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Asian Monsoon Years (2007-2012): Interannual variability of surface water/heat budget measured at Semi-arid Grassland in Mongolia

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A measurement has been continued since 2003 of the budget of radiation/heat/water and carbon at a semi-arid Mongolian grass landsurface. The site was called Kherlen Bayanulaan after a nearby village, and has precipitation of around 200 to 300 mm/year. The flux data was quality-controlled, and missing data were filled through an AsiaFlux standard procedure, to yield annual balance of radiation/heat and water. It was found that, on the contrary to a general notion that all of precipitation evaporate at the arid land, precipitation exceeds evaporation in a wetter year, and that the rest of precipitated water had been left in a frozen soil during the following winter being left for evaporation during the next year. Community Land Model of NCAR ver 3.5 was applied to the observed forcing data at KBU, to show that with the soil properties computed within the model out of measured soil texture, soil moisture computation in the model does not reproduce the reality.