

Interactive comment on “Permafrost-Affected Soils of the Russian Arctic and their Carbon Pools” by S. Zubrzycki et al.

Anonymous Referee #1

Received and published: 17 March 2014

Comments on manuscript “Permafrost-affected soils of the Russian Arctic and their carbon pools” by Zubrzycki, Kutzbach and Pfeiffer.

After reading through the manuscript, my first impression is the authors are more focused on discussing permafrost-affected soils and carbon pools of the Circumpolar North than just Russia.

The authors have done an extensive literature search and review. If the focus is about permafrost-affected soils in Russia, I would like to see the information on the total area of permafrost in Russia, or the % of permafrost of the Russian land surface. Granted, in the Russian soil classification system, Cryozem only include those permafrost-affected soils with cryoturbation, as the authors pointed out that some permafrost-affected soils lack of cryoturbation but exhibit hydromorphism, podolization, brunification, eluviations-

C119

illuviation, etc. processes are classified in Gleysols Podzols, Luvisols, Cambisols etc. (WRB). I believe that the Russian system also keys organic soils (Histosols) before Cryozem. Thus a map showing the zonation of permafrost-affected soils in Russia would help the audience to understand the distribution of permafrost-affected soils in Russia. Such zonation map can also be used as guide to discuss the general properties and carbon distribution and stores in different soil groups. Can we find such information from the database of the Circumpolar North Soils Map and the Circumpolar North Carbon Map?

In the introduction part the authors summarized the distribution of permafrost and permafrost-affected soils in the world. They missed China, where the Qinghai-Tibet Plateau has the third largest area of permafrost, next to Russia and Canada.

Interactive comment on Solid Earth Discuss., 6, 619, 2014.