

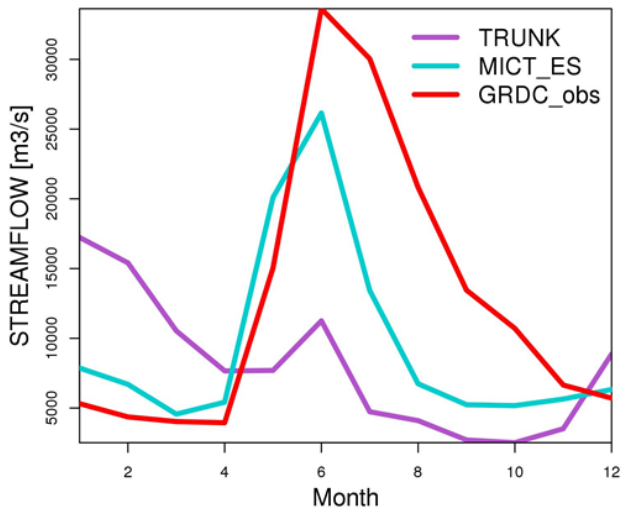
Evaluation of Trunk version simulated hydrology over Siberia

S. Dantec-Nédélec,
C. Ottlé, F. Maignan..

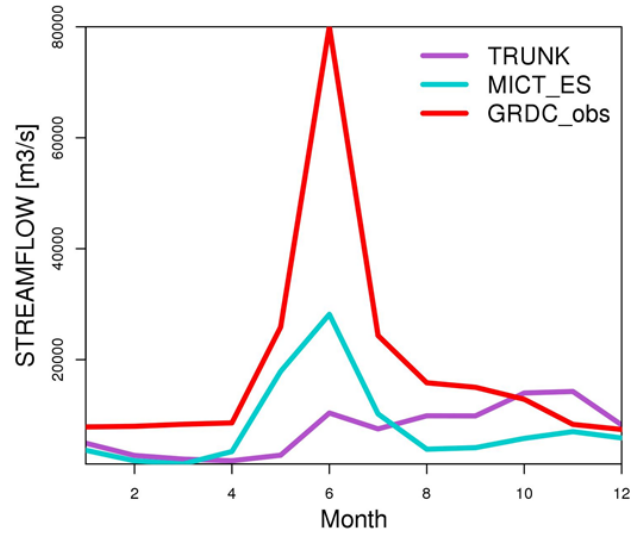
- Orchidee versions comparison :
 - Standard Orchidee configuration (Trunk)
 - Trunk-ES (with the soil freezing and 3L snow)
- Forcing data : WFDEI (1979-2009) : “WATCH Forcing Data methodology applied to ERA-Interim data”
- SPINUP : 100 years (1979-1988)*10
- 3 watersheds (Ob, Yenessei, Léna) with different snow and permafrost conditions

Streamflows evaluation against GRDC database (outlet stations)

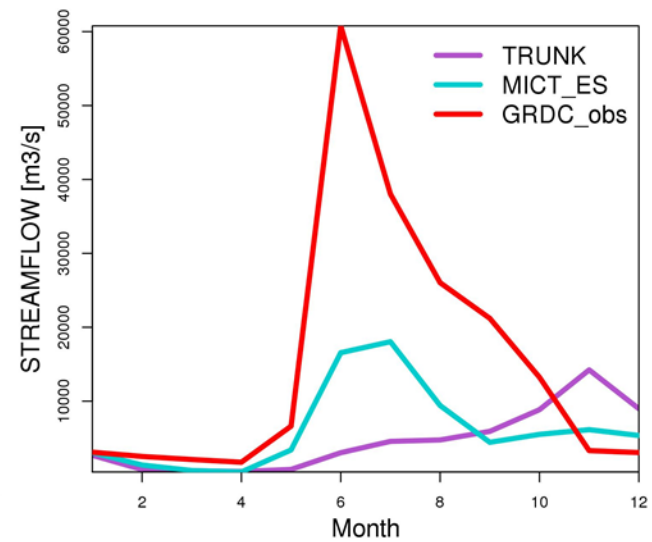
Ob(1979-1994) monthly average



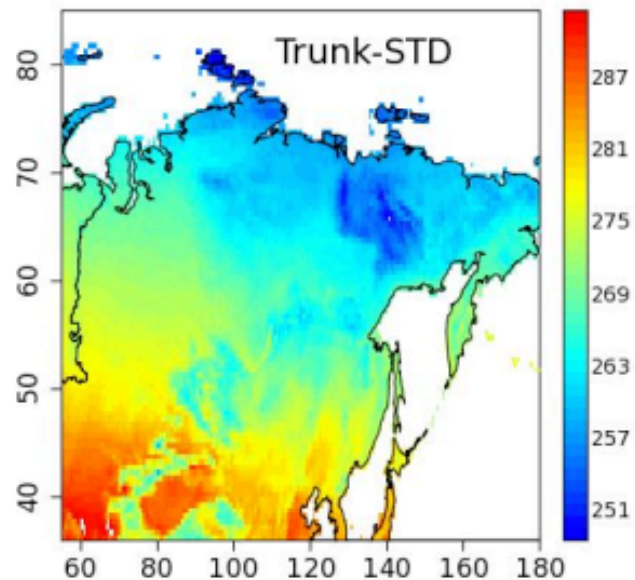
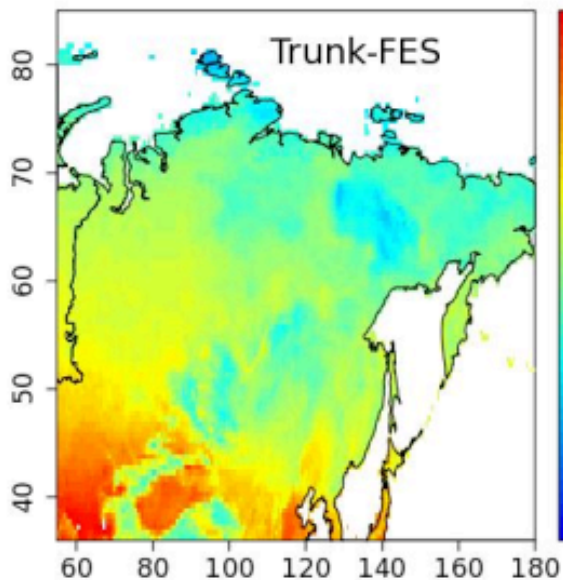
Yenesei(1979-1994) monthly average



Lena(1979-1994) monthly average

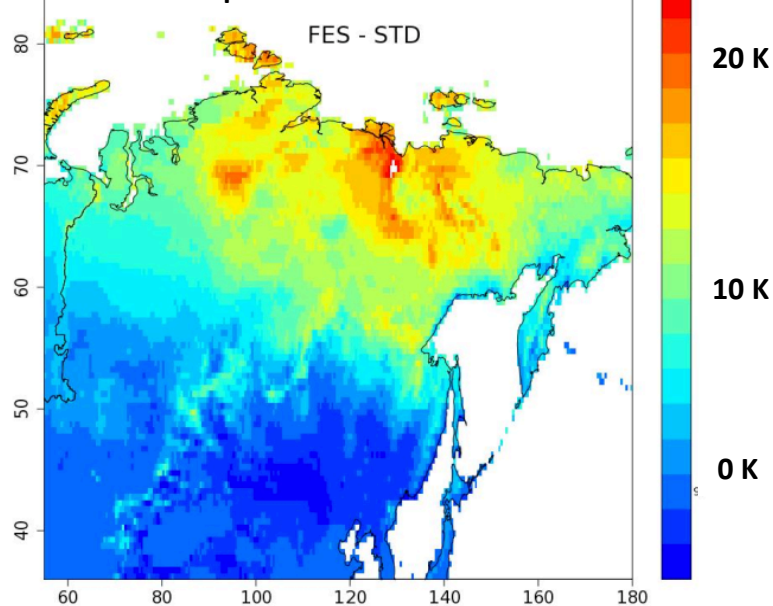


Temperature on the 11 layers [1979-2009] (K)

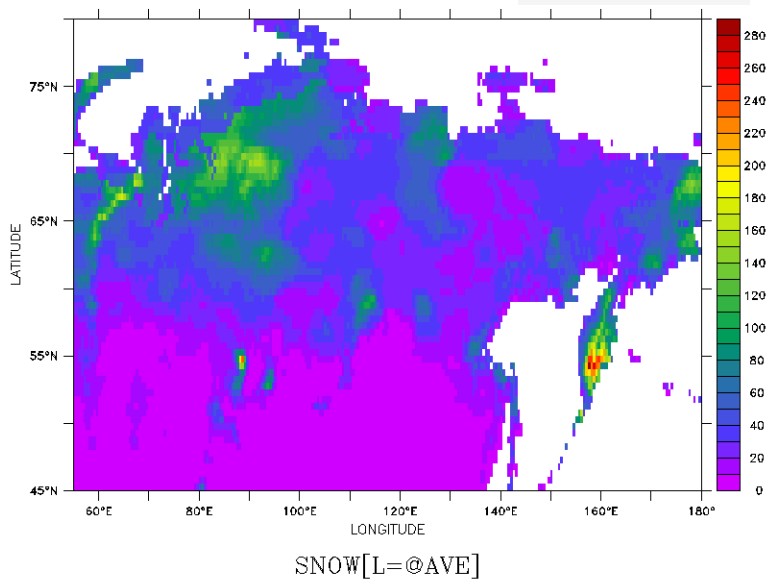


Soil is warmer in FES version and the differences seem correlated with snow cover

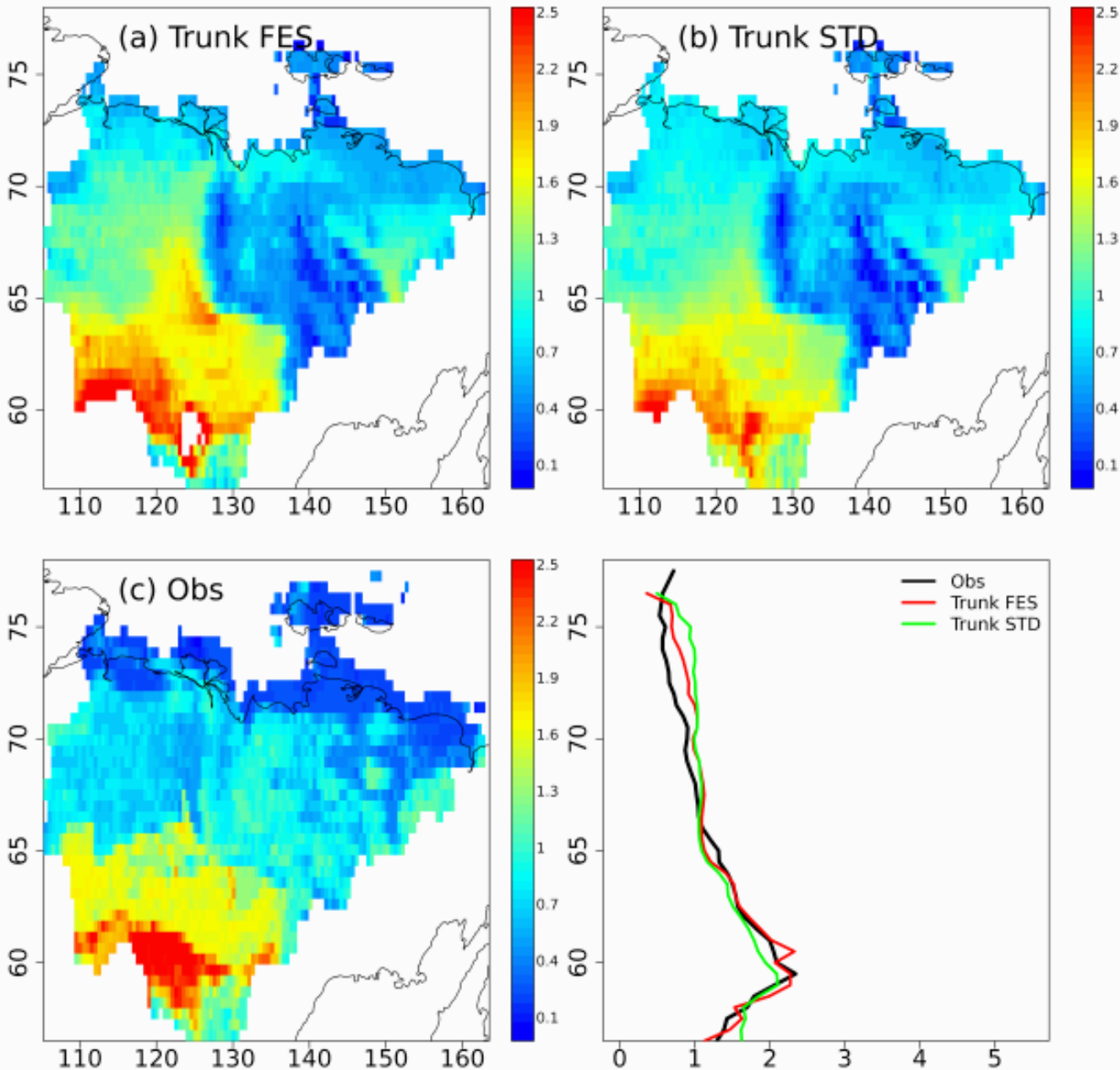
Soil temperature differences



TIME : 16-JAN-1979 00:00 to 1979-2009-12-31 00:00:00
Trunk FES



Active layer thickness (1979-1987)



Trunk FES = Trunk version (n°2871) Freeze & Explicit Snow activated

Trunk STD= Trunk version (n°2871) standard configuration

Simulated ALT, closer to the observations with FES version