



## **Simulation of emissions from wildfires in Heilongjiang province, Northern China using dynamic global vegetation model**

Sergey Venevsky

China (veneovsky@tsinghua.edu.cn)

The new global fire model SEVER-FIRE is a mechanistic model which calculates number of human-induced and lightning fires as well as area burnt and carbon and particle emissions for both cases. The model operates at a daily time step and uses climate data (daily minimum/maximum temperature, daily precipitation/convective precipitation and daily short-wave radiation) as an input. The model works in interactive mode with a dynamic global vegetation model (DGVM), which provides fuel content and moisture and receives back amount of biomass burnt. SEVER-FIRE applies at a variable spatial resolution and for regional and global scale. This model was applied for simulation of Russian wildfires in 2010.

We calculated burnt area for a case study of Heilongjiang province, Northern China and compared it with GFED satellite data products and field statistics of forest authorities in the province for 1980-2010. It was found that carbon dioxide emissions from this fire prone area are slightly decreased in three decades.