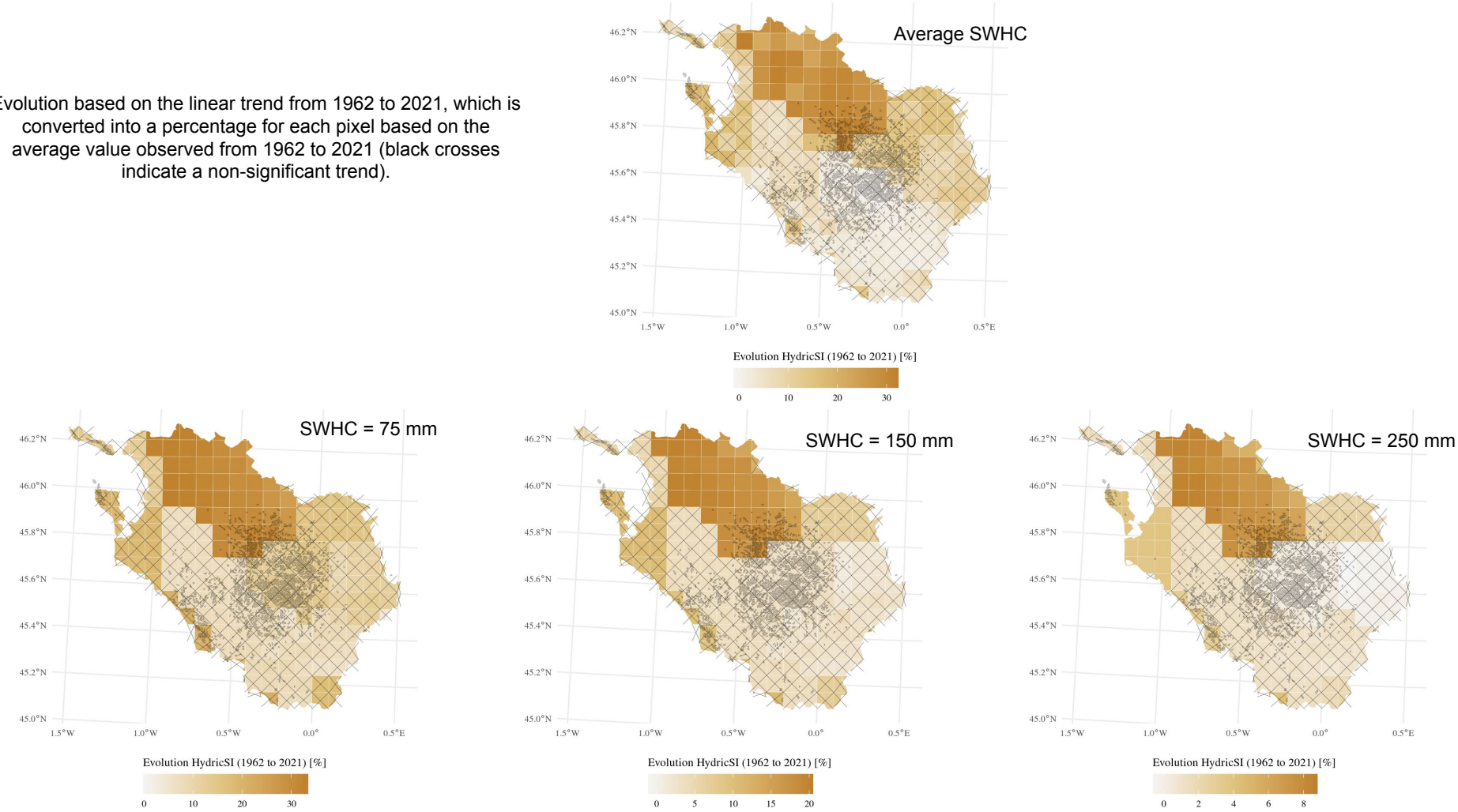
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SUPPLEMENTARY DATA

Figure S1 : HydricSI evolution (average of daily relative stomatal conductance from flowering to maturity)

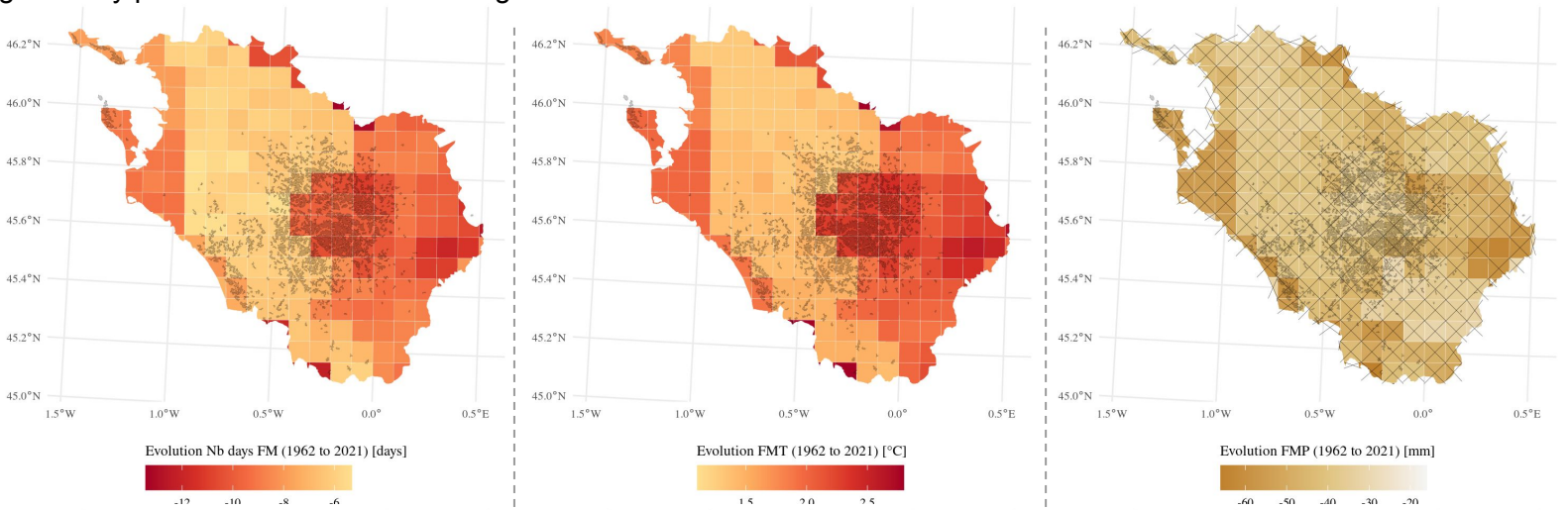
Evolution based on the linear trend from 1962 to 2021, which is converted into a percentage for each pixel based on the average value observed from 1962 to 2021 (black crosses indicate a non-significant trend).



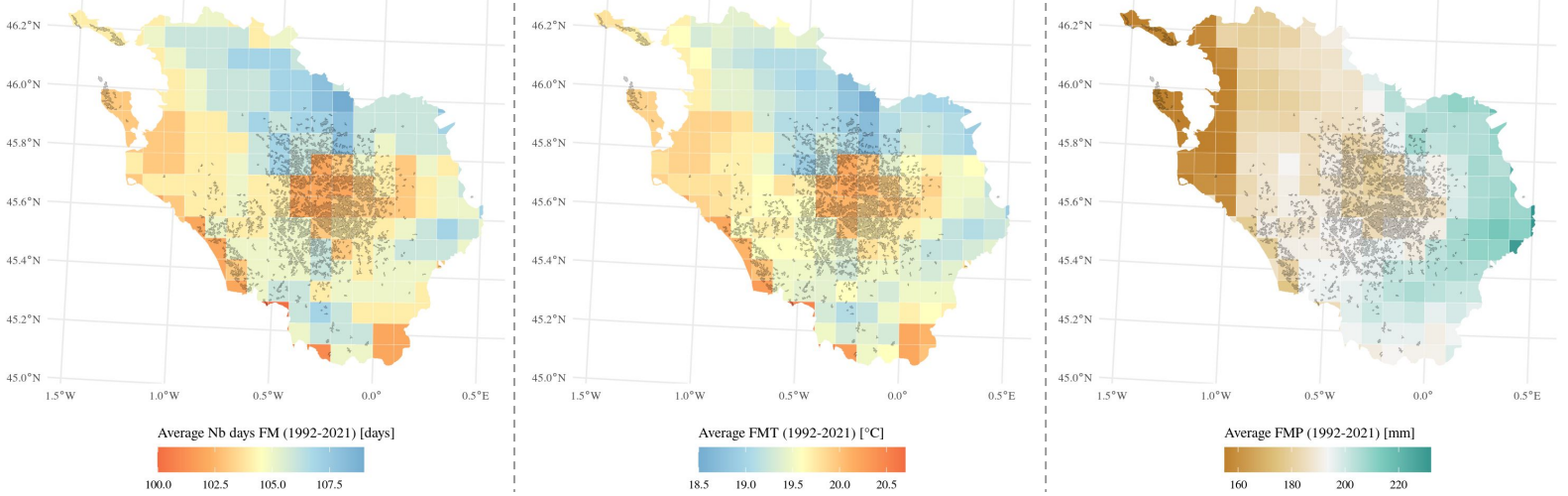
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Figure S2 : Flowering maturity period characterisation at regional scale

Evolution based on the linear trend from 1962 to 2021 (black crosses indicate a non-significant trend).



Average of the indicator over the last 30 years (1992-2021)



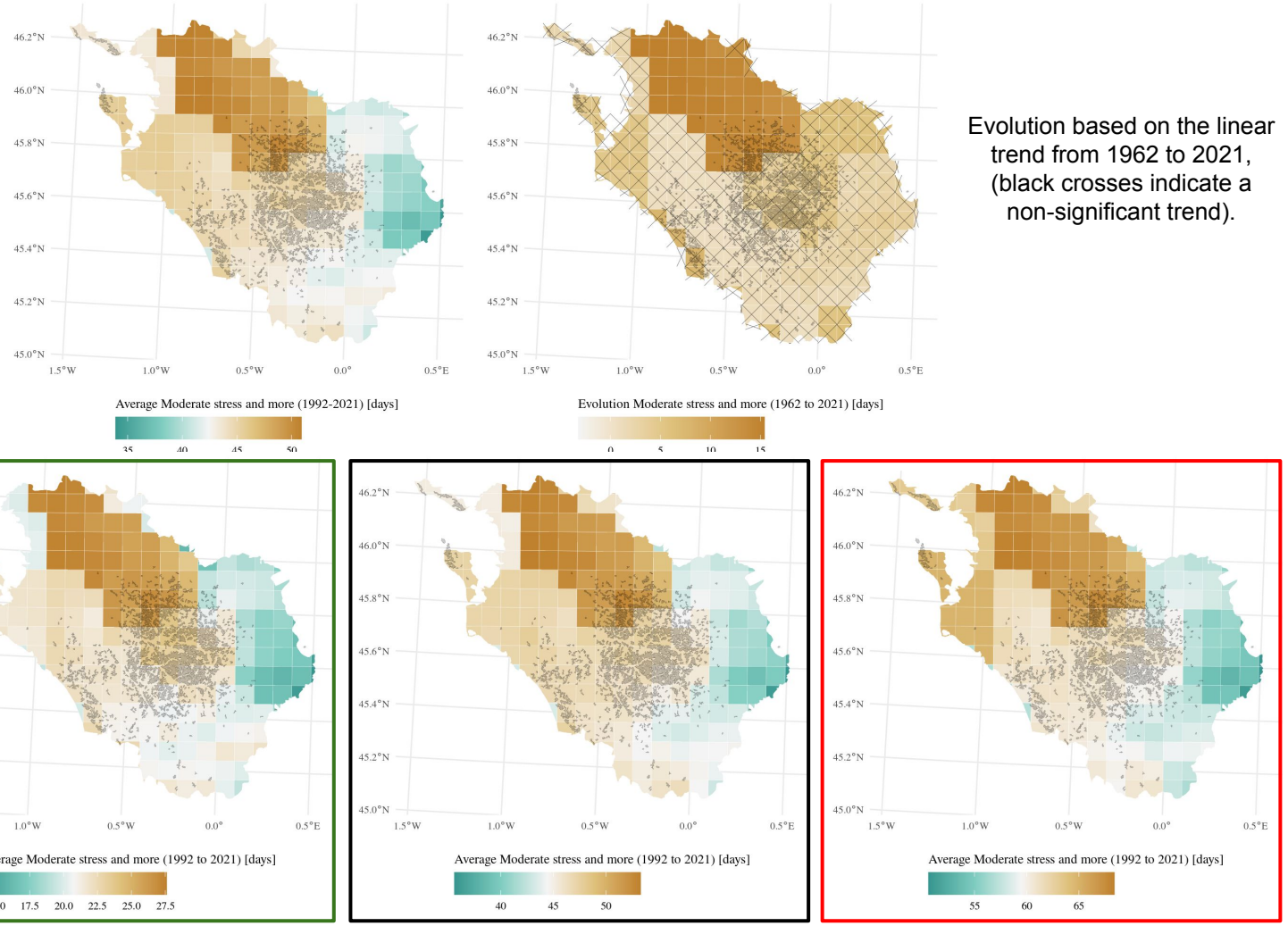
SUPPLEMENTARY DATA

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Figure S3 : Number of days with at least moderate water deficit from flowering to maturity with relative stomatal conductance < 0.31

SWHC = 75 mm

Average of the index in each pixel for 9 combinations of cropping systems/soil management:
low, medium and high water use efficiency, each with the 3 combinations of grass cover (0, 35 and 70%)



Evolution based on the linear trend from 1962 to 2021, (black crosses indicate a non-significant trend).

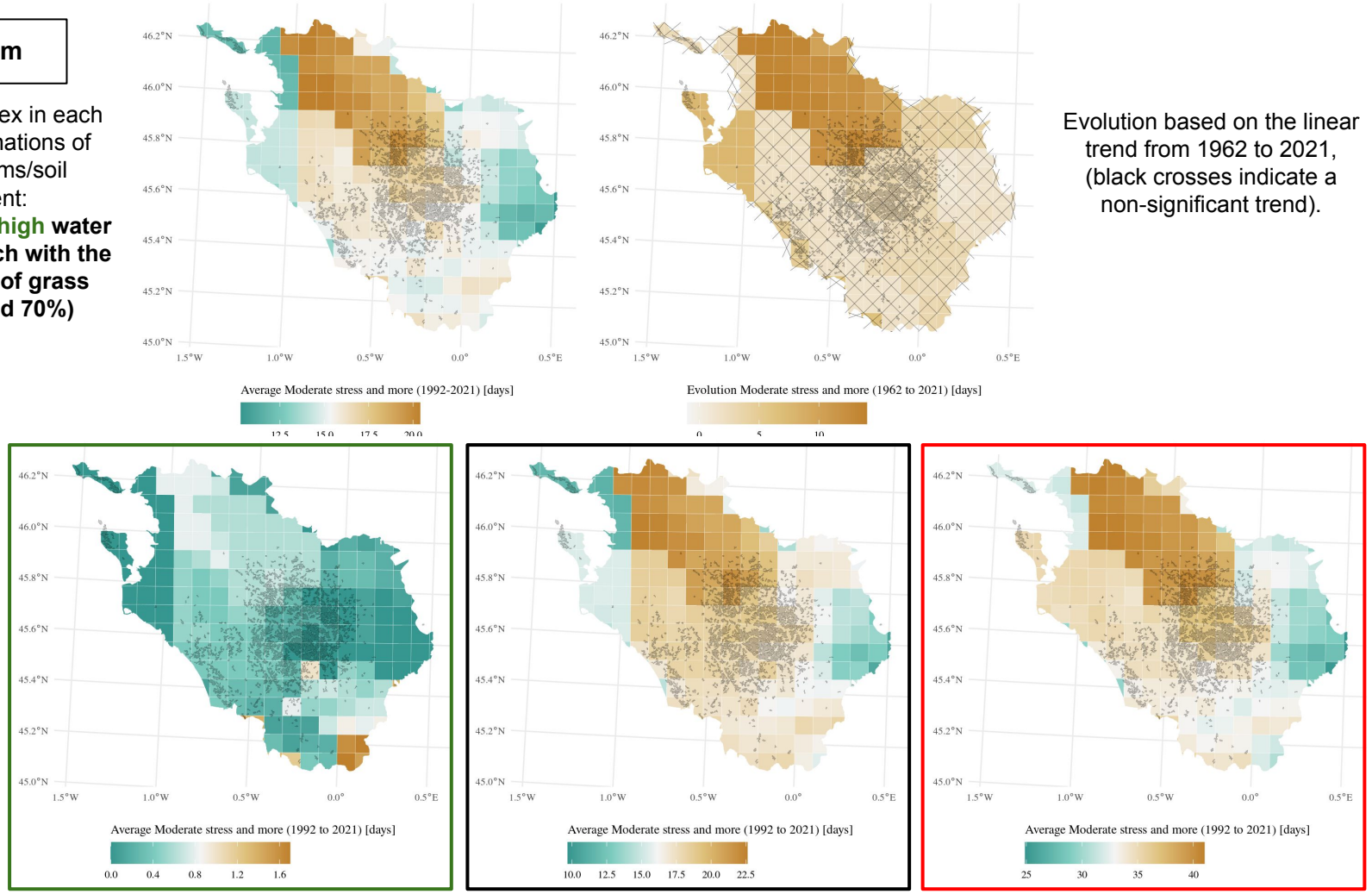
SUPPLEMENTARY DATA

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Figure S4 : Number of days with at least moderate water deficit from flowering to maturity with relative stomatal conductance < 0.31

SWHC = 150 mm

Average of the index in each pixel for 9 combinations of cropping systems/soil management:
low, medium and high water use efficiency, each with the 3 combinations of grass cover (0, 35 and 70%)



Evolution based on the linear trend from 1962 to 2021, (black crosses indicate a non-significant trend).

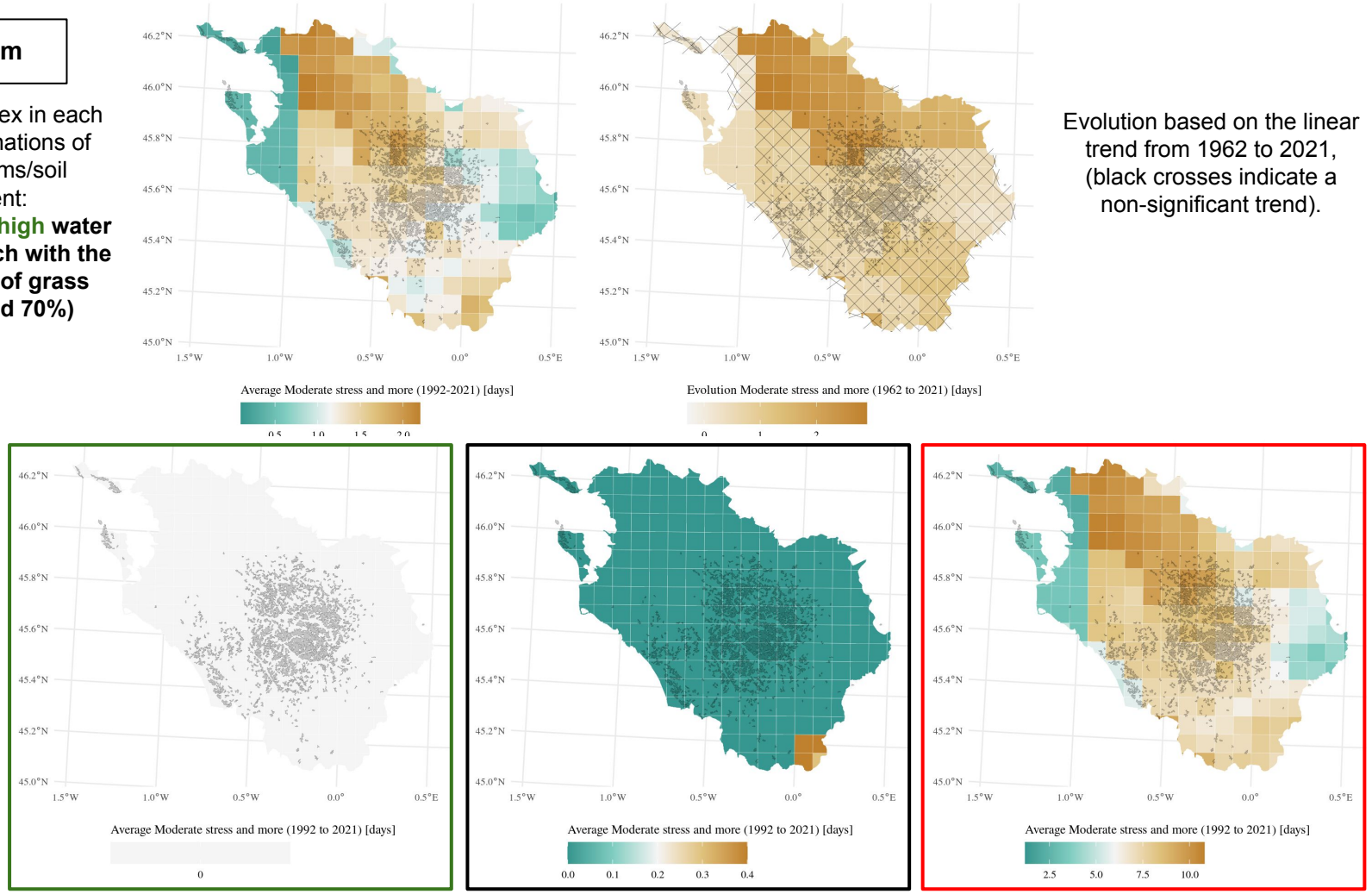
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Figure S5 : Number of days with at least moderate water deficit from flowering to maturity with relative stomatal conductance < 0.31

SWHC = 250 mm

Average of the index in each pixel for 9 combinations of cropping systems/soil management:
low, medium and high water use efficiency, each with the 3 combinations of grass cover (0, 35 and 70%)



Evolution based on the linear trend from 1962 to 2021, (black crosses indicate a non-significant trend).

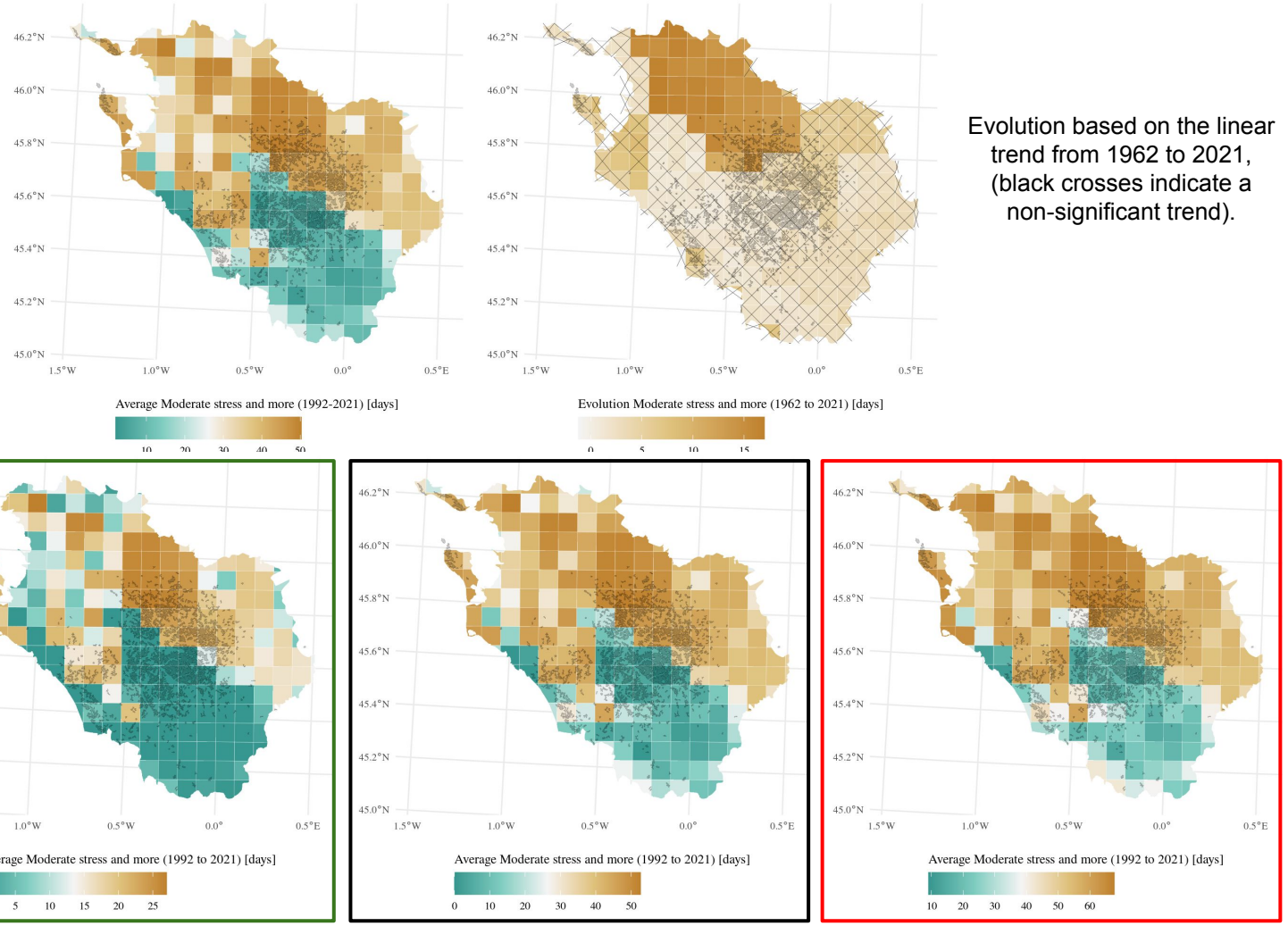
SUPPLEMENTARY DATA

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Figure S6 : Number of days with at least moderate water deficit from flowering to maturity with relative stomatal conductance < 0.31

SWHC = Average

Average of the index in each pixel for 9 combinations of cropping systems/soil management:
low, medium and high water use efficiency, each with the 3 combinations of grass cover (0, 35 and 70%)



Evolution based on the linear trend from 1962 to 2021, (black crosses indicate a non-significant trend).

SUPPLEMENTARY DATA

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Figure S7 : Exemple of high pruning practised without trellising and it's impact on canopy width



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Figure S7 : Exemple of high pruning practised without trellising and it's impact on canopy width



low to medium canopy width

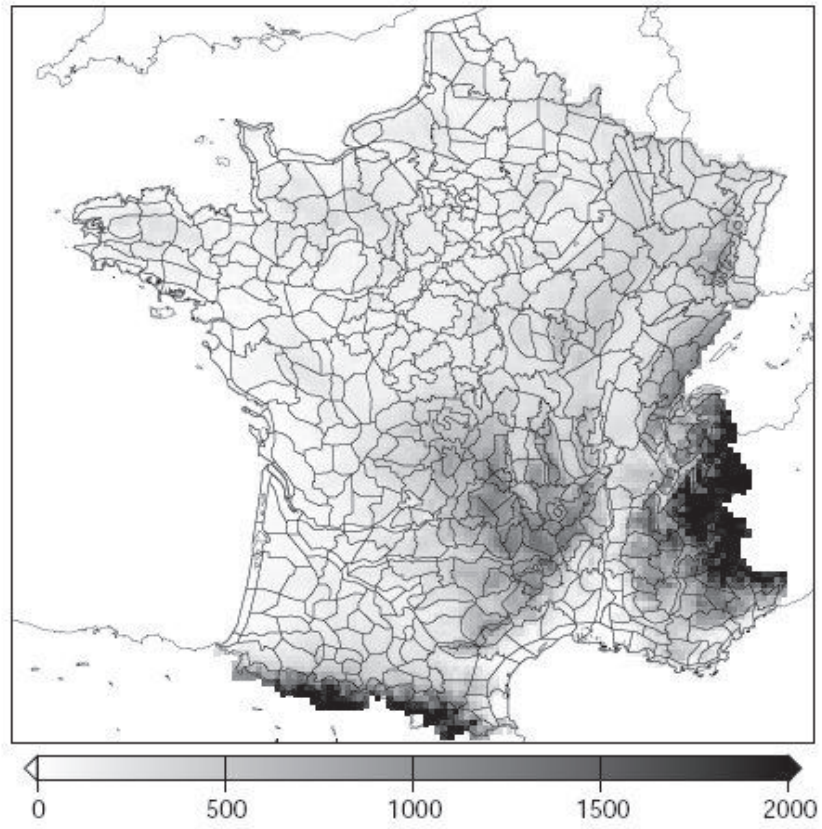


vs

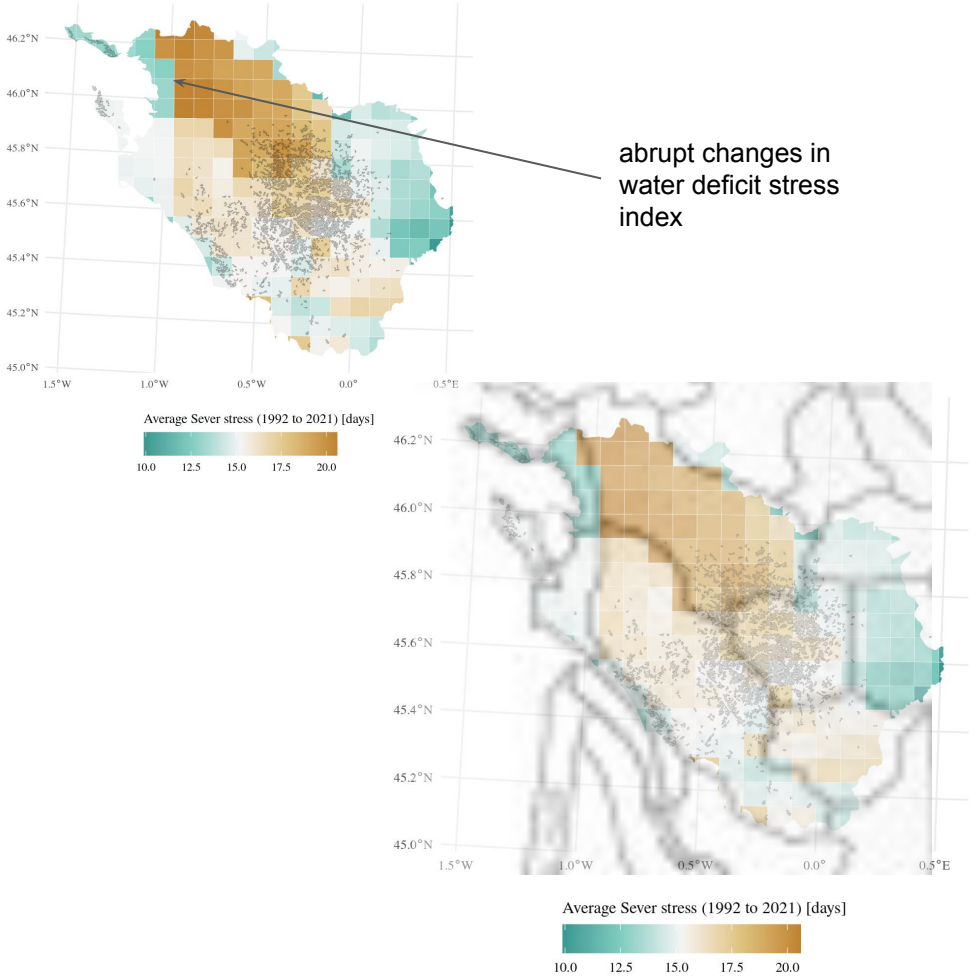
large canopy width

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Figure S8 : Climatically homogeneous zones of SAFRAN associated with abrupt changes in water deficit stress index



Climatically homogeneous zones of SAFRAN (Figure 1. in Quintana-Seguí et al., 2008)



SUPPLEMENTARY DATA

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0% grass cover



70% grass cover