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*Supplement of*

## **Anthropogenic aerosol forcing under the Shared Socioeconomic Pathways**

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1 Supplementary Information

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3 *Table S1: RFari in 2020 and 2050 relative to 1750 by component for SSP1-1.9 and SSP3-7.0*

	Year	total	Sulfate	BC	POA	Biomass	Nitrate	SOA
SSP119	2020	-0.12	-0.22	0.23	-0.05	0.01	-0.03	-0.02
	2050	-0.08	-0.08	0.05	-0.09	0.006	-0.02	-0.007
	2100	-0.03	-0.03	0.02	-0.02	0.002	-0.02	0.002
SSP370	2020	-0.13	-0.27	0.32	-0.06	0.01	-0.04	-0.03
	2050	-0.14	-0.29	0.37	-0.08	0.005	-0.05	-0.03
	2100	-0.13	-0.24	0.33	-0.07	-0.002	-0.07	-0.03

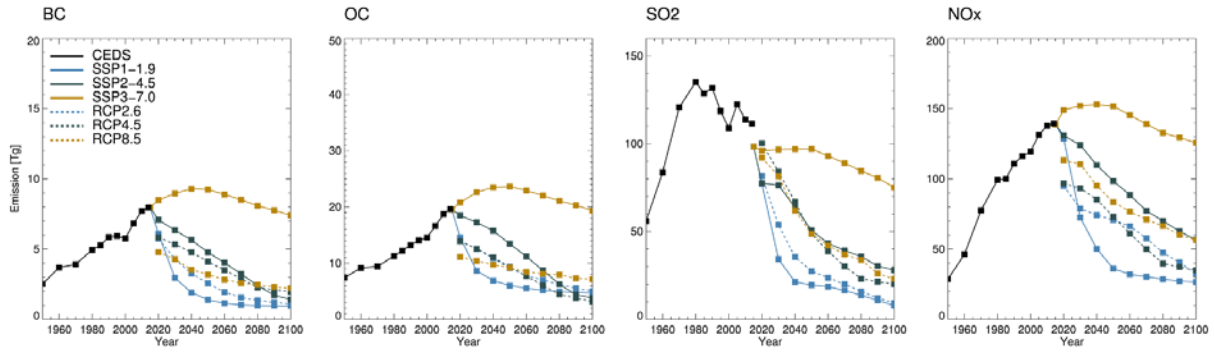
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5 *Table S2: Timeseries of RFaci and RFari relative to 1750*

	RFaci			RFari		
1750	0			0.00		
1850	-0.03			0.002		
1900	-0.08			-0.03		
1910	-0.12			-0.05		
1920	-0.13			-0.06		
1930	-0.15			-0.06		
1940	-0.17			-0.08		
1950	-0.21			-0.10		
1960	-0.26			-0.14		
1970	-0.33			-0.24		
1980	-0.38			-0.26		
1985	-0.37			-0.24		
1990	-0.40			-0.24		
1995	-0.44			-0.22		
2000	-0.40			-0.19		
2005	-0.45			-0.20		
2010	-0.44			-0.17		
2014	-0.44			-0.17		
	SSP1-1.9	SSP2-4.5	SSP3-7.0	SSP1-1.9	SSP2-4.5	SSP3-7.0
2015	-0.42	-0.42	-0.42	-0.13	-0.13	-0.13
2020	-0.34	-0.36	-0.42	-0.12	-0.10	-0.13
2030	-0.16	-0.35	-0.42	-0.06	-0.13	-0.13
2050	-0.11	-0.26	-0.42	-0.08	-0.09	-0.14
2100	-0.01	-0.11	-0.38	-0.03	-0.09	-0.13

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9 *Figure S1: Annual global fossil fuel plus biofuel combustion emissions of BC, OC, SO<sub>2</sub> and NO<sub>x</sub> over the*  
 10 *period 2015 to 2100 in SSP1-1.9, SSP2-4.5 and SSP3-7.0 (solid colored lines) and RCP2.6, RCP4.5 and*  
 11 *RCP8.5 (dashed lines). Also shown is the development from 1950 to 2014 from the CEDS inventory.*

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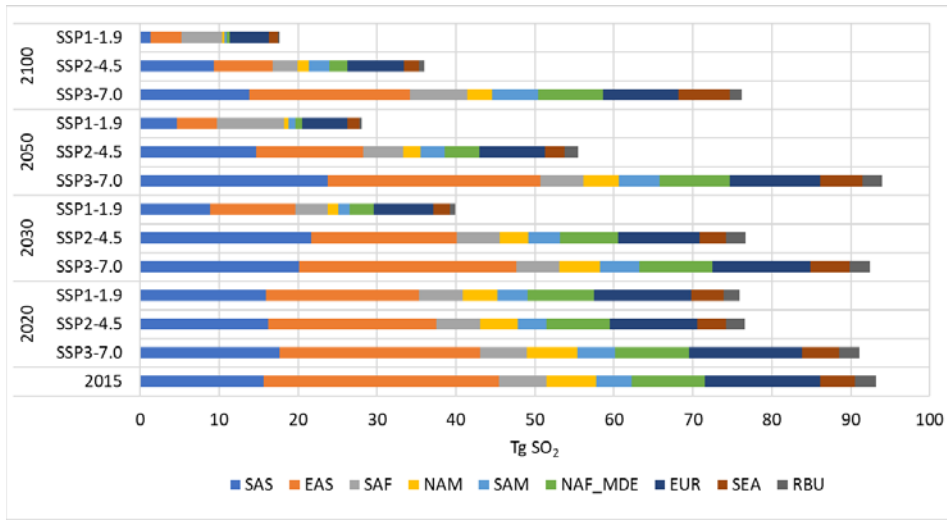
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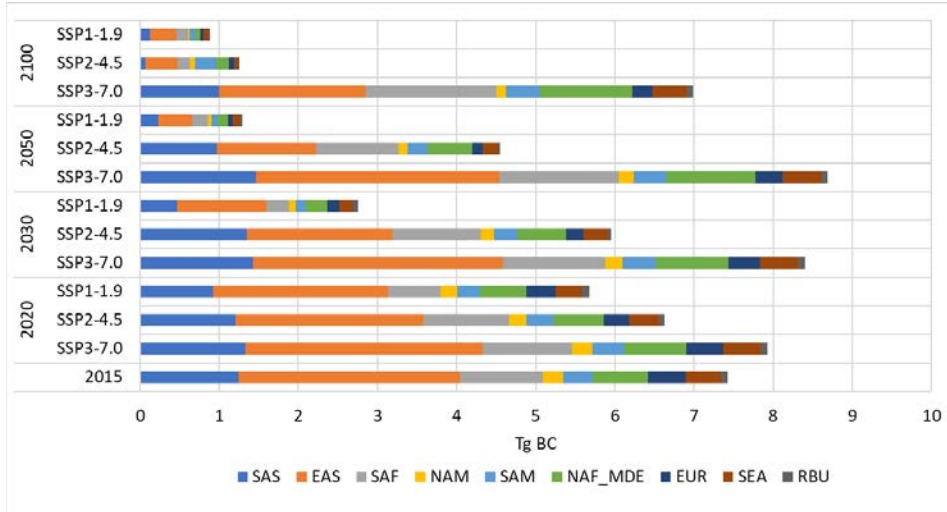
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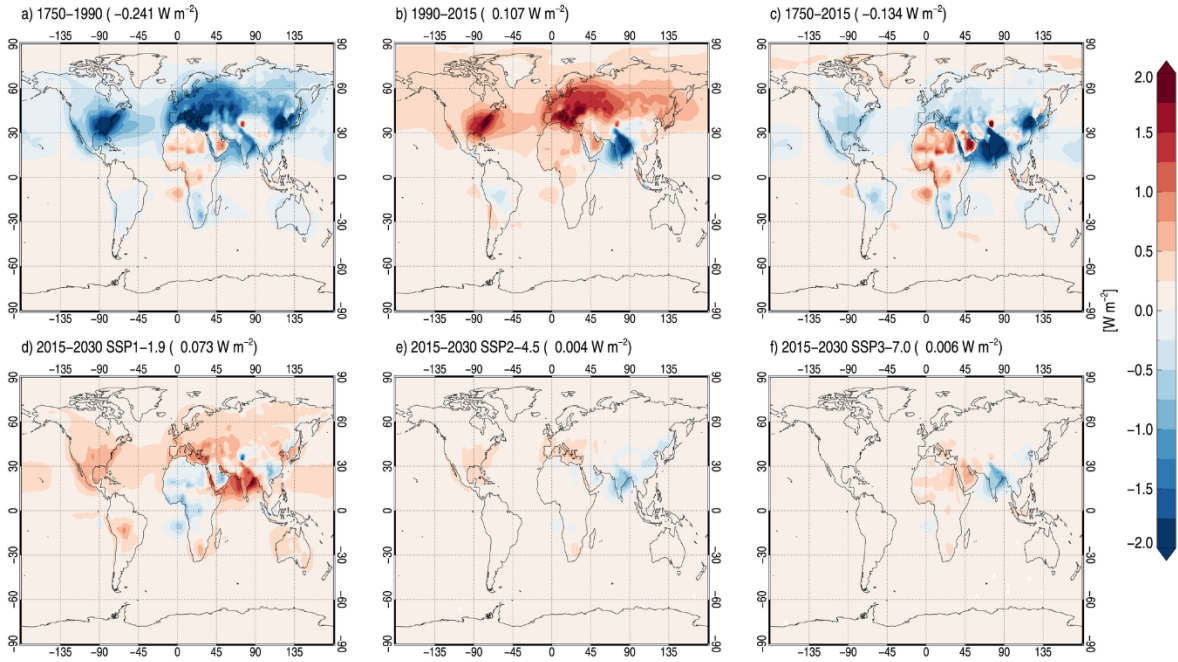
25 *Figure S2: Regional emissions of SO<sub>2</sub> (top) and BC (bottom) in 2015, 2020, 2030, 2050 and*  
 26 *2100 following the three SSPs used in the present study.*

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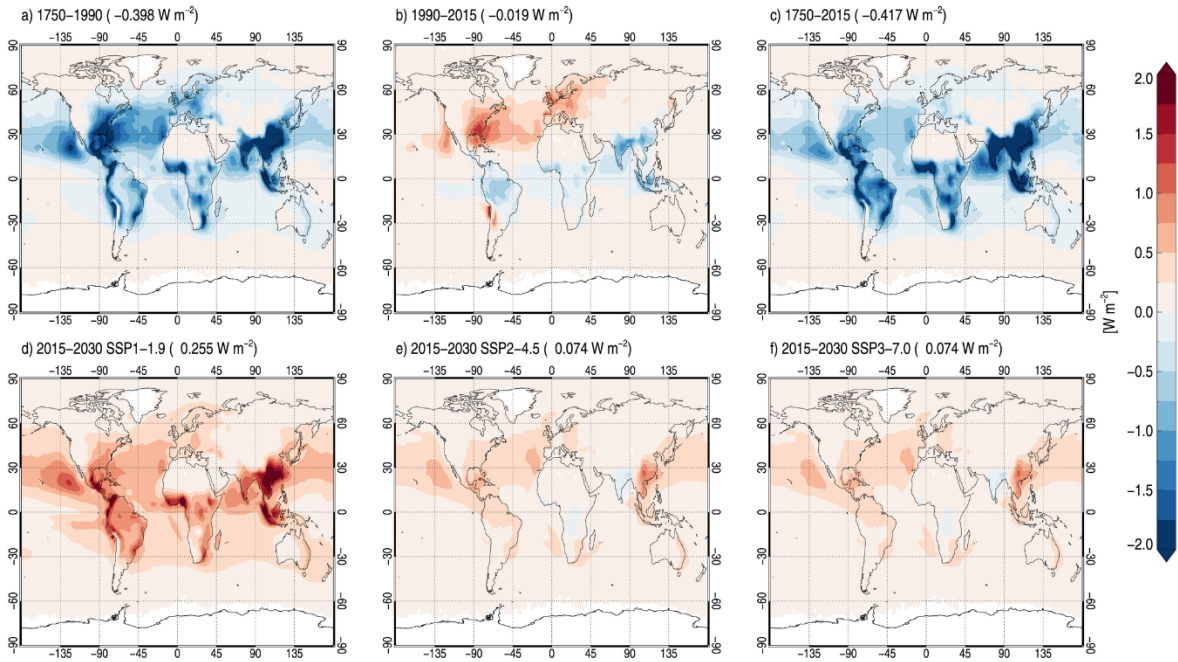
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33 *Figure S3: changes in RFarI (top) and RFacI (bottom) for four time periods: 1750-1990, 1990-*  
 34 *2015, 1750-2015, and 2015-2030 under SSP1-1.9, SSP2-4.5 and SSP3-7.0.*

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