

## A01-P02

### MRI LANDSURFACE MODEL HAL

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We have been developing the land surface model HAL, which is an improved version of SiB (Sato et al., 1979). It covers the global climate from the tropical region and the polar region. It is used both as an offline model and as a land surface model in the MRI-ESM1 (Adachi et al., 2013).

For better model performances of the cryospheric climate the improvements of HAL have been conducted in the Japanese scientific projects including the GRENE Arctic Climate Change Research Project. One of them is the implementation of the latest version of SMAP (Niwano et al. 2011) and the others have been going on.

#### References:

Niwano, M., Te. Aoki, K. Kuchiki, M. Hosaka, Y. Kodama, 2012: Snow Metamorphism and Albedo Process (SMAP) model for climate studies: Model validation using meteorological and snow impurity data measured at Sapporo, Japan, *J. Geophys. Res.*, 117, F03008, doi:10.1029/2011JF002239.

Adachi, Y., Yukimoto, S., M. Deushi, A. Obata, H. Nakano, T. Y. Tanaka, M. Hosaka, T. Sakami, H. Yoshimura, M. Hirabara, E. Shindo, H. Tsujino, R. Mizuta, S. Yabu, T. Koshiro, T. Ose, and A. Kitoh, 2013: Basic performance of a new earth system model of the Meteorological Research Institute (MRI-ESM1). *Pap. Meteor. Geophys.*, 64, 1-19.