

## ***Interactive comment on “Inter-annual variations of snow days over Switzerland from 2000–2010 derived from MODIS satellite data” by N. Foppa and G. Seiz***

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1) Results. Table 2. By this table the results for the Samedan station look worse than the low land stations. On the contrary the relative errors for Samedan are lower than Basel and Lugano. We suggest a more complete table containing the relative errors.

2) Results. Analysis of monthly SCD. In table 3 there are some months when monitoring is more difficult than other ones: for instance in Samedan in autumn and spring, in Lugano and Basel in autumn, winter and spring for climatologic reasons. On the contrary the summer months in all three stations and the winter months in Samedan present lower errors. In order to take in account for this climatic difference it should be interesting to evaluate the Skill Score respect to the “climatological value”:  $SS_{clim} = 1 -$

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$Sat\_error/Climate\_error$ , here  $Climate\_error$  is the error obtained using the climatological value for each station and each month. Of course this Skill Score can be evaluated for the whole year. We suggest to include this Skill Score in Table 3.

3) Results. Analysis of daily SCD. Table 4 presents three confusion matrices. The only percentage of correct (Hit Rate: 88.4% for Basel, 88.7% for Samedan and 93.7% for Lugano) could be misleading, and induce the opinion that the performances in the three stations are very similar. The high HR for Lugano and Basel are due to the high cases of  $snow\_free(insitu)/snow\_free(satellite)$ . A complete analysis by calculating the Probability of Detection (POD), the False Alarm Rate (FAR) and the Threat Score (TS) shows that POD and TS for Samedan is much higher than Lugano and Basel, while FAR for Samedan is much lower than the other two stations. We suggest a new table showing Hit Rate, FAR, POD and TS for the three stations.

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Interactive comment on The Cryosphere Discuss., 5, 2409, 2011.

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