

Supplementary figures to: Mapping Transboundary Climate Change Risk: the case study of the Trinational Metropolitan Area Upper Rhine Area

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Table S1. Data sources for the indicators of the risk index

Vulnerability/Risk Subcomponent	Indicator	Source
Combined climatic stressor	Summer Days	Model Ensemble provided by the German Weather Service (DWD) and calculated within the EURO-CORDEX initiative (2016).
	Tropical Nights	Model Ensemble provided by the German Weather Service (DWD) and calculated within the EURO-CORDEX initiative (2016).
	Frost Days	Model Ensemble provided by the German Weather Service (DWD) and calculated within the EURO-CORDEX initiative (2016).
	Winter Precipitation	Model Ensemble provided by the German Weather Service (DWD) and calculated within the EURO-CORDEX initiative (2016).
	Summer Precipitation	Model Ensemble provided by the German Weather Service (DWD) and calculated within the EURO-CORDEX initiative (2016).
Combined spatial occurrence	Built-up areas	Copernicus Programme, Corine Land Cover (CLC) 2012, Version 18.5.1. https://land.copernicus.eu/pan-european/corine-land-cover/clc-2012?tab=download (accessed on 14 June 2018).
	Critical infrastructure	GeoRheina. catalogue. https://sdi.georheina.eu/geonetwork/sv/fr/catalog.search#/home (accessed on 12 June 2018).
		OpenStreetMap Contributors. Planet dump retrieved from https://planet.osm.org , 2018 (accessed on 12 June 2018).
Combined sensitivity	Population density	GeoRheina. catalogue. https://sdi.georheina.eu/geonetwork/sv/fr/catalog.search#/home (accessed on 12 June 2018).
	Population 15-65 years	GeoRheina. catalogue. https://sdi.georheina.eu/geonetwork/sv/fr/catalog.search#/home (accessed on 12 June 2018).
	Business tax	Statistische Ämter des Bundes und der Länder, Deutschland. Realsteuervergleich, 2015. https://www.statistikportal.de/ (accessed on 15 June 2018).
	Unemployment rate	Ministère de l'Action et des Comptes publics. Données de fiscalité directe locale 2015. https://www.impots.gouv.fr/portail/statistiques (accessed on 15 June 2018).
		arbeit.swiss. Durchschnittliche Arbeitslosenquote pro Jahr. https://www.amstat.ch/02/index.jsp (accessed on 13 June 2018).
		INSEE. Démographie des entreprises et des établissements pour l'année 2015: Répertoire des entreprises et des établissements (REE) - Fichiers détail. https://www.insee.fr/fr/statistiques/2985296 (accessed on 13 June 2018).
		Statistische Ämter des Bundes und der Länder, Deutschland. Arbeitsmarktstatistik der Bundesagentur für Arbeit. https://www.statistikportal.de/ (accessed on 13 June 2018).
	SME employment	BFS. Statistik der Unternehmensstruktur (STATENT); 2014 (accessed on 15 June 2018).
		INSEE. Recensement 2014 : résultats sur un territoire, bases de données et fichiers détail. https://www.insee.fr/fr/information/2867866 (accessed on 13 June 2018).
		INSEE. Recensement 2014 : résultats sur un territoire, bases de données et fichiers détail. https://www.insee.fr/fr/information/2867866 (accessed on 13 June 2018).
Combined impacts	HQ100 areas	Statistisches Landesamt Baden-Württemberg, Unternehmen und Betriebe seit 2006 nach Beschäftigungsdenkmalen; 2014. https://www.statistik-bw.de (accessed on 13 June 2018).
		Statistisches Landesamt Rheinland-Pfalz, Unternehmen 2015 nach Wirtschaftszweigen und Zahl der sozialversicherungspflichtig Beschäftigten. https://www.statistik.rlp.de (accessed on 13 June 2018).
		GeoRheina. catalogue. https://sdi.georheina.eu/geonetwork/sv/fr/catalog.search#/home (accessed on 12 June 2018).
		LUBW. Überflutungsdlichen. http://udo.lubw.baden-wuerttemberg.de/public/q/HqZ/ (accessed on 11 June 2018).
		Ministerium für Umwelt, Energie, Ernährung und Forsten, Rheinland-Pfalz. Risikokarte HQ10. HQ100. HQextrem. http://www.gdawasser.rlp.de/GDAWasser/chem/gis/chem/index.html (accessed on 11 June 2018).
		Ant für Geoinformation, Fließbiefenkarte HQ 30/100/300/extrem. https://www.geo.bs.ch/geoshop/ (accessed on 11 June 2018).
		Ant für Geoinformation, Fließbiefenkarte HQ 30/100/300/extrem. https://www.geo.bs.ch/geoshop/ (accessed on 11 June 2018).
		Kanton Aargau, Fließbiefenkarte HQ 30/100/300/extrem. https://www.ag.ch/geosportal/geodatenhoerdaemische.aspx (accessed on 11 June 2018).
		Kanton Basel-Stadt, Fließbiefenkarte HQ 30/100/300/extrem. http://shop.geo.bs.ch/geoshop_zapp/geoshop/ (accessed on 11 June 2018).
		see above
Flood affected population	see above	
Flood affected CRITIS	see above	
Flood affected built-up areas	see above	

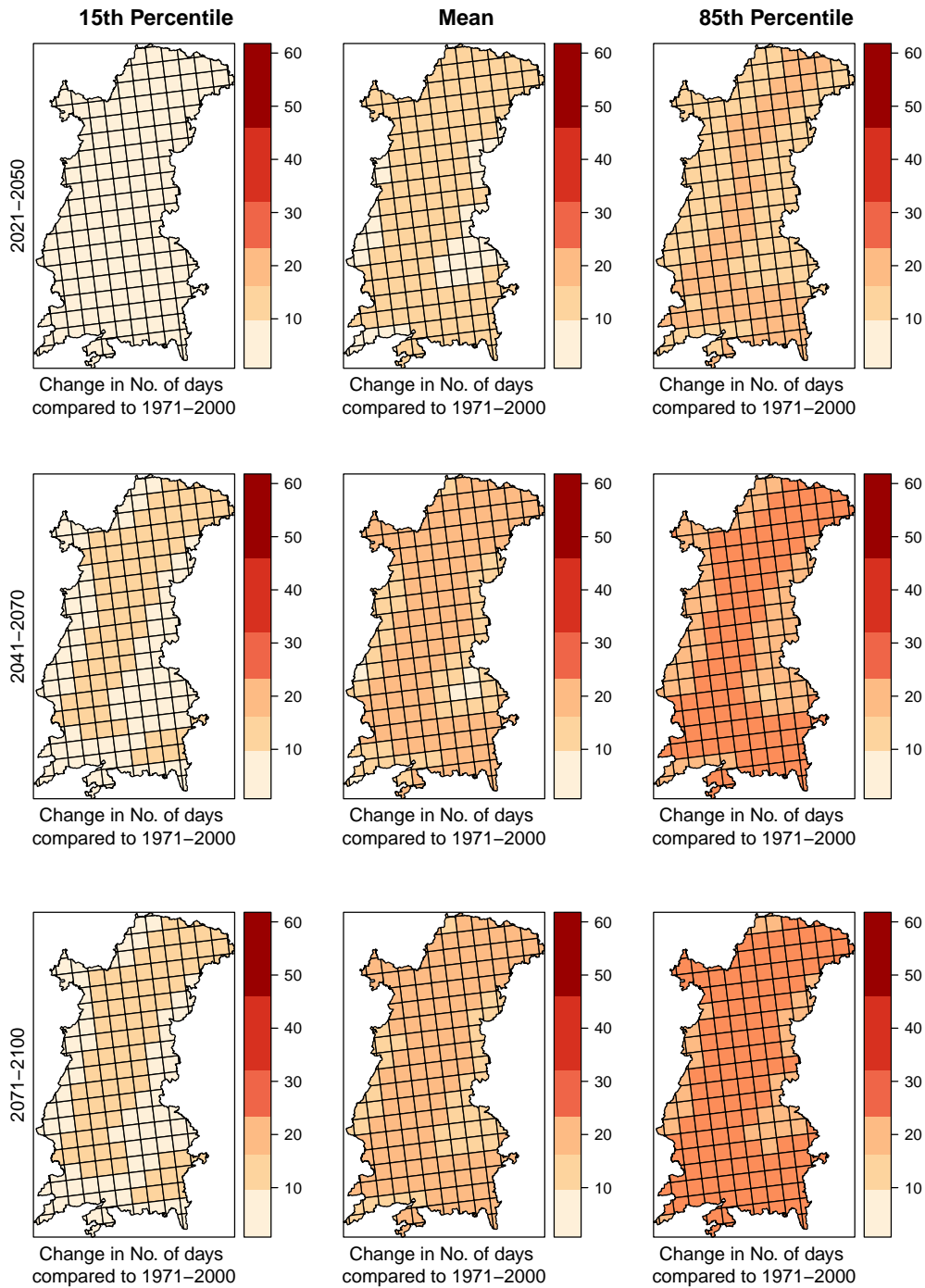


Figure S1. Ensemble output under RCP 4.5 for summer days

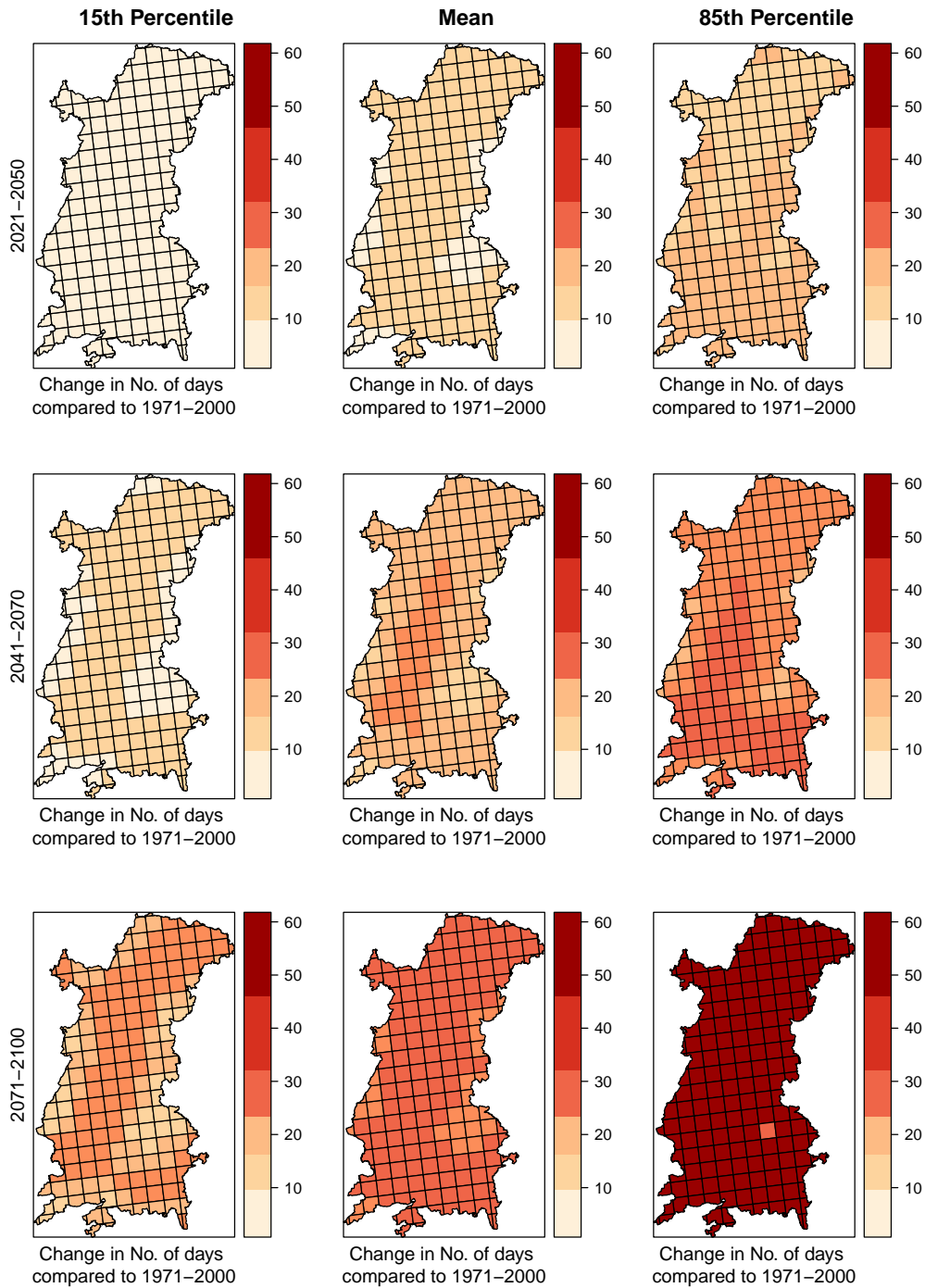


Figure S2. Ensemble output under RCP 8.5 for summer days

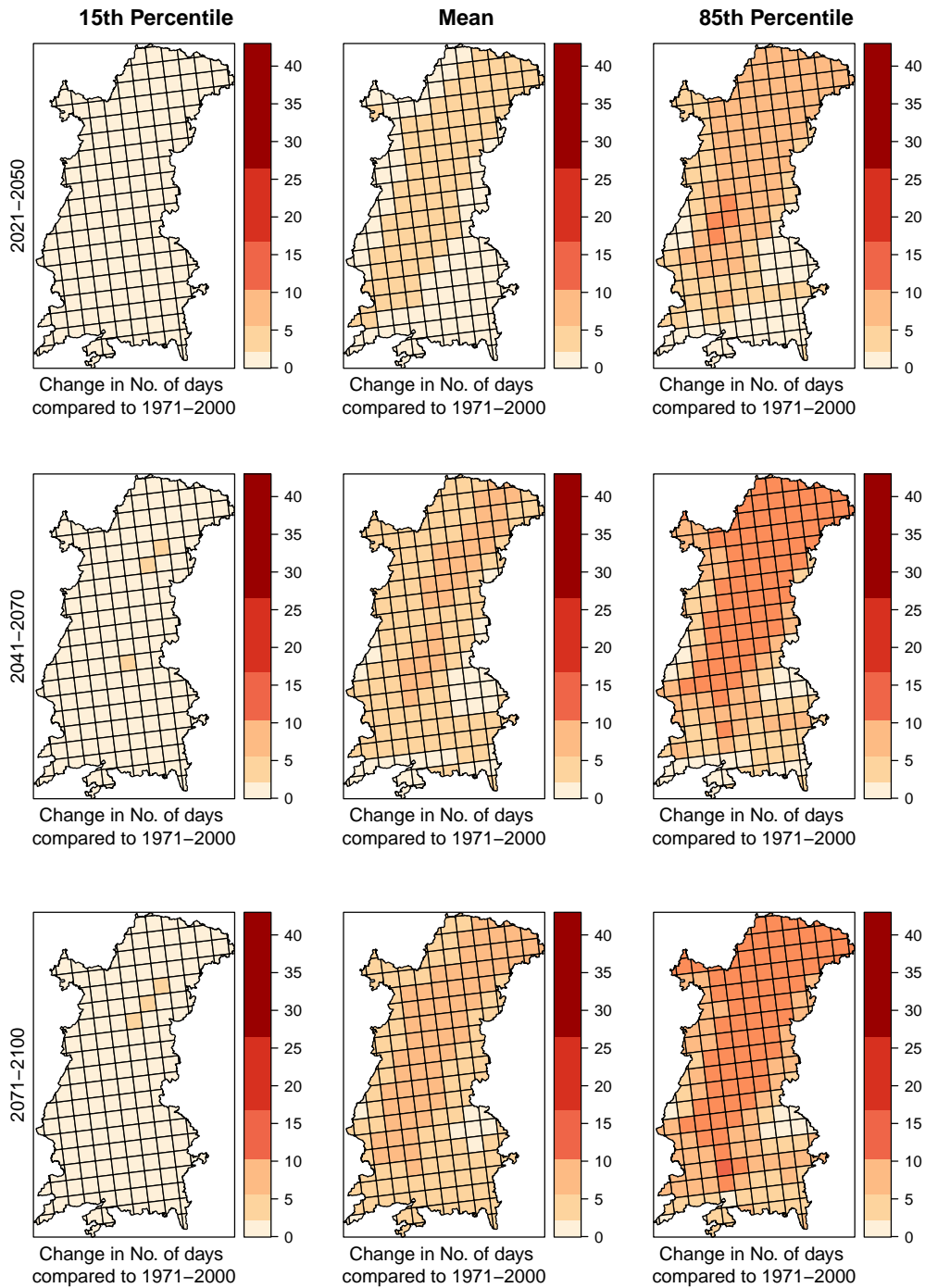


Figure S3. Ensemble output under RCP 4.5 for tropical nights

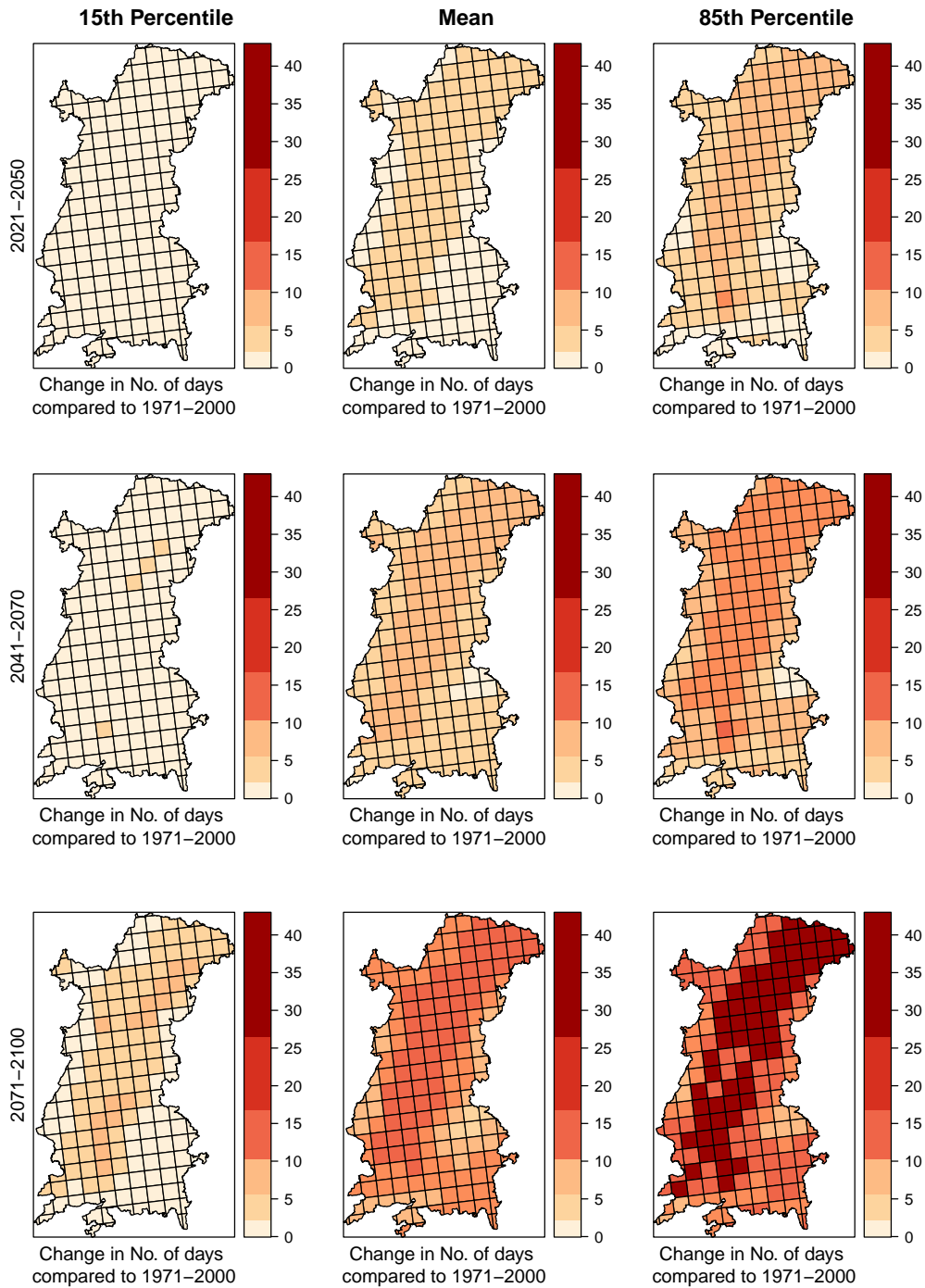


Figure S4. Ensemble output under RCP 8.5 for tropical nights

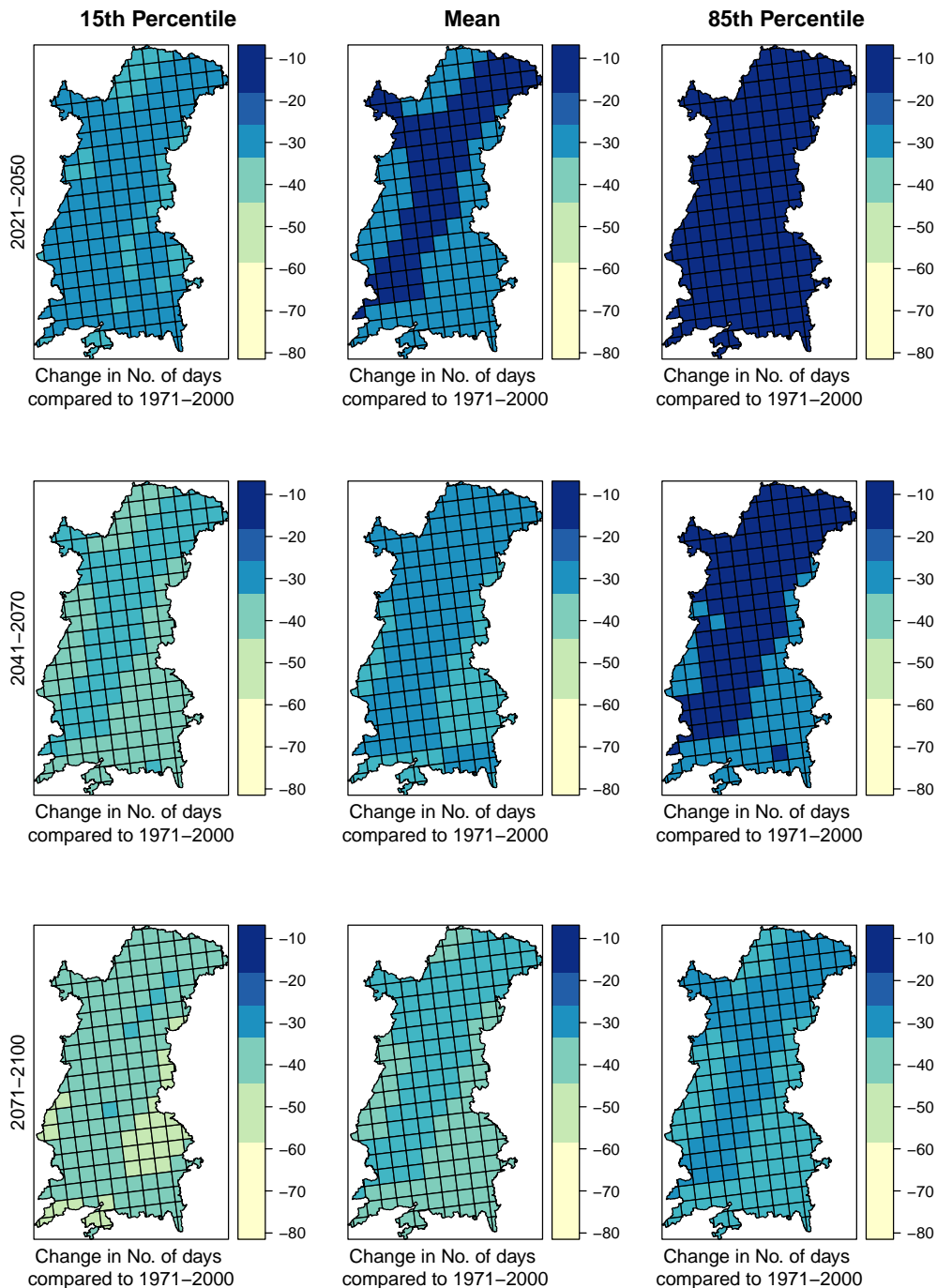


Figure S5. Ensemble output under RCP 4.5 for frost days

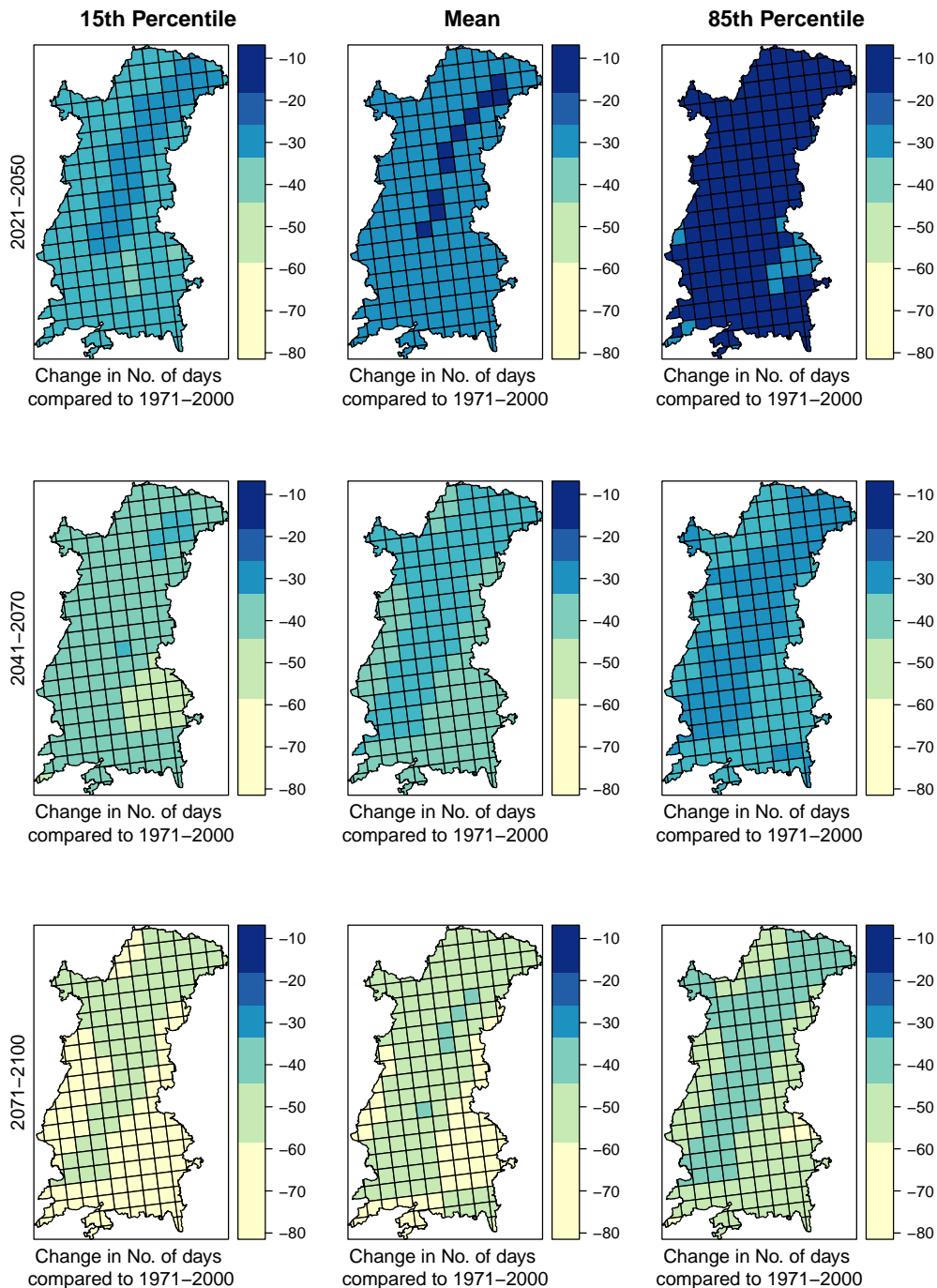


Figure S6. Ensemble output under RCP 8.5 for frost days

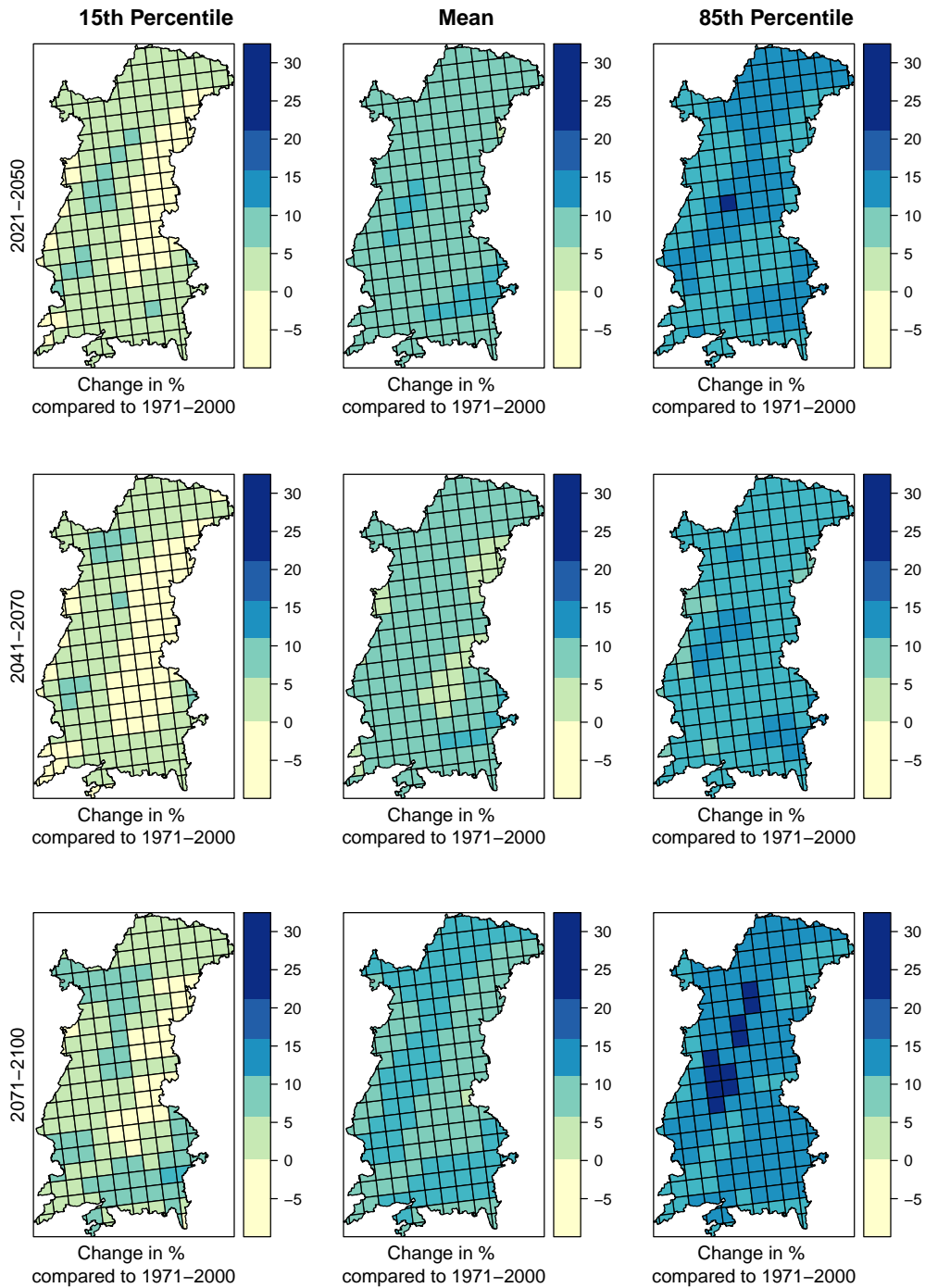


Figure S7. Ensemble output under RCP 4.5 for precipitation rate in winter

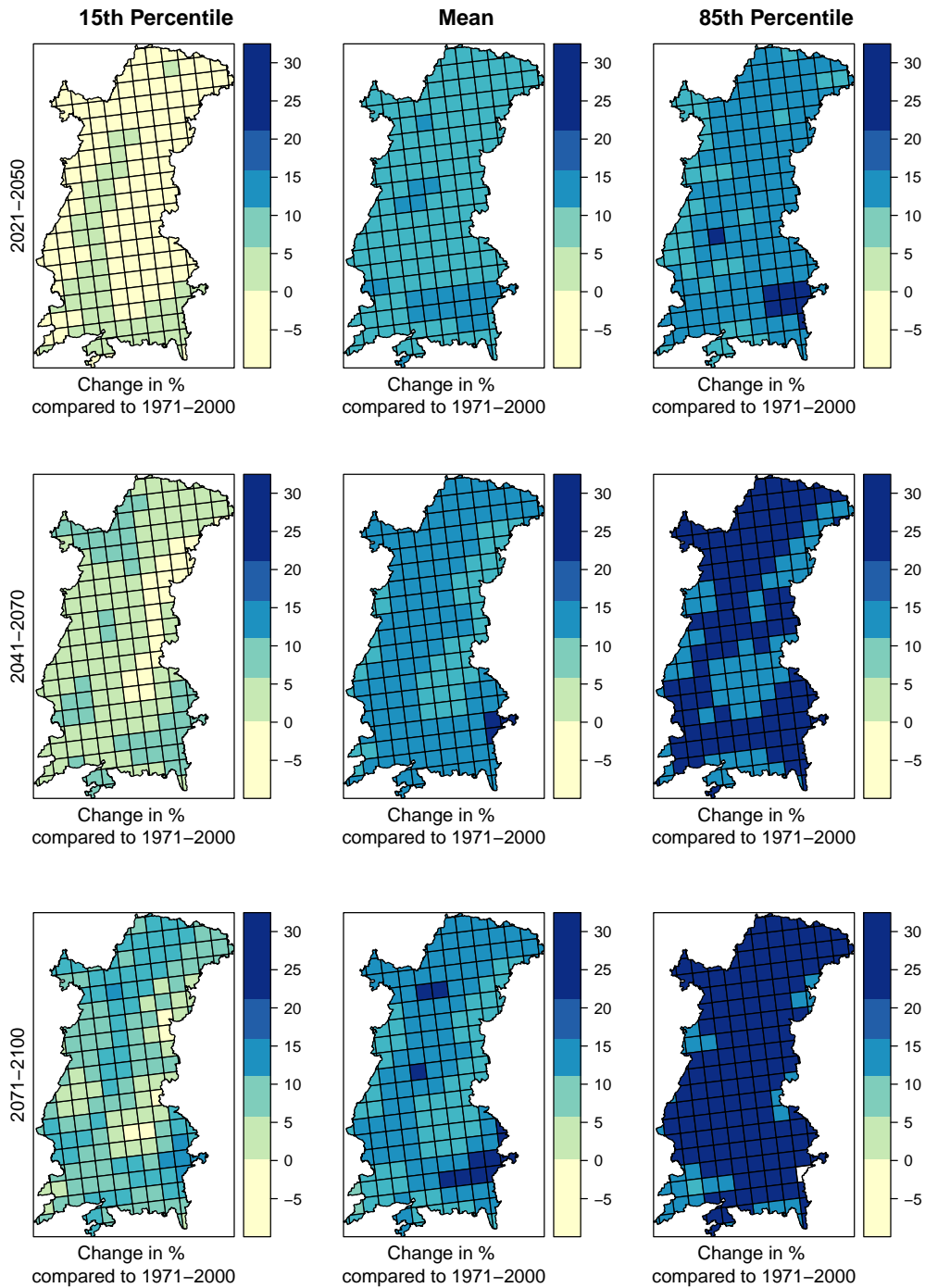


Figure S8. Ensemble output under RCP 8.5 for precipitation rate in winter

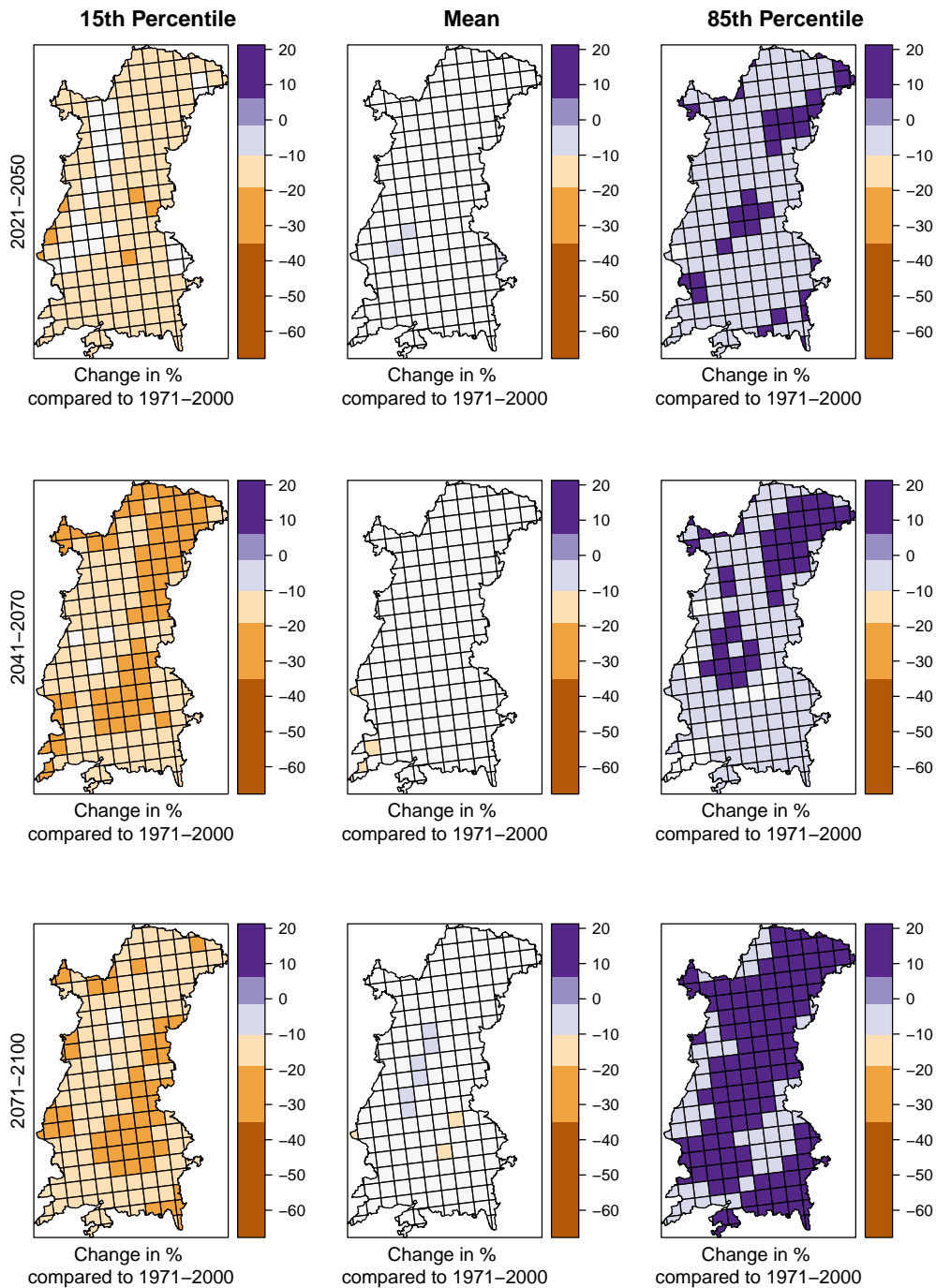


Figure S9. Ensemble output under RCP 4.5 for precipitation rate in summer

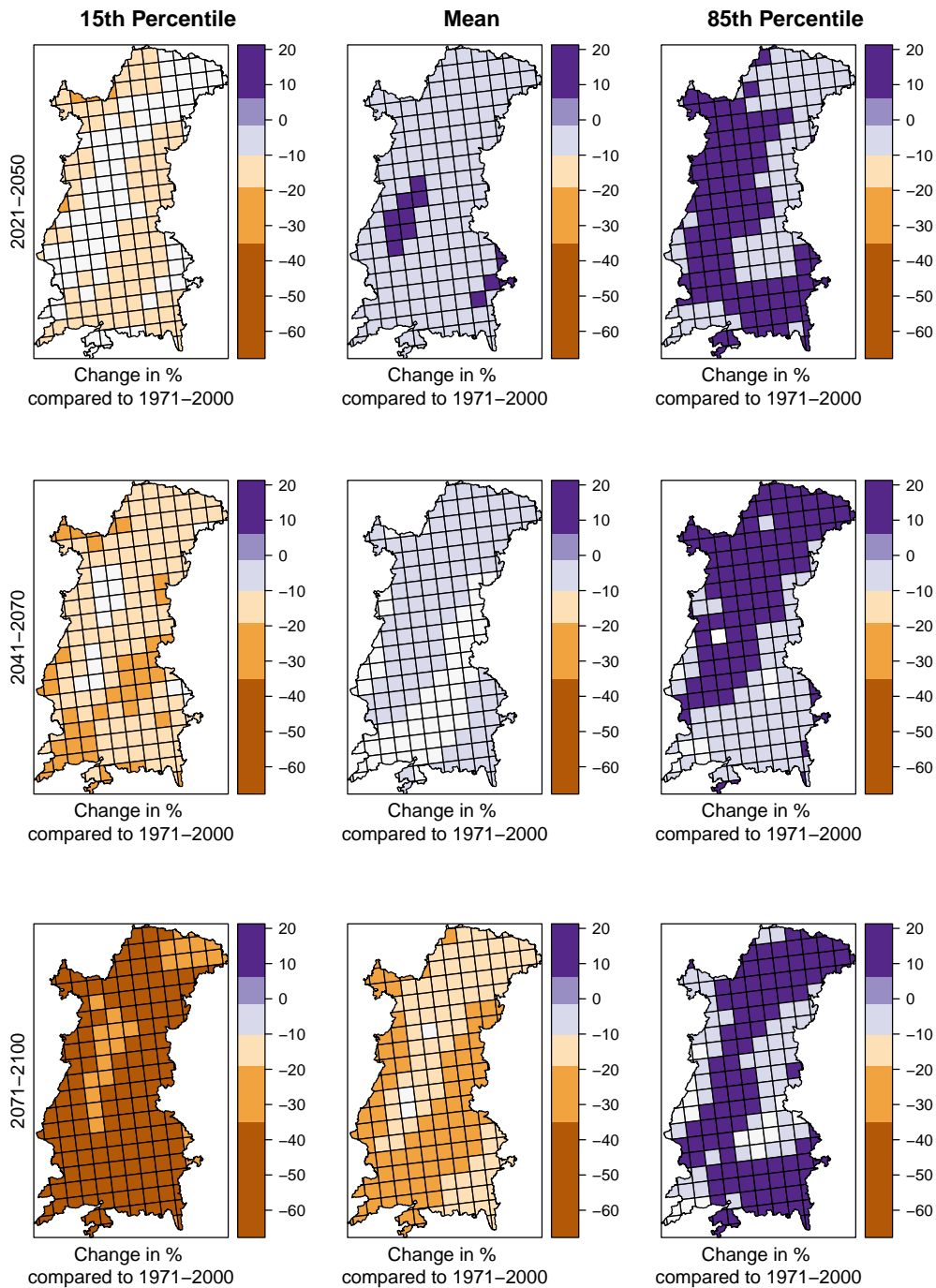


Figure S10. Ensemble output under RCP 8.5 for precipitation rate in summer

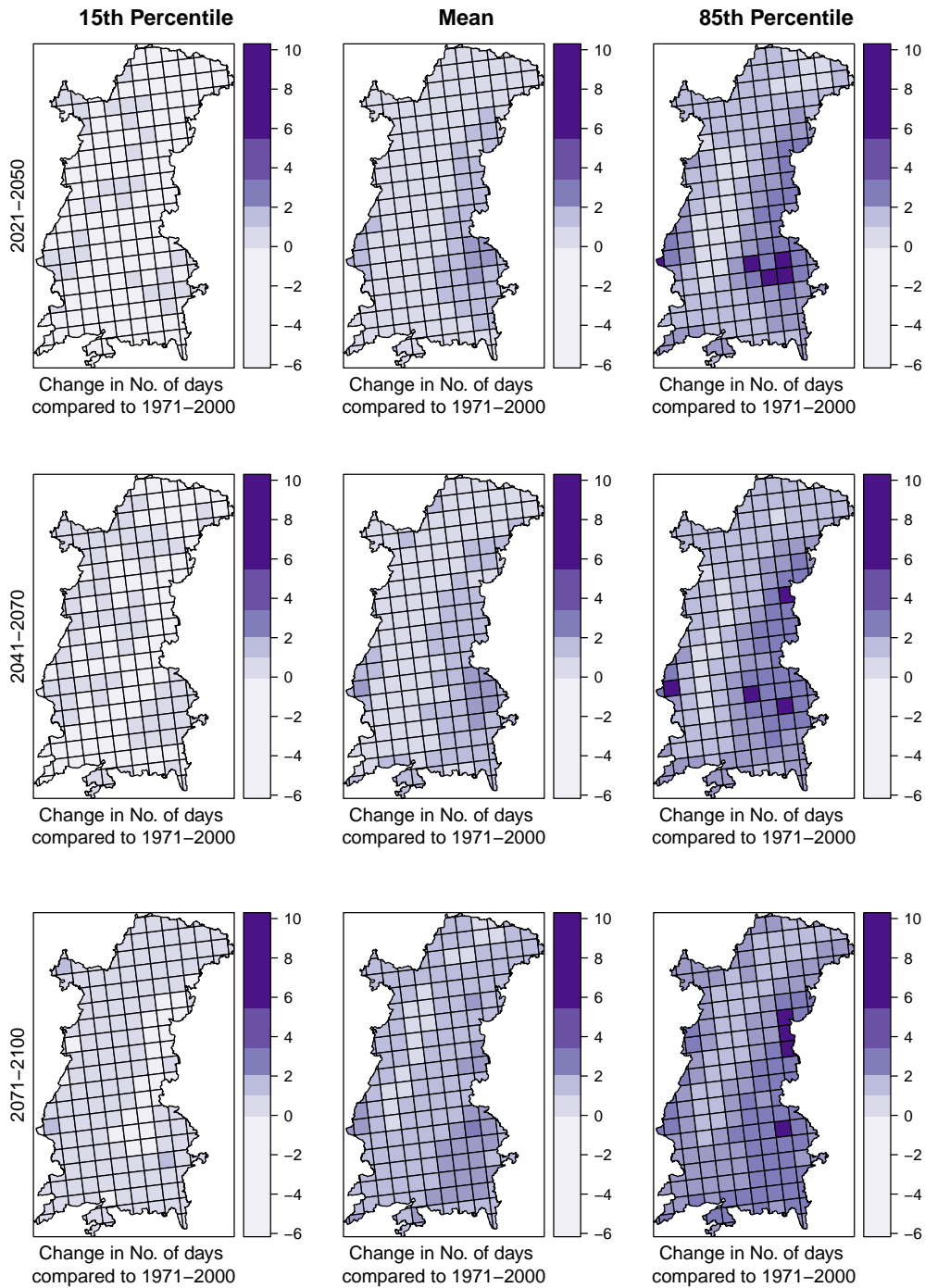


Figure S11. Ensemble output under RCP 4.5 for heavy precipitation

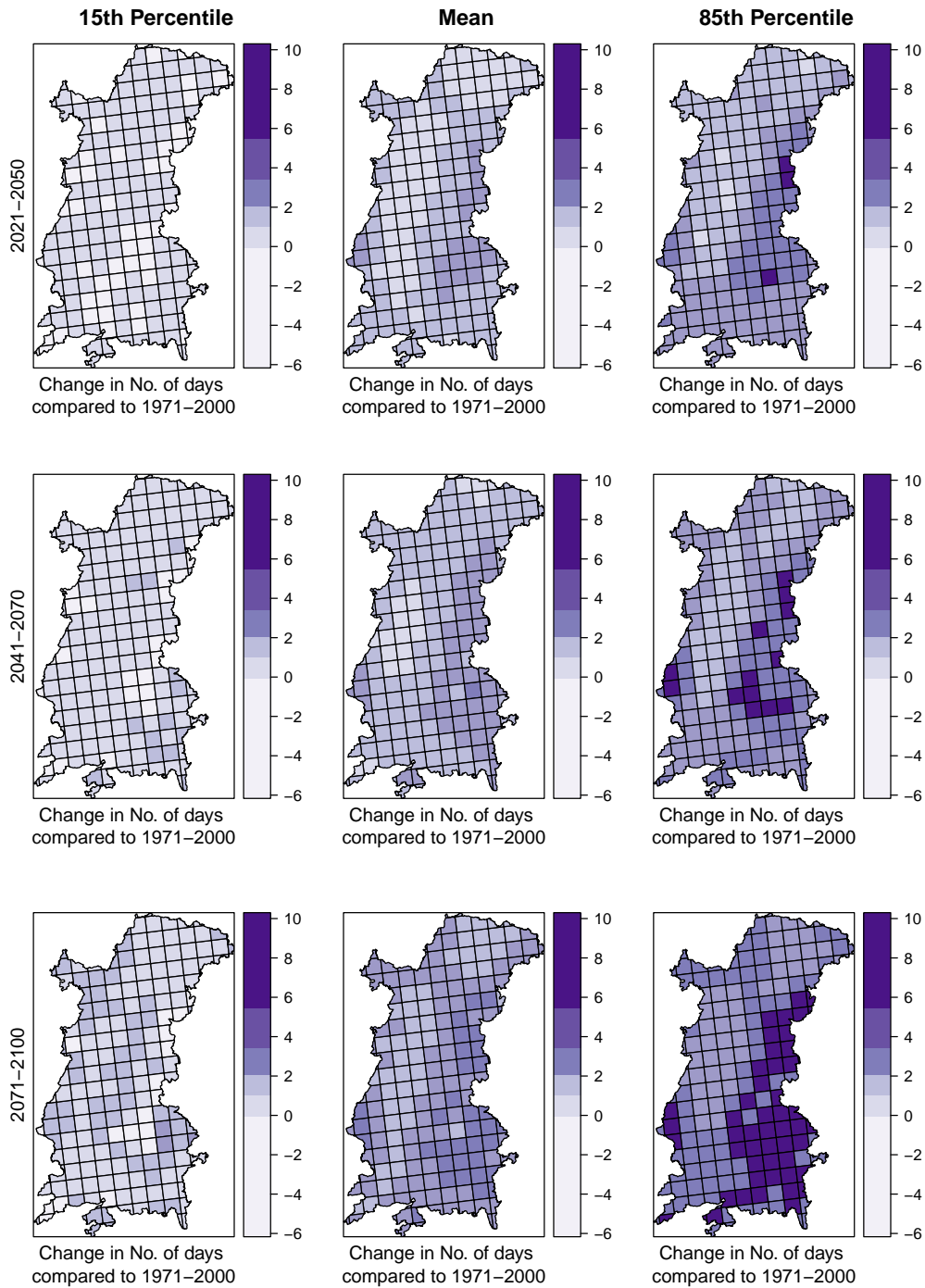


Figure S12. Ensemble output under RCP 8.5 for heavy precipitation

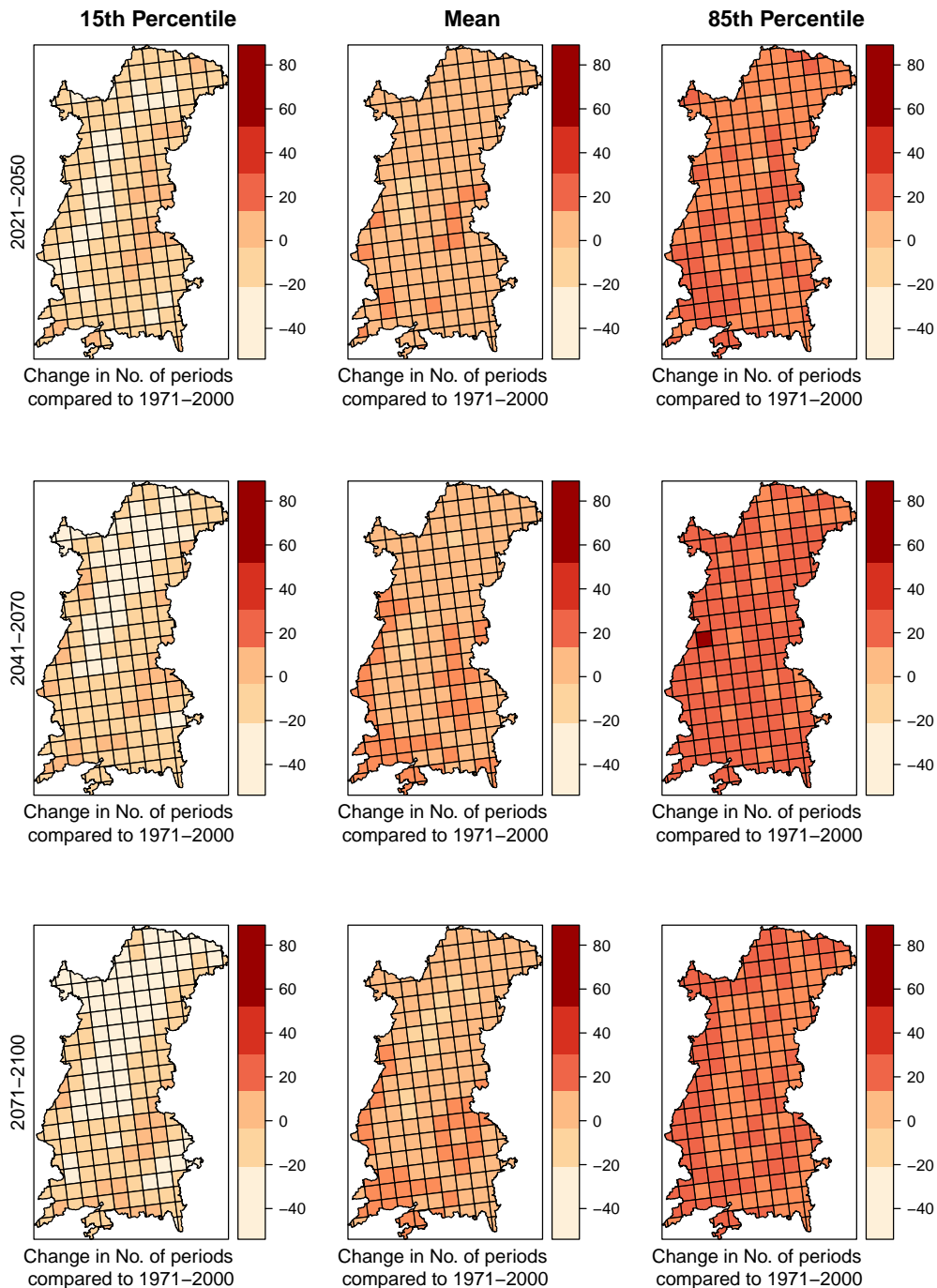


Figure S13. Ensemble output under RCP 4.5 for consecutive dry day periods

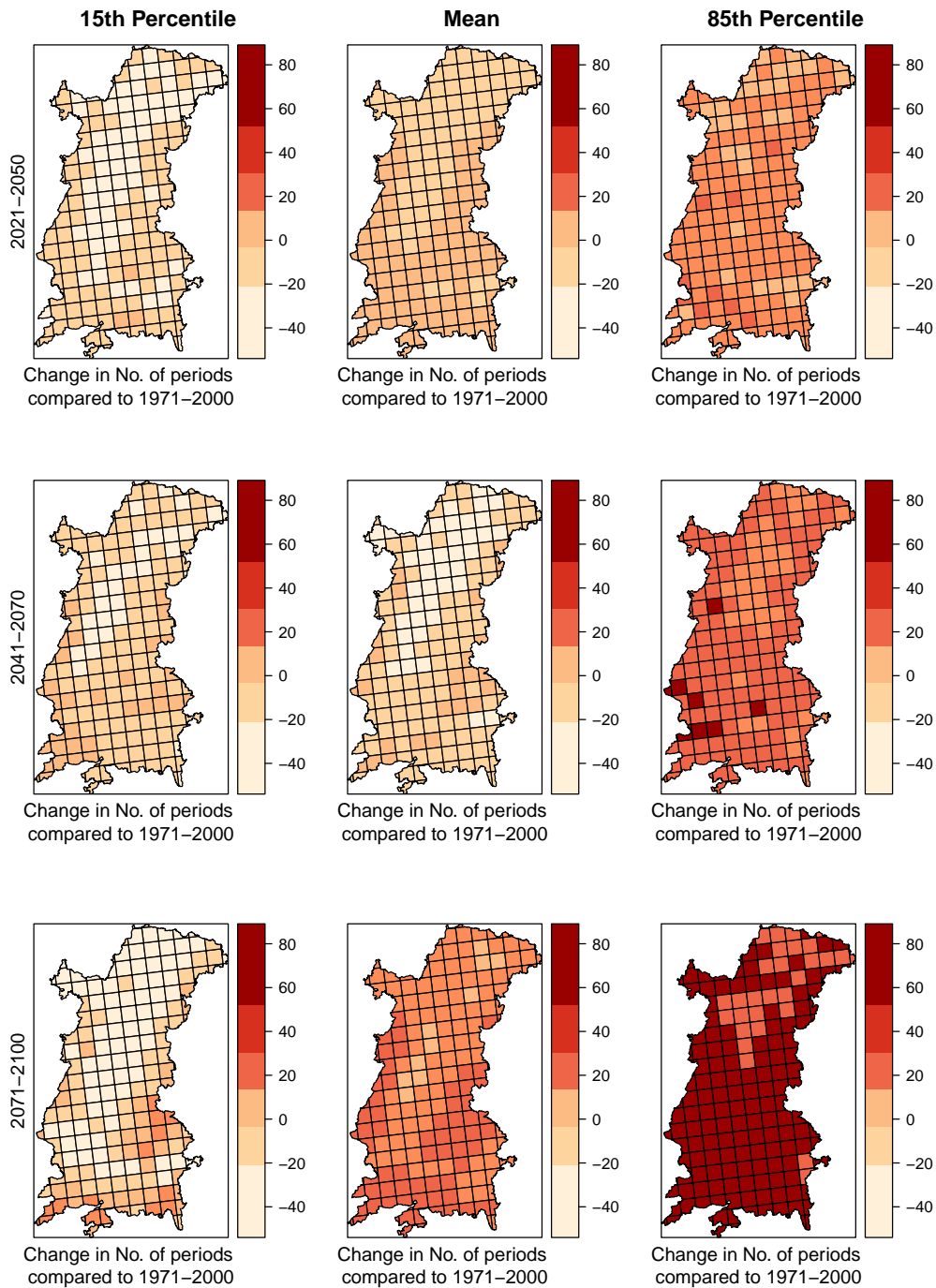


Figure S14. Ensemble output under RCP 8.5 for consecutive dry day periods

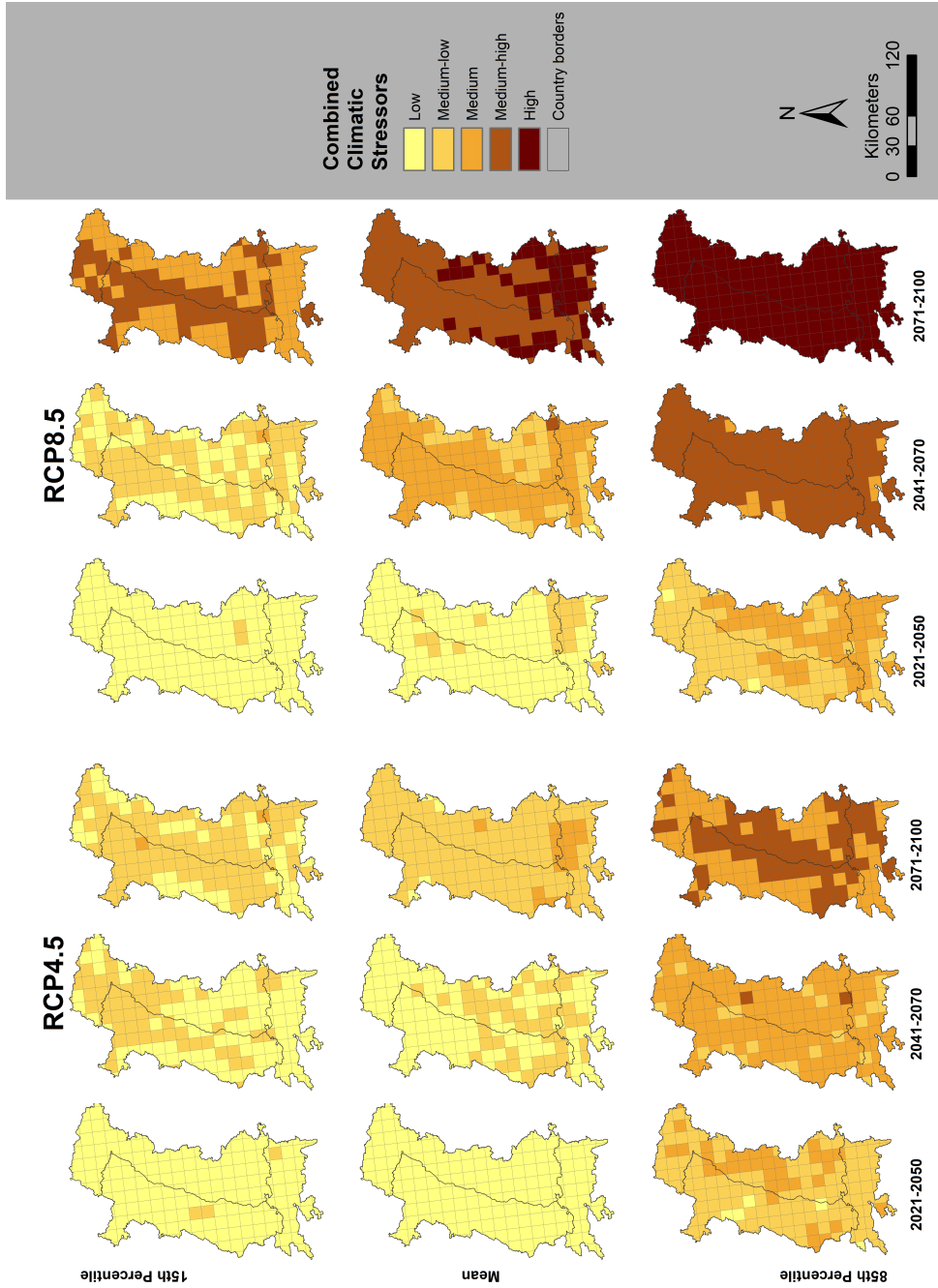


Figure S15. Combined climatic stressors

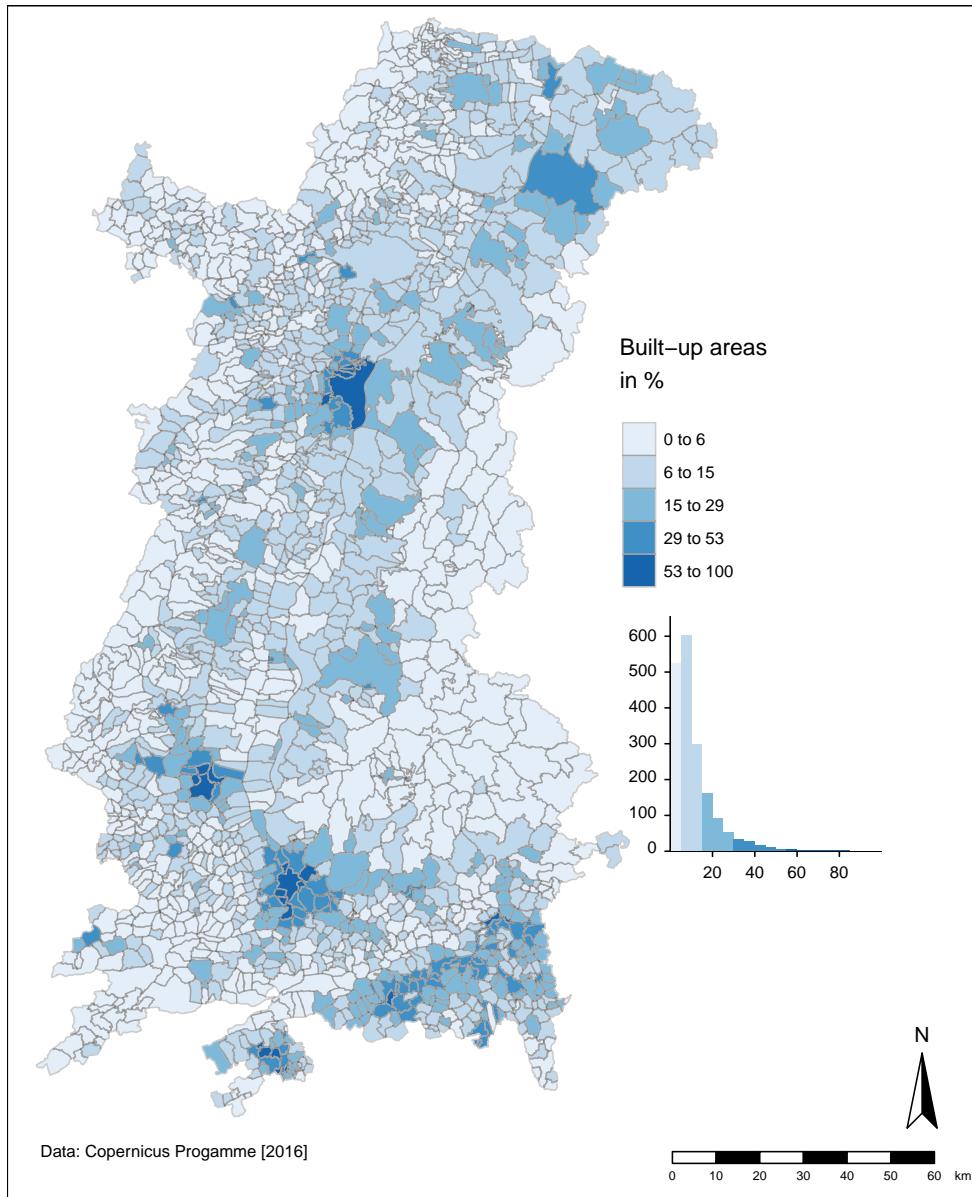


Figure S16. Percentage of built-up-areas per community

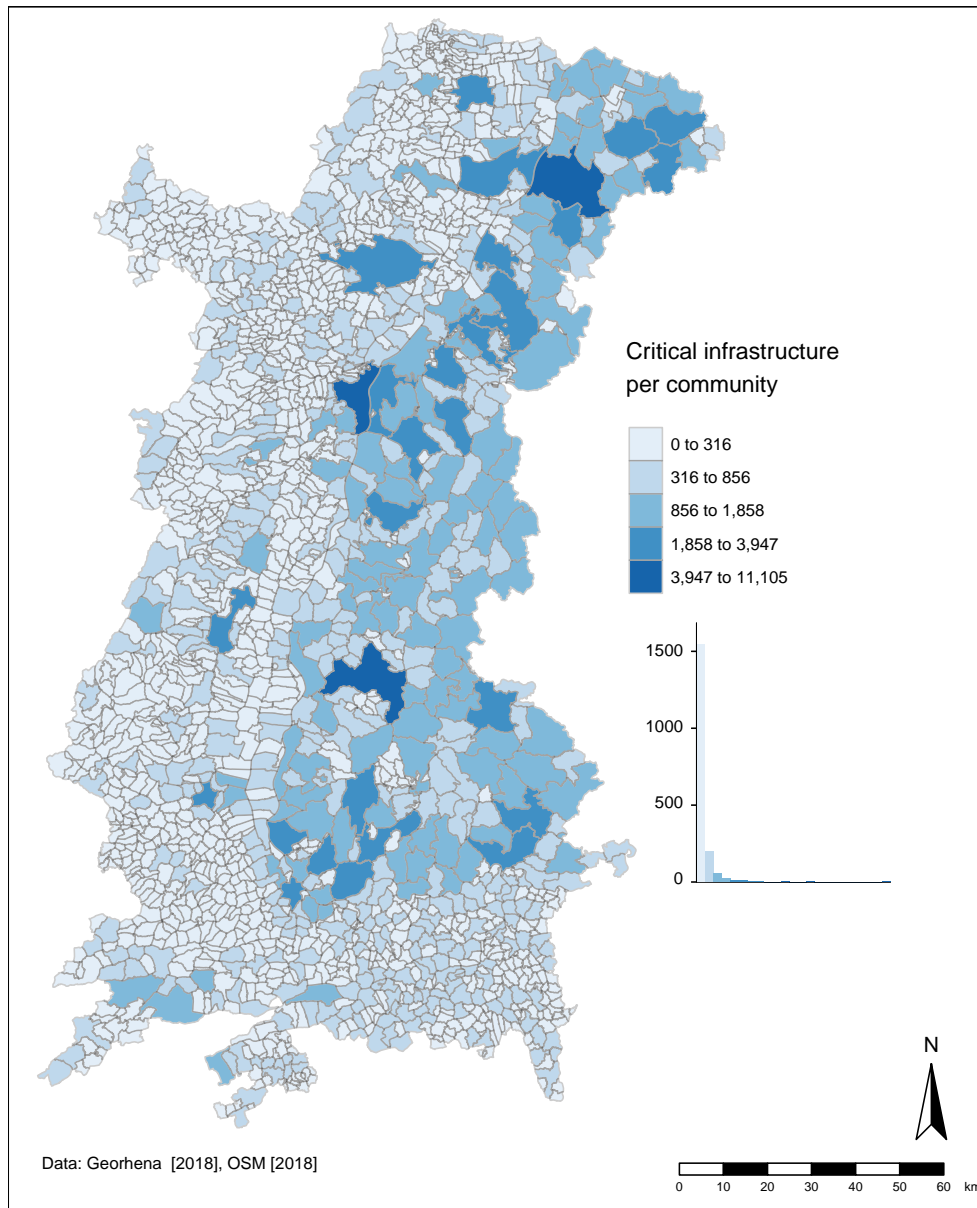


Figure S17. Number of critical infrastructures per community

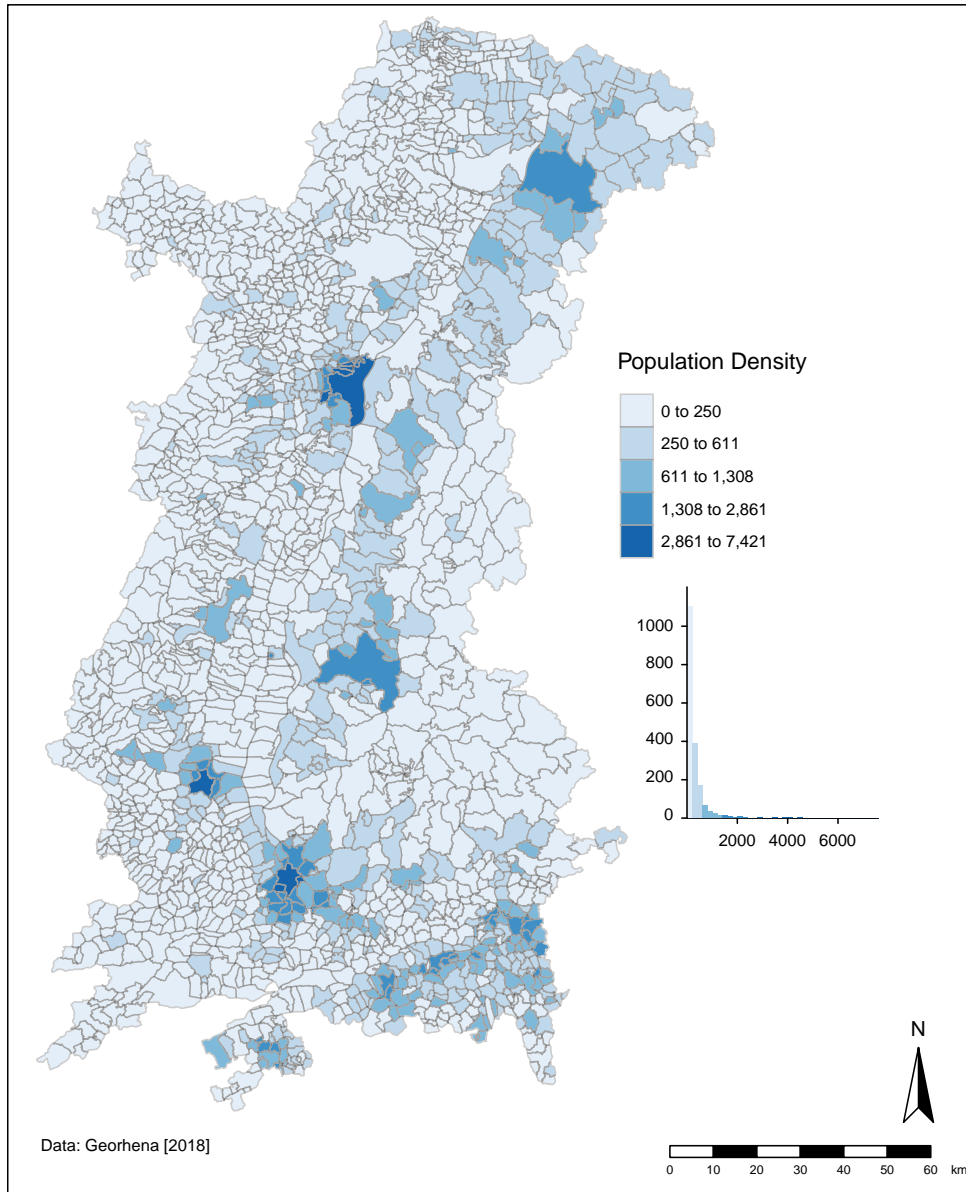


Figure S18. Population density per community

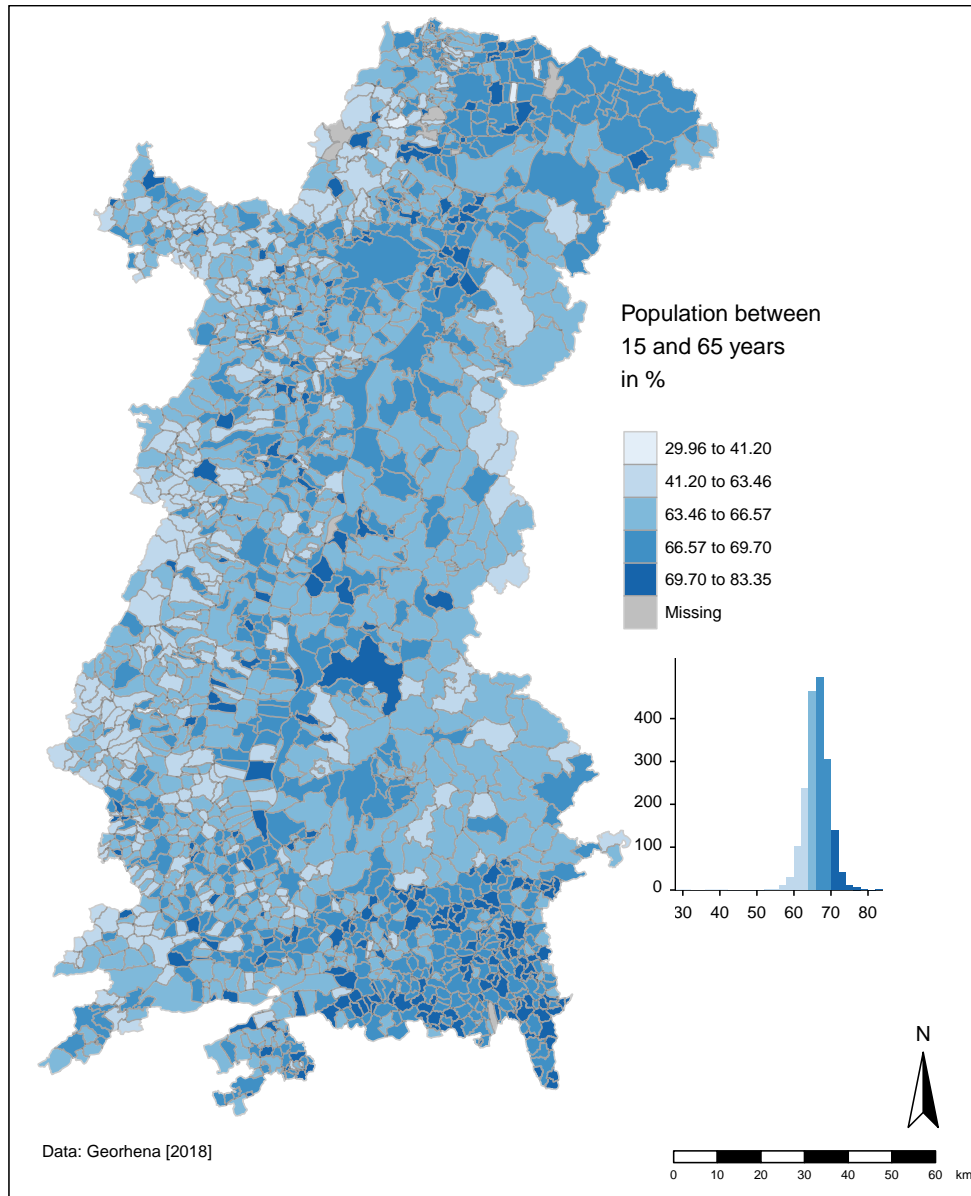


Figure S19. Percentage of population between 15 and 65 years per community

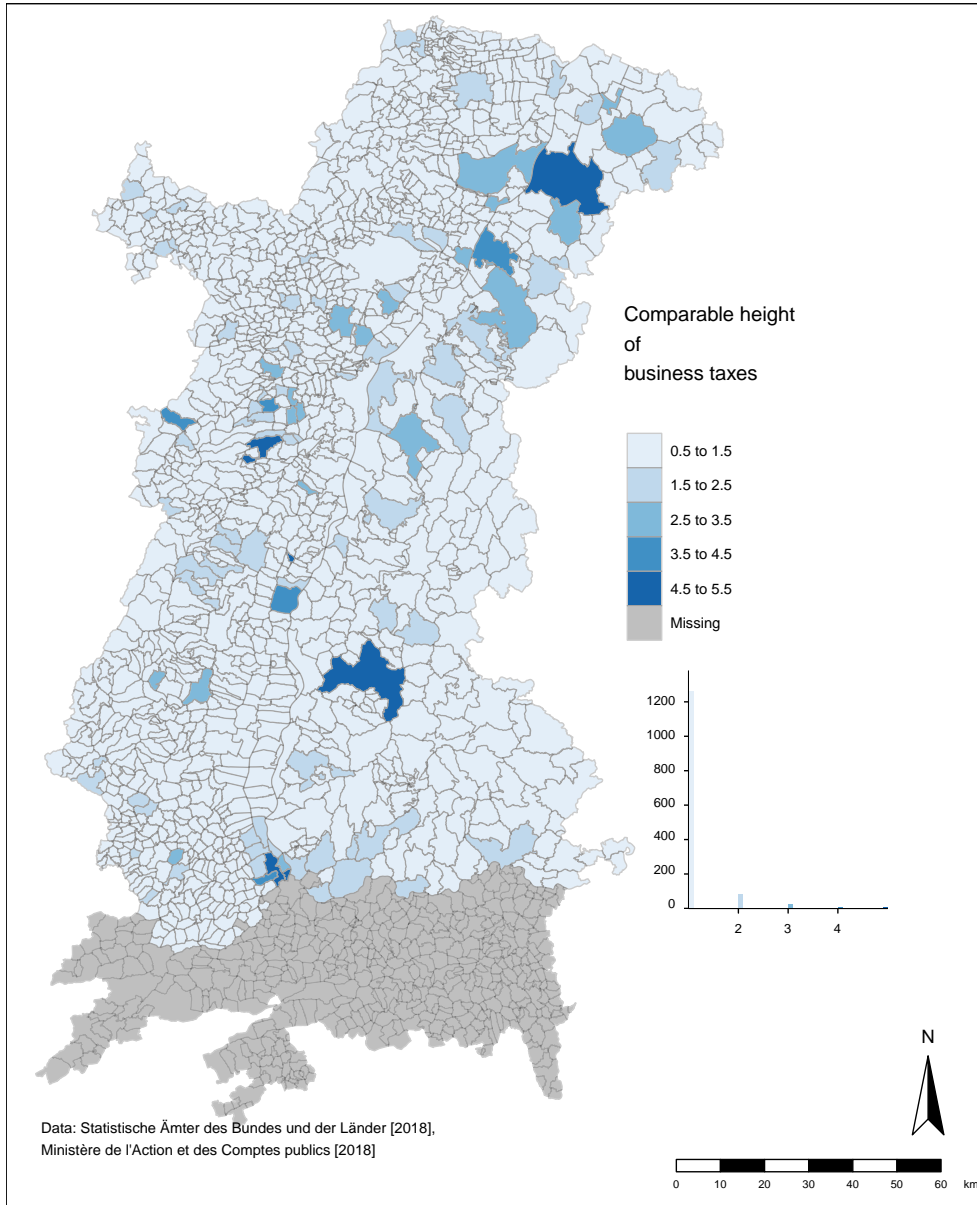


Figure S20. Comparable height of business tax per community

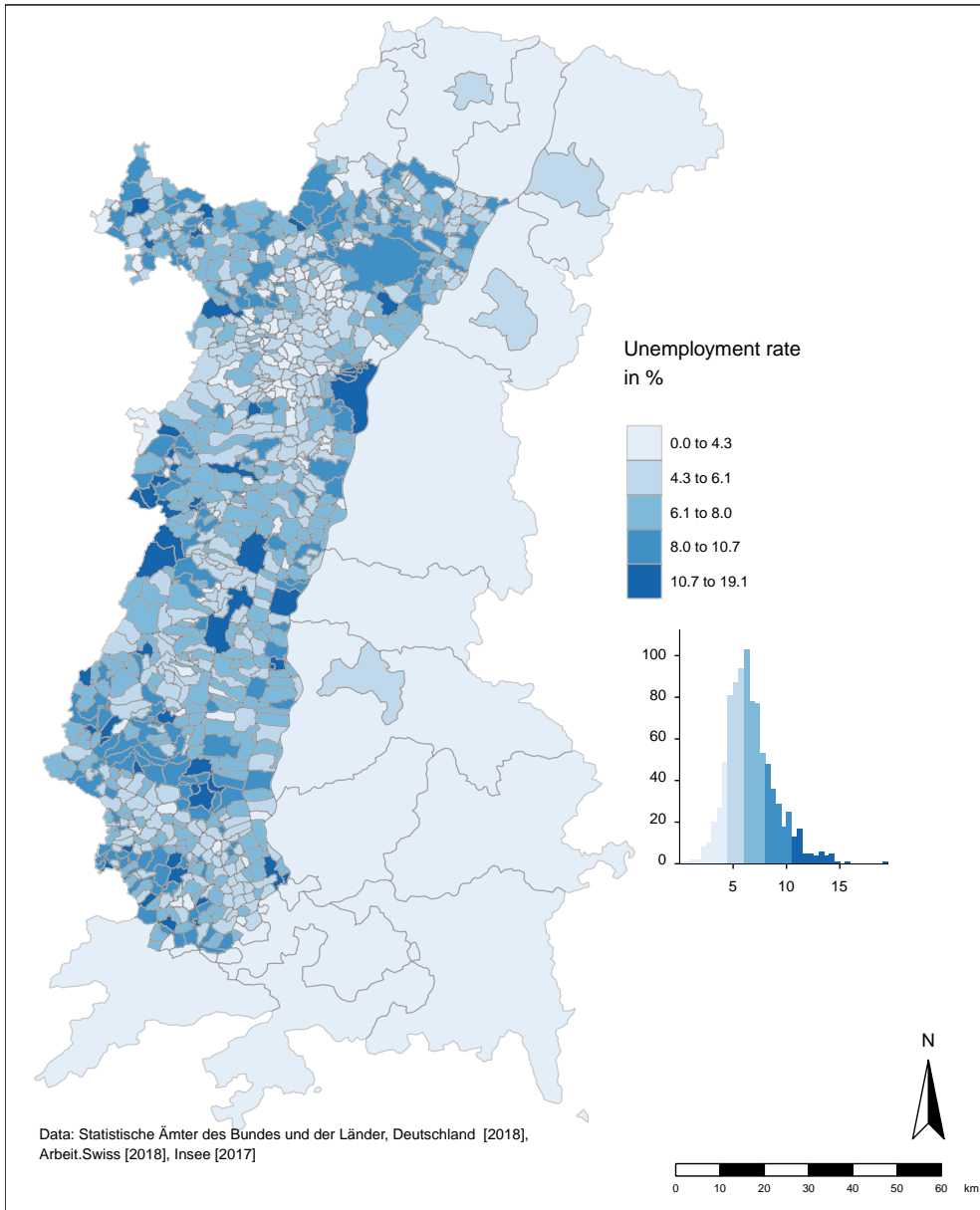


Figure S21. Unemployment rate per community or district

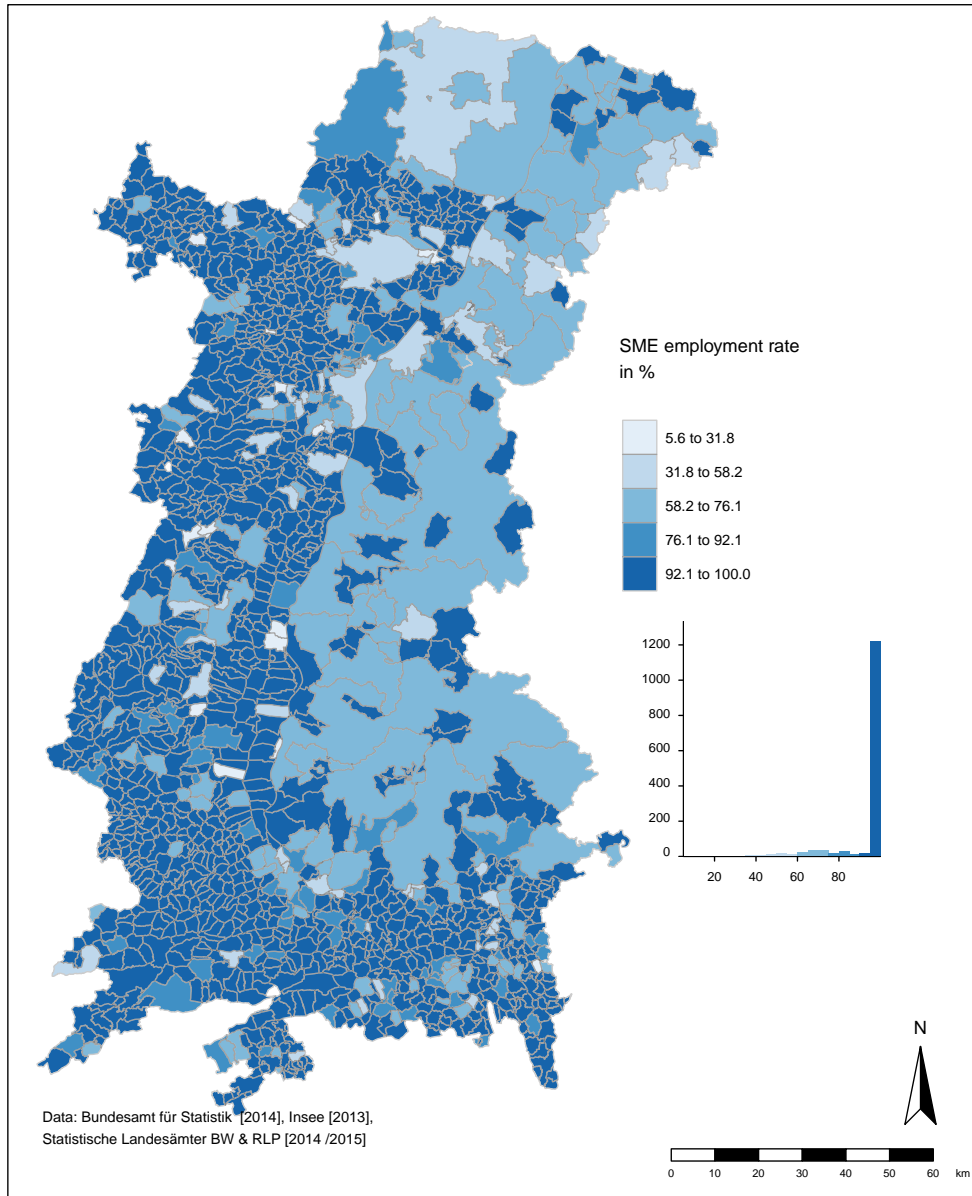


Figure S22. Percentage of small and medium sized businesses per community

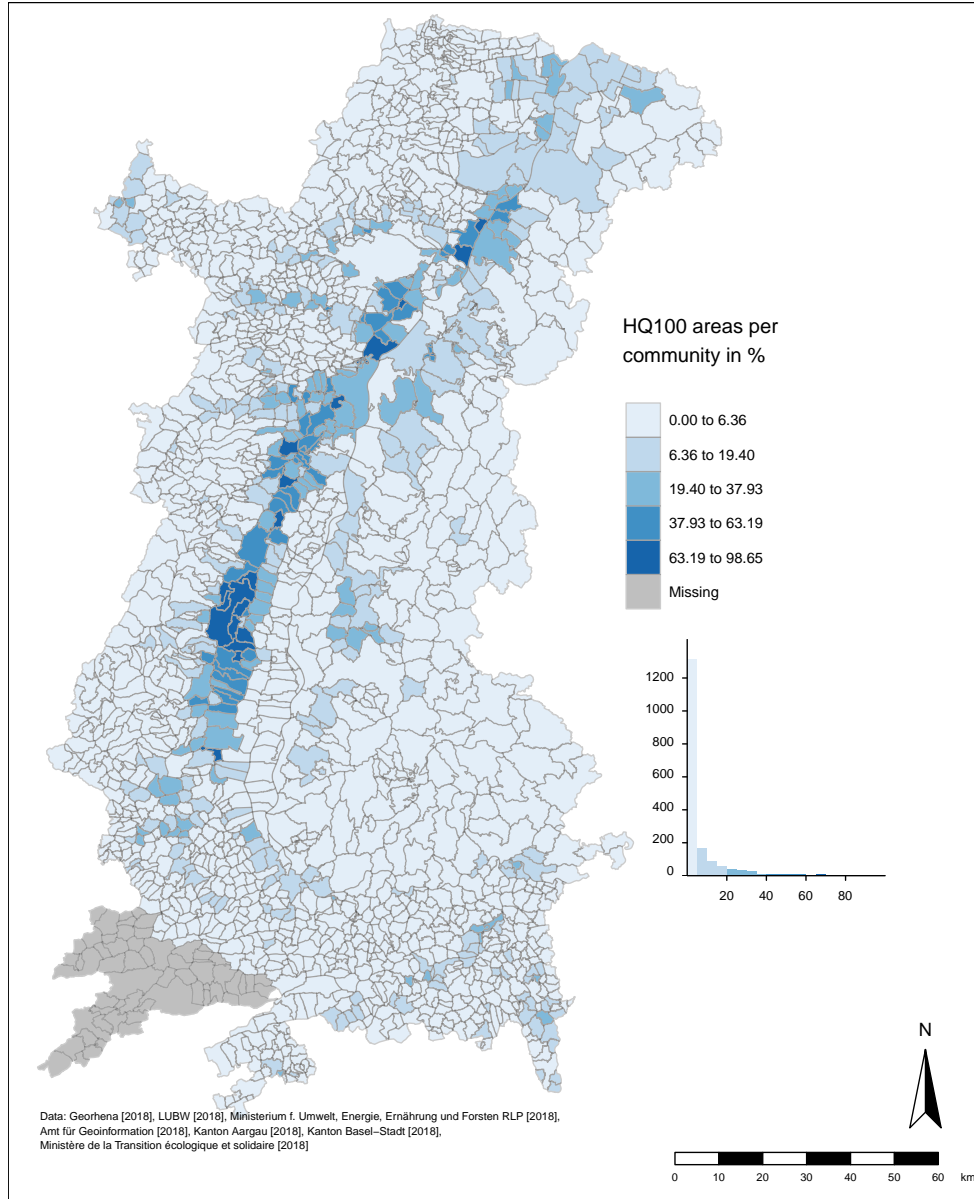


Figure S23. Percentage of flood affected areas per community

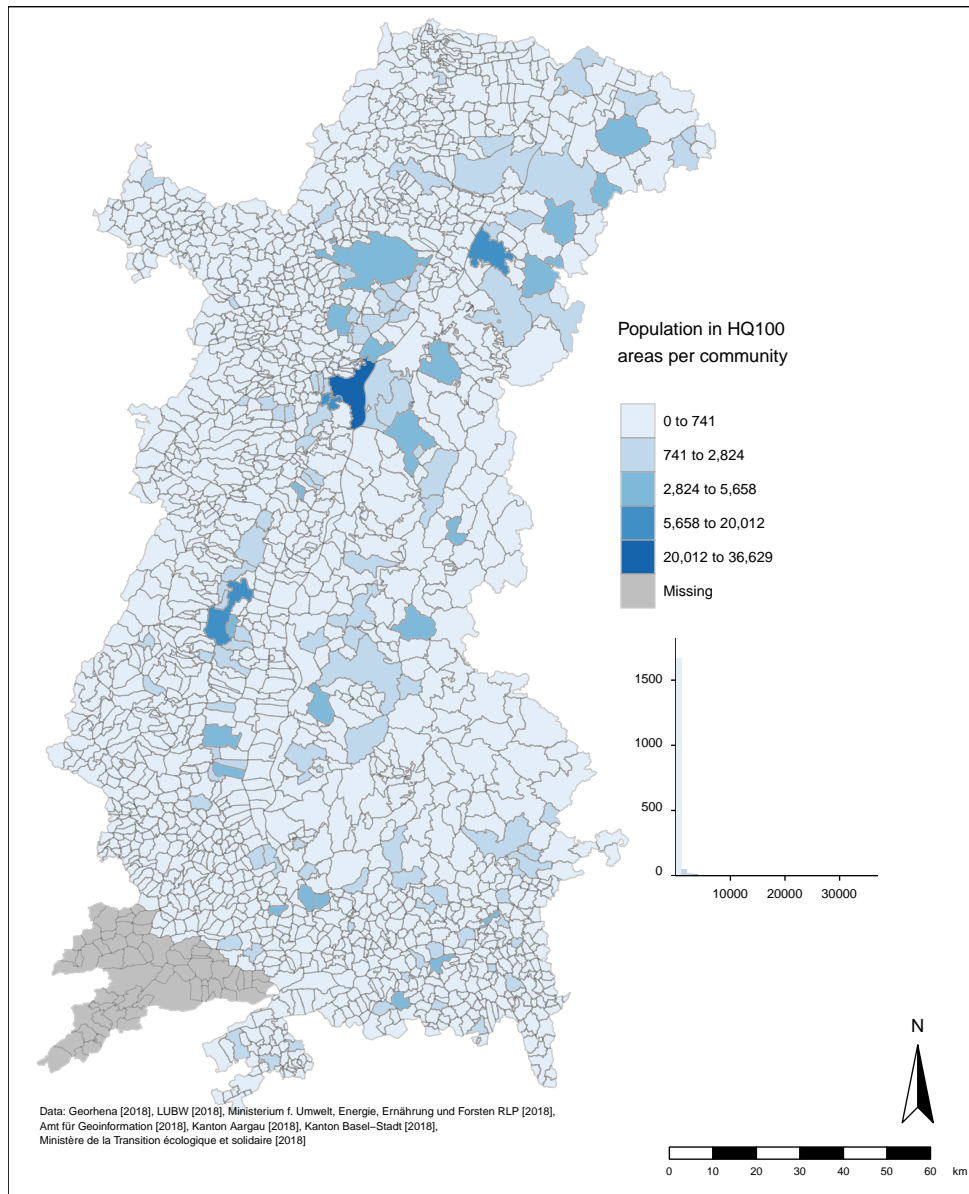


Figure S24. Absolute population in flood areas

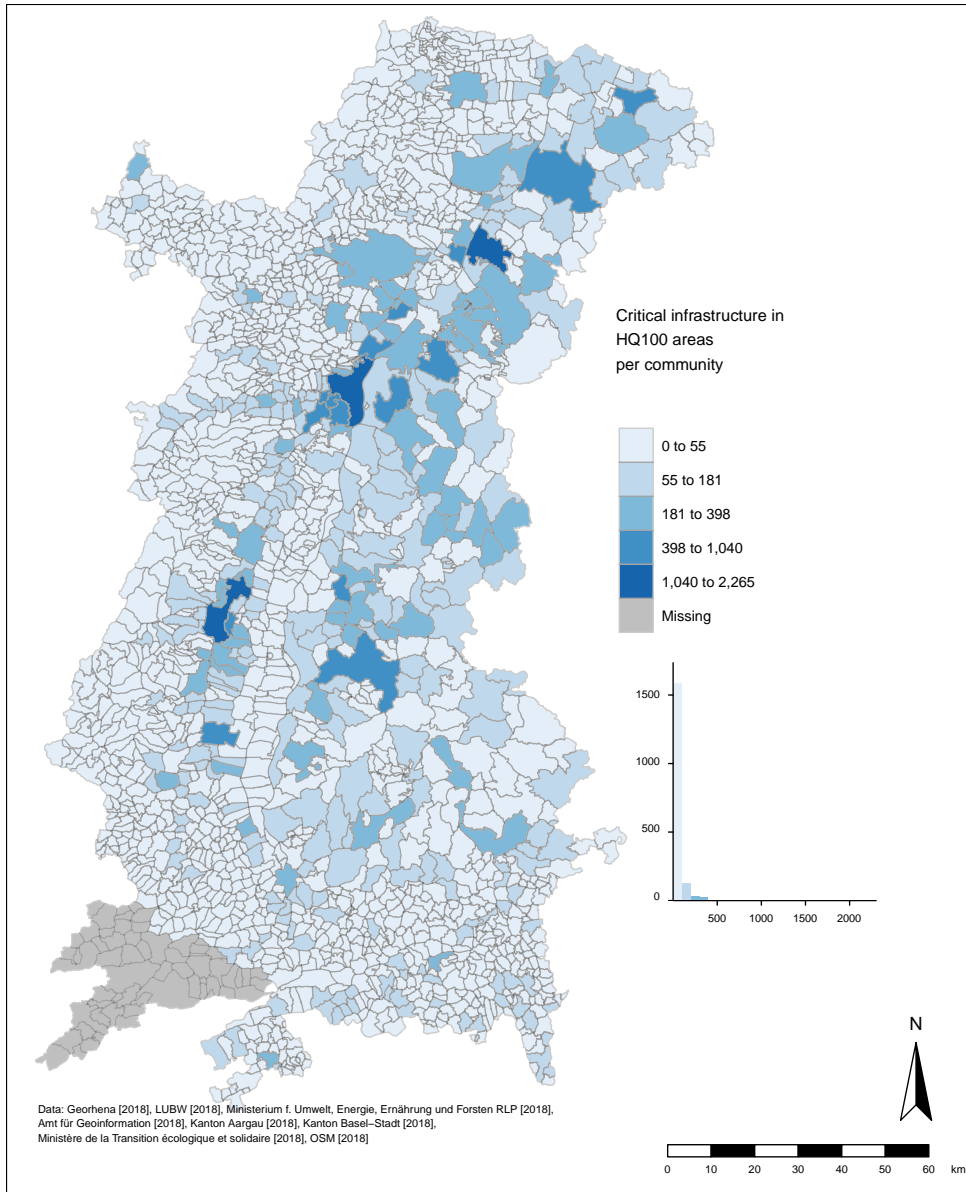


Figure S25. Critical infrastructure in flood areas

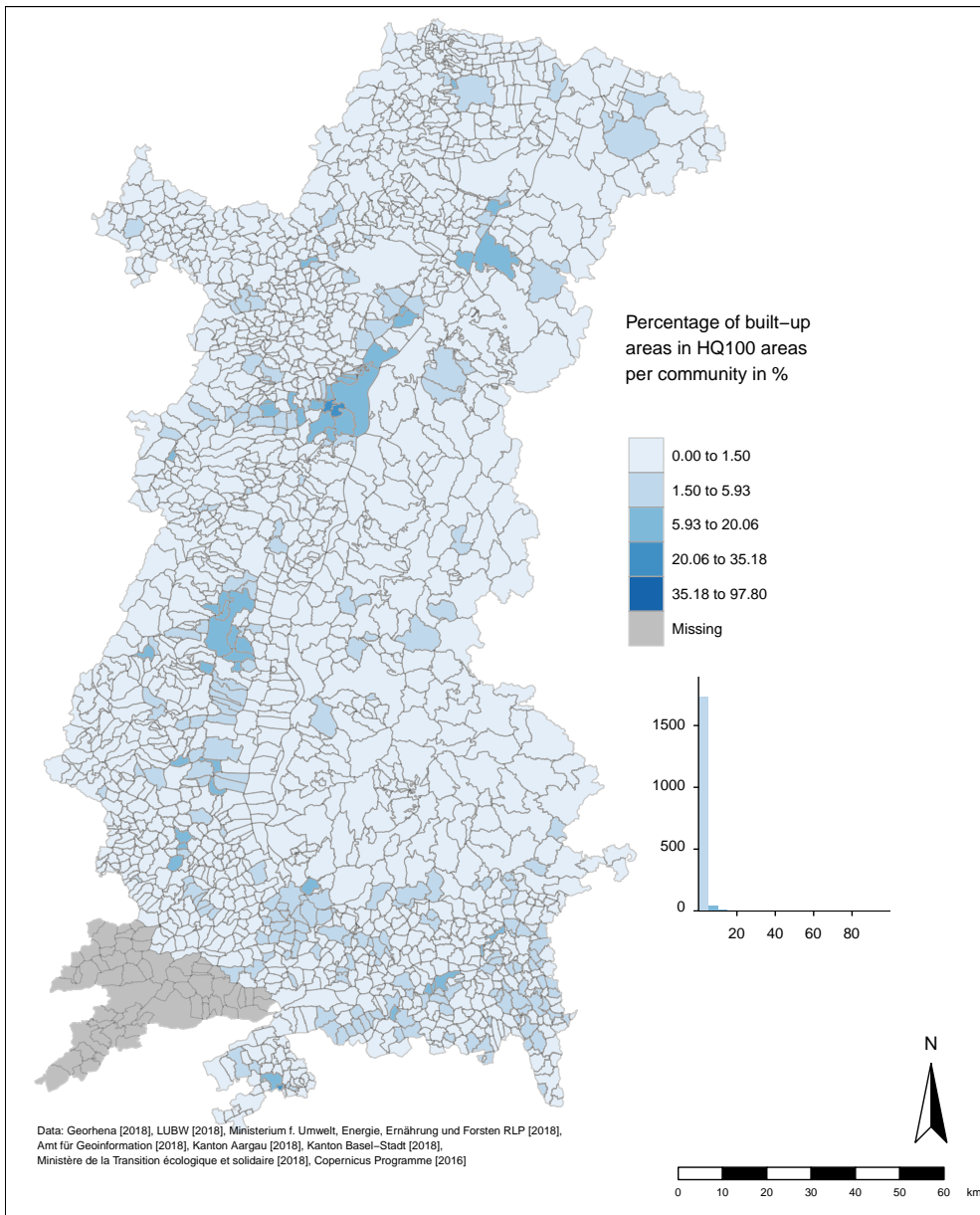


Figure S26. Build-up areas in flood areas

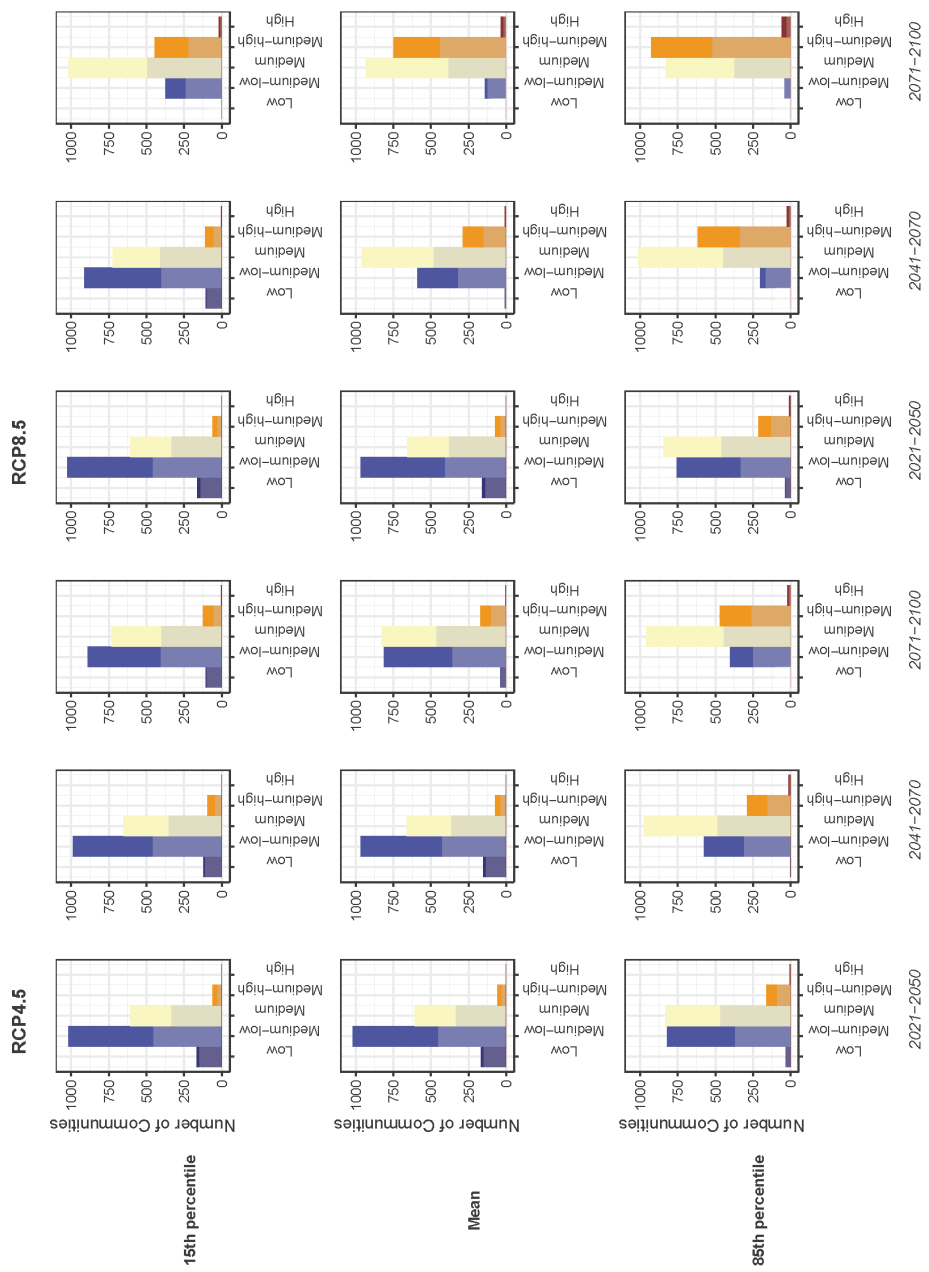


Figure S27. Number of communities within each risk category grouped by the climate model configuration. Lighter colours indicate communities with uncertainty issues adopted from the socio-economic dimension.