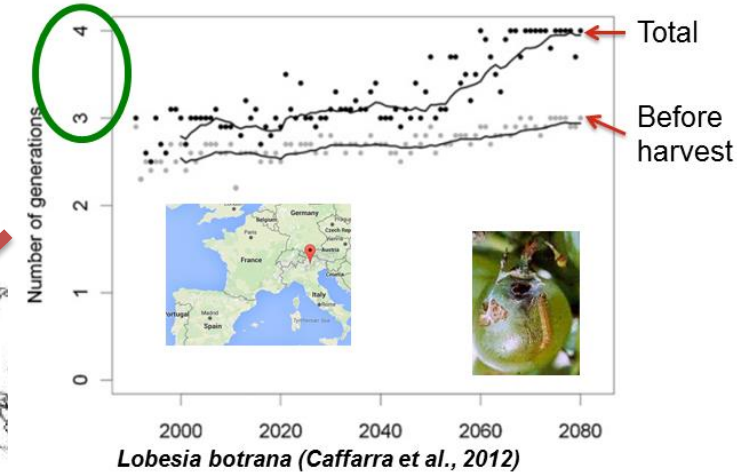
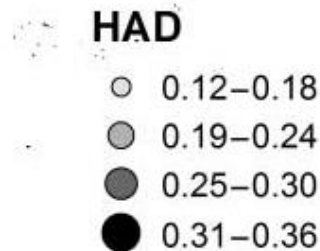
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L'Obs - 30/01/2015

Pests/diseases and climate change



(Launay et al. 2014)



Lobesia botrana (Caffarra et al., 2012)



(Pugliese et al. 2010)

Fig. 6 Rate of advance (expressed in days per year) of the time of the first seasonal outbreaks of grapevine downy mildew through the future decades 2030, 2050 and 2080, as simulated by the disease model using the HAD model.

(Salinari et al. 2007)

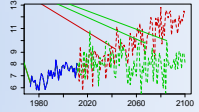


Climate data 1950-2014

PACE

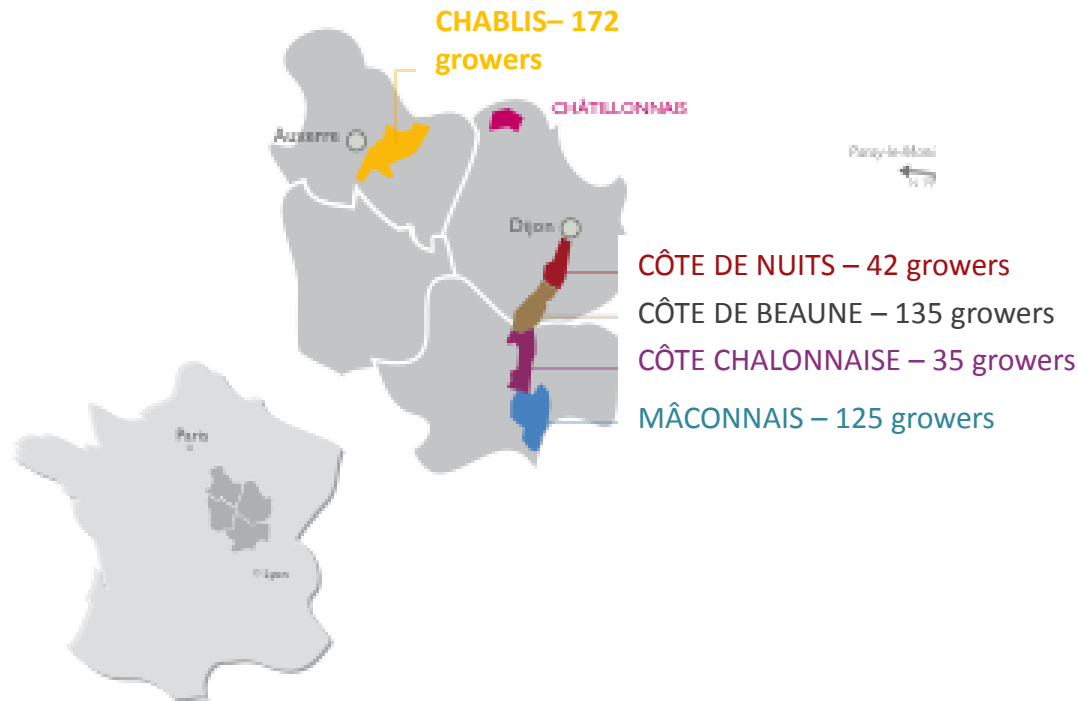


Climate projections 1980-2100



Powdery mildew

Primary infection



Contribution to the sanitary risk



Data base : Disease severity impact

Annual number of treatments

1

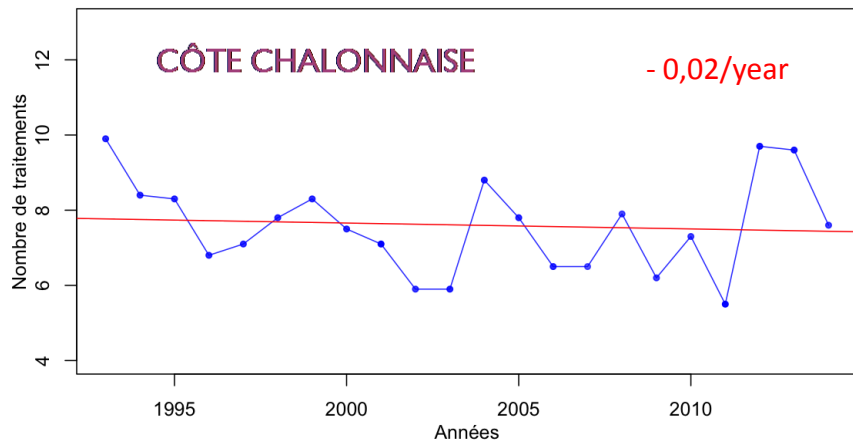
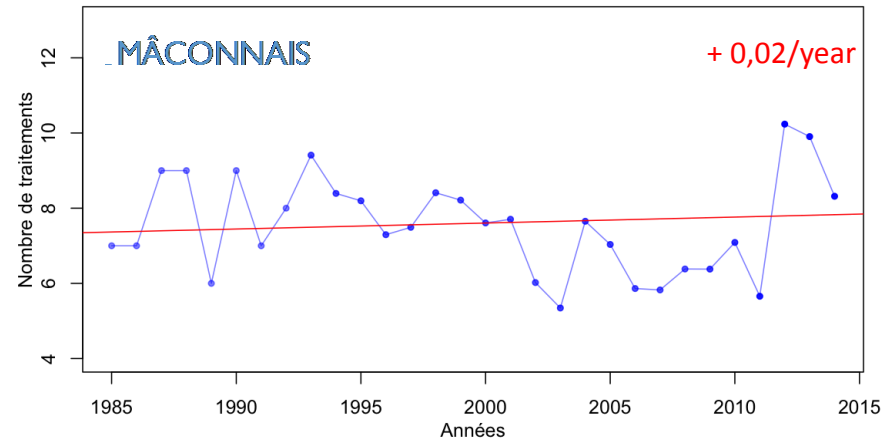
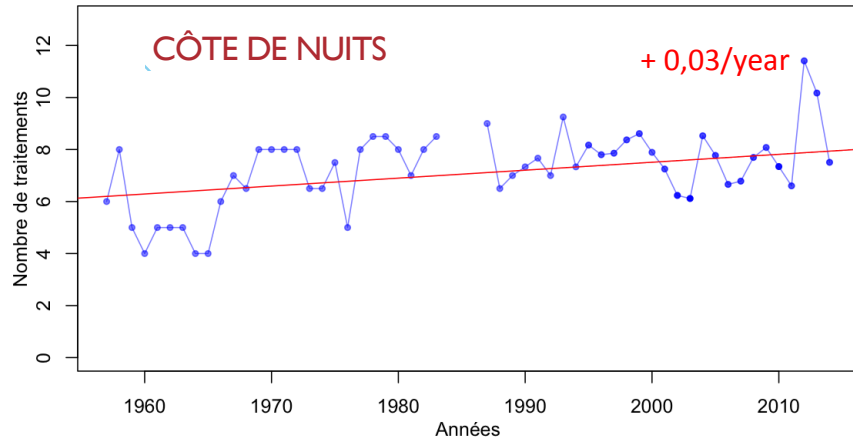
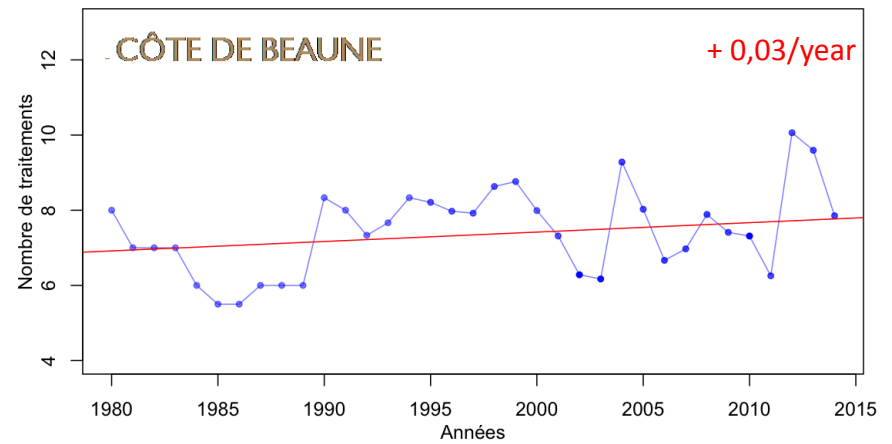
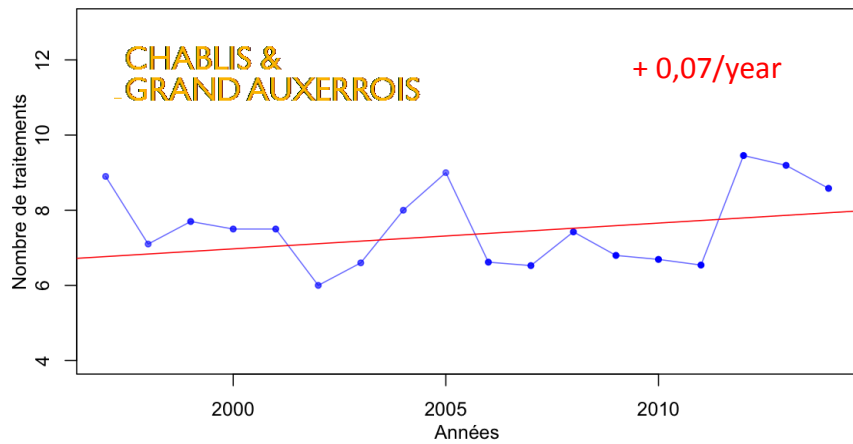


Expert evaluation (annual ratings)

4b

Contribution of climate on powdery mildew development





- No significant change up to 1950's
- Since 2002, no year with low powdery mildew severity has been reported by experts

Mechanistic modelling

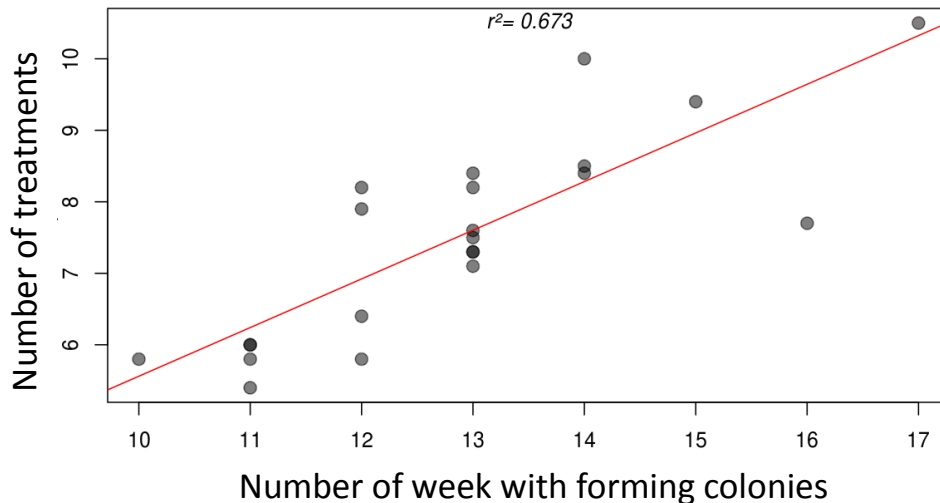
Grapevine

Sensitivity period



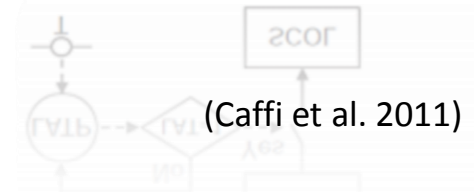
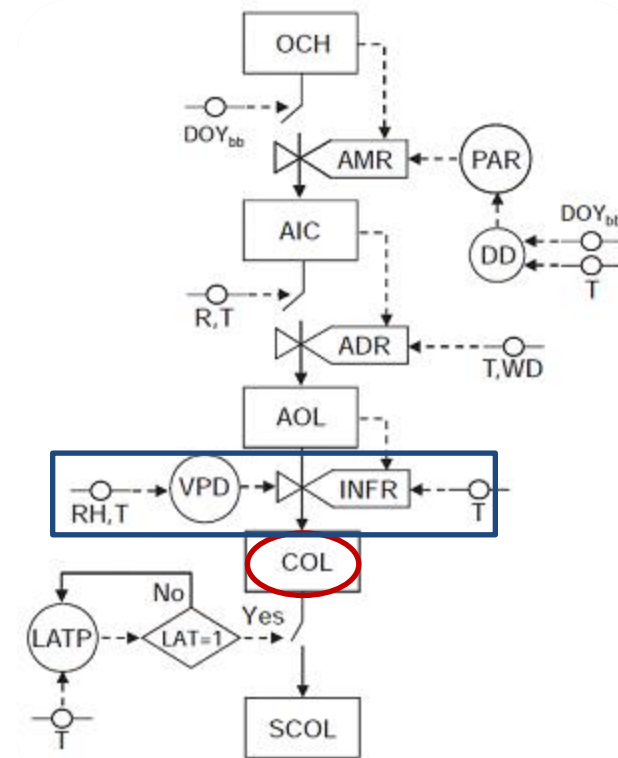
(Garcia de Cortázar-
Atauri et al. 2009)

(Parker et al. 2011)



Mâcon data (1993-2014)

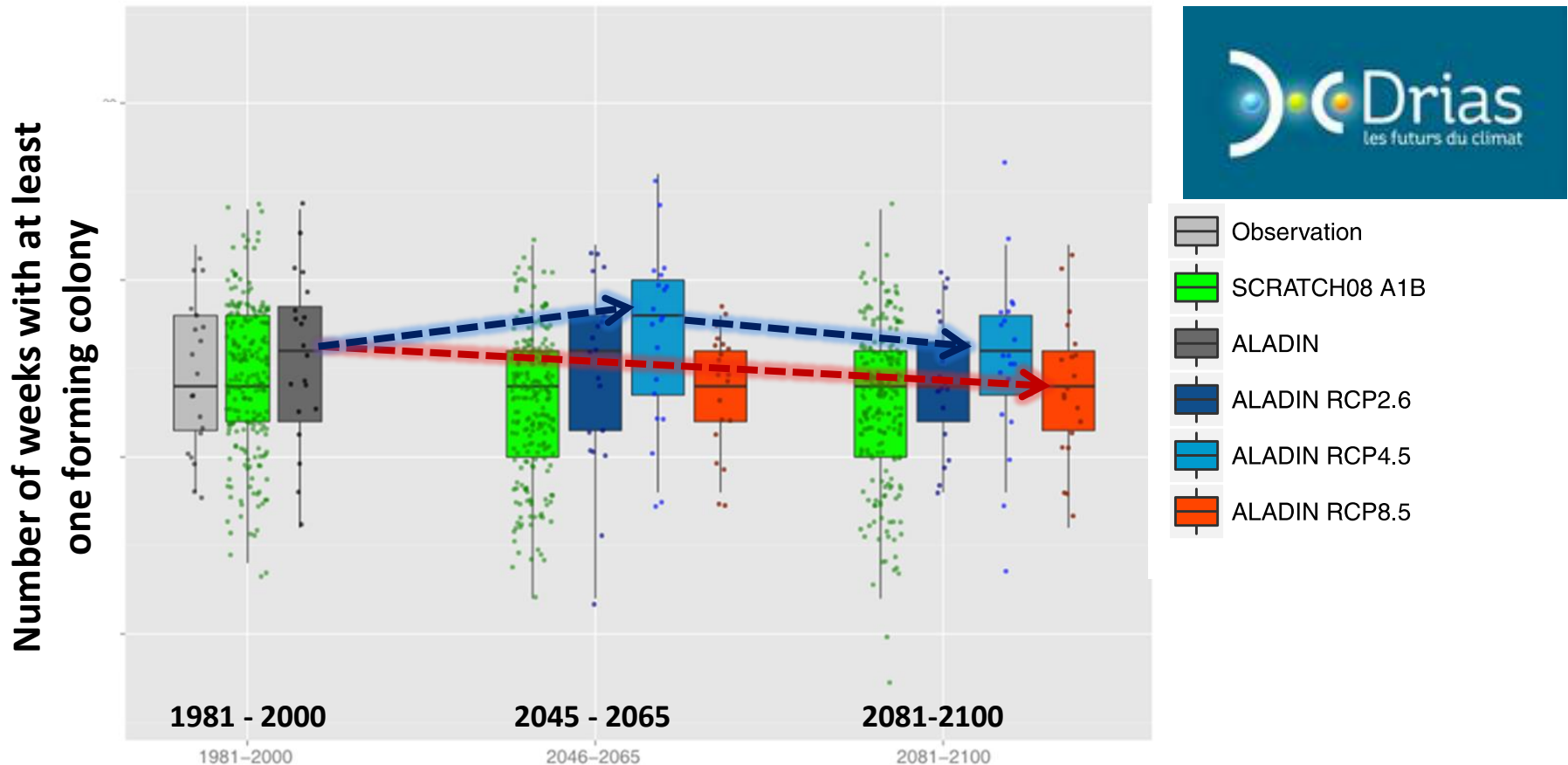
Powdery mildew



(Caffi et al. 2011)

Powdery mildew climate induce primary contamination pressure

Dijon



Grapevine cycle anticipated :
~ -21 days by the end of the 21st century

Conclusion

- A methodological framework to study climate change impacts on grapevine diseases occurrence, using mechanistic modelling:
 - Grapevine phenology + pathogen biology
- Preliminary results suggest that powdery mildew primary contaminations-induced pressure might not change dramatically during the 21st century
 - Challenges : secondary contaminations, primary inoculum aspects, treatments + dose....

More climate change and viticulture

A collaborative literature data base at:

https://www.zotero.org/groups/viticulture_and_climate_change

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VITICULTURE AND CLIMATE CHANGE

 International Organisation of Vine and Wine Intergovernmental Organisation

This group is created by the [International Organisation for Vine and Wine \(OIV\)](#).

Climate change and sustainable production are very important issues for viticulture. The OIV wishes to centralize scientific information on climate change, its impact on viticultural sector and also on adaptations and actions conducted to mitigate these impacts all over the

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Thanks!



Acknowledgments

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