

Interactive comment on “Improving the snow physics of WEB-DHM and its point evaluation at two SnowMIP alpine sites” by M. Shrestha et al.

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Response to the comments of the Reviewers

Following major revisions were made to address the general comments of all the Reviewers.

Major Revisions

1. Two open sites; Goose Bay (GSB) and Sleepers River (SLR) of SnowMIP and one open/forest site: Hitsujigaoka of SnowMIP2 were added for simulation. (Section 3.3, 3.4 and 3.5 and 4.0)
2. Inter annual variability of snow processes were studied at Goose Bay (1969-84) and at Col de Porte (CDP) by adding simulation for 1996-97. (Section 4.1)
3. Sensitivity analysis for incremental process representation to WEB-DHM for two snow seasons at CDP site and one season at WFJ were added (Section 4.5).
4. Impact of forest canopy on snow processes at Hitsujigaoka forest site was studied. (Section 4.6)
5. Table 2 (Meteorological characteristics of study sites) and Table 3 (BIAS and RMSE for SnowMIP1 sites) were updated. Table 4 (BIAS in simulating the first, maximum, minimum in mid season, one prior to the last and last SWE observations at CDP, WFJ and SLR sites) and Table 5 (Different set of simulations for incremental process representation) were added.
6. Previous figure 2 was removed and figures 2 to 10 were updated and modified. Figure 2 (Snow depth, SWE and density at CDP, WFJ and SLR sites), Figure 3 (Snow depth at GSB site), Figure 4 (Surface temperature at CDP, WFJ site), Figure 6 (Snowmelt runoff), Figure 7 and 8 (Incremental process representation), Figure 9, 10 and 11 (Snow depth at Hitsujigaoka site) are the major figures added/updated.
7. The time-slice evaluation of the model in simulating the first, maximum, minimum in the mid season, one prior to the last and last SWE observation at CDP, WFJ and SLR site are presented. (Line 423-435; Section 4.1, Table 4)

Fig. 1.

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