Variation of Siberian Vegetation Cover in the XXI in JSBACH Model Output

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GOAL

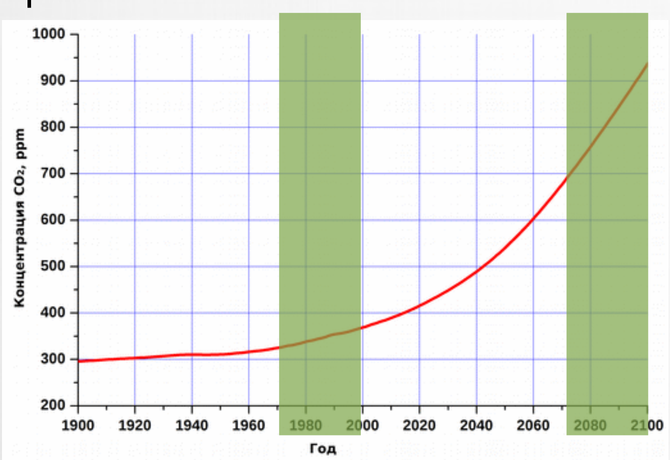
to assess the potential response
of Siberian vegetation
on the atmospheric forcing

Experimental Design

Global large scale model of intermediate complexity PLASIM

(Fraedrich K. et al., 2005)

- **atmosphere**
- ocean and sea ice
- land surface and soil
- biosphere



Atmospheric CO_2 concentration, RCP 8.5, 1901-2100.

Land surface model JSBACH

(Raddatz T. J. et al., 2007; Reick, C. et al., 2013)

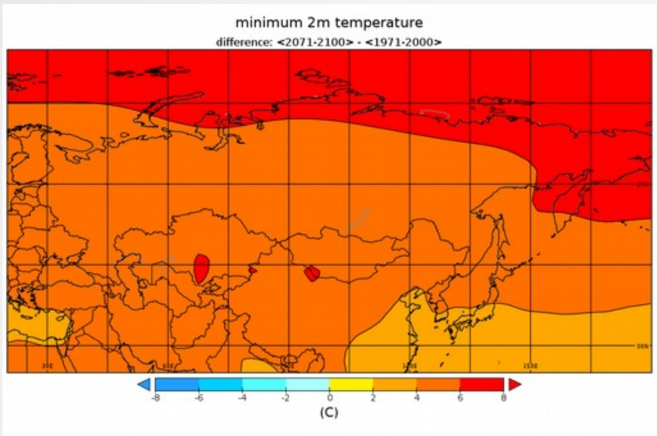
- soil hydrology
- soil heat transfer
- energy balance on the surface
- absorption, storage and emission of carbon from plants and soils
- photosynthesis
- predictive phenological scheme
- vegetation dynamics (natural, as well as damage by wind and fires)

For each model day:

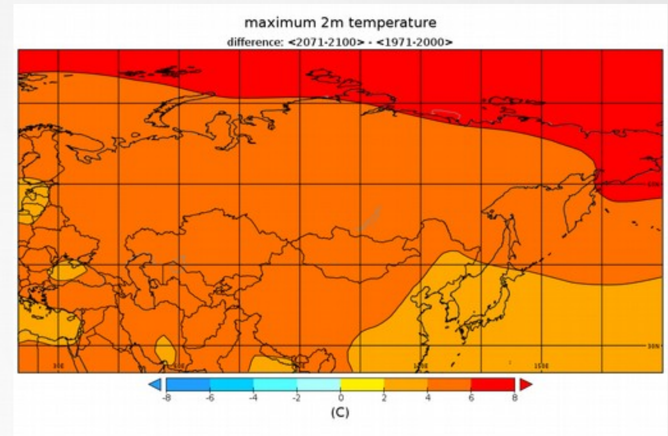
- Minimum and maximum day temperature at 2 m [0C]
- Wind speed at 10 m [m/s]
- Precipitation [kg/m 2 s]
- Specific humidity at surface [kg/kg]
- Shortwave and longwave downward radiation [W/m 2]
- Clear sky downward shortwave radiation [W/m 2]

Atmospheric forcing

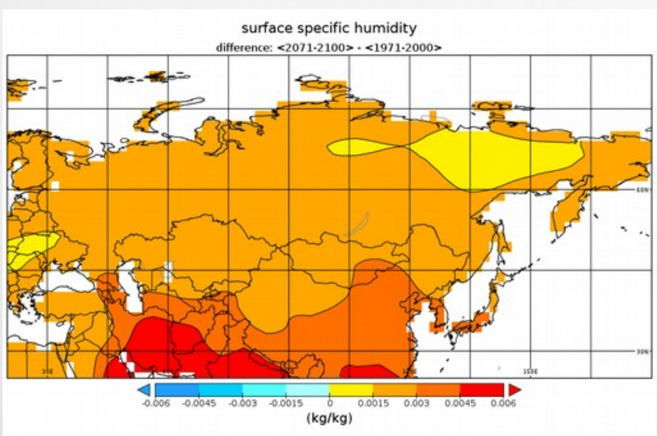
Day min T2m



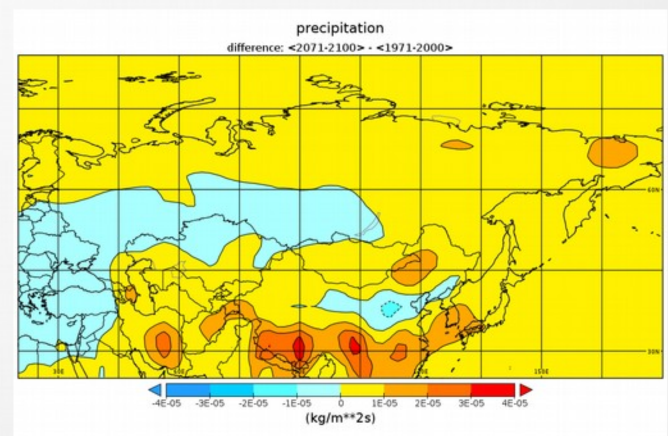
Day max T2m



Surf. spec. humid.

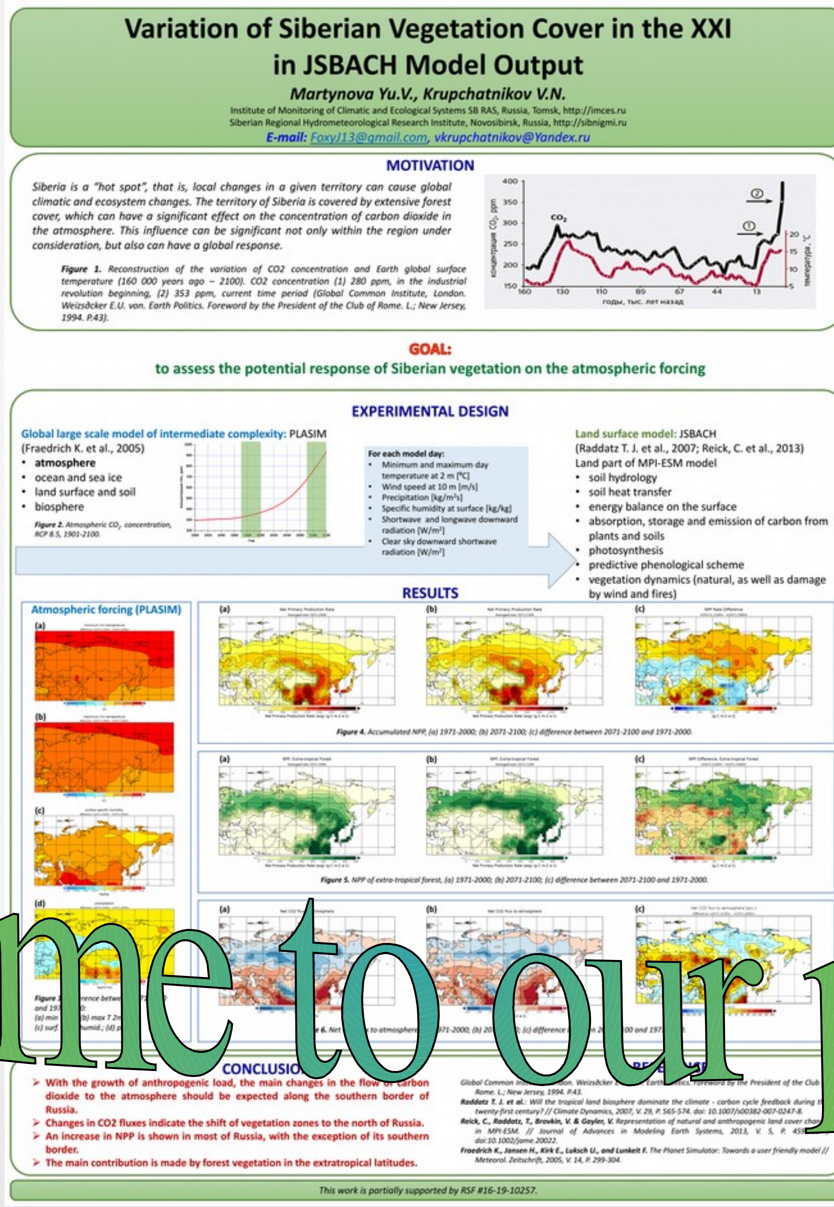


Precipitation



Difference between 2071-2100 and 1971-2000

Results and Conclusion



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