

Snow cover monitoring in the Koshi Basin (Nepal): hints from 10 years of MODIS Data

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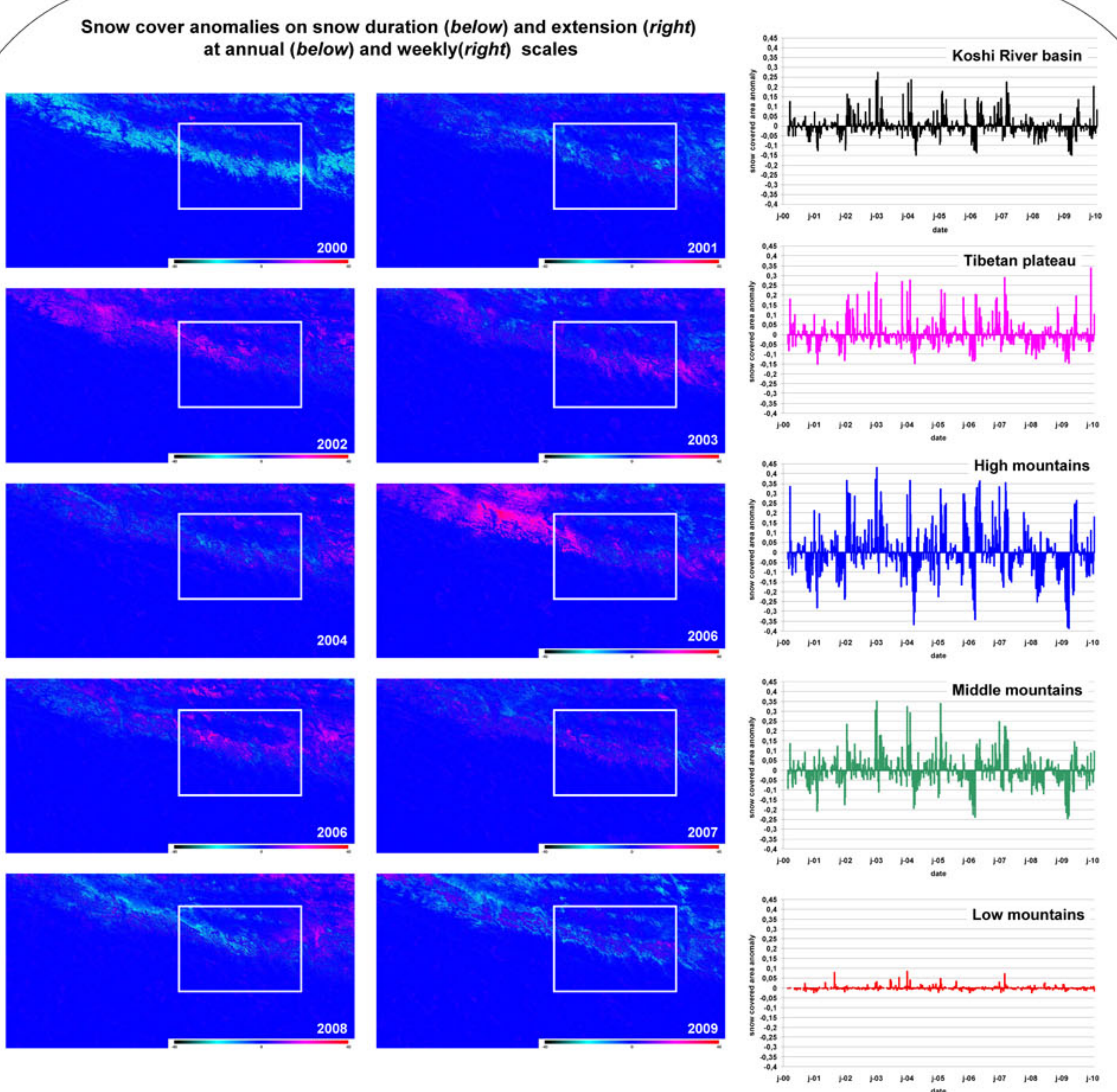
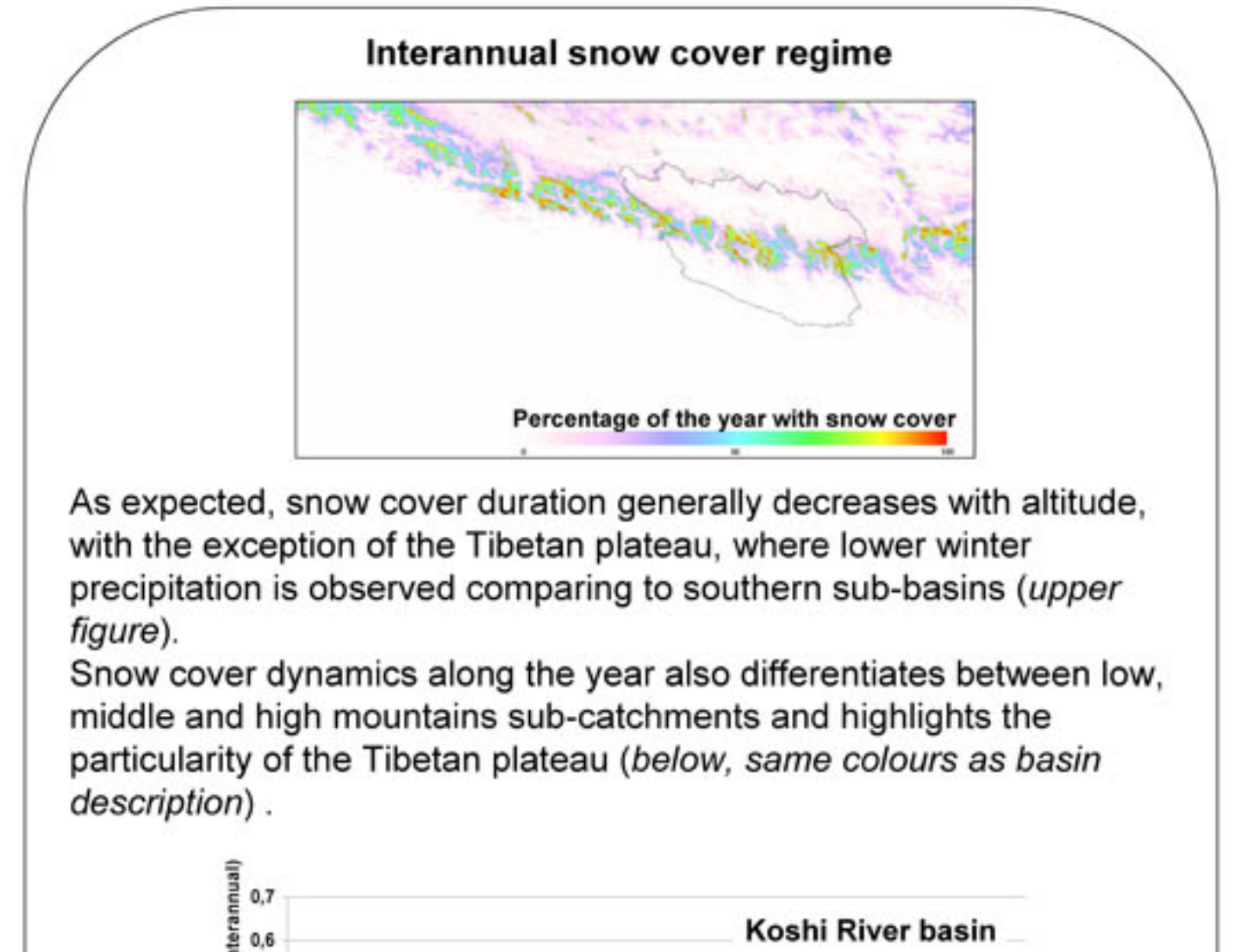
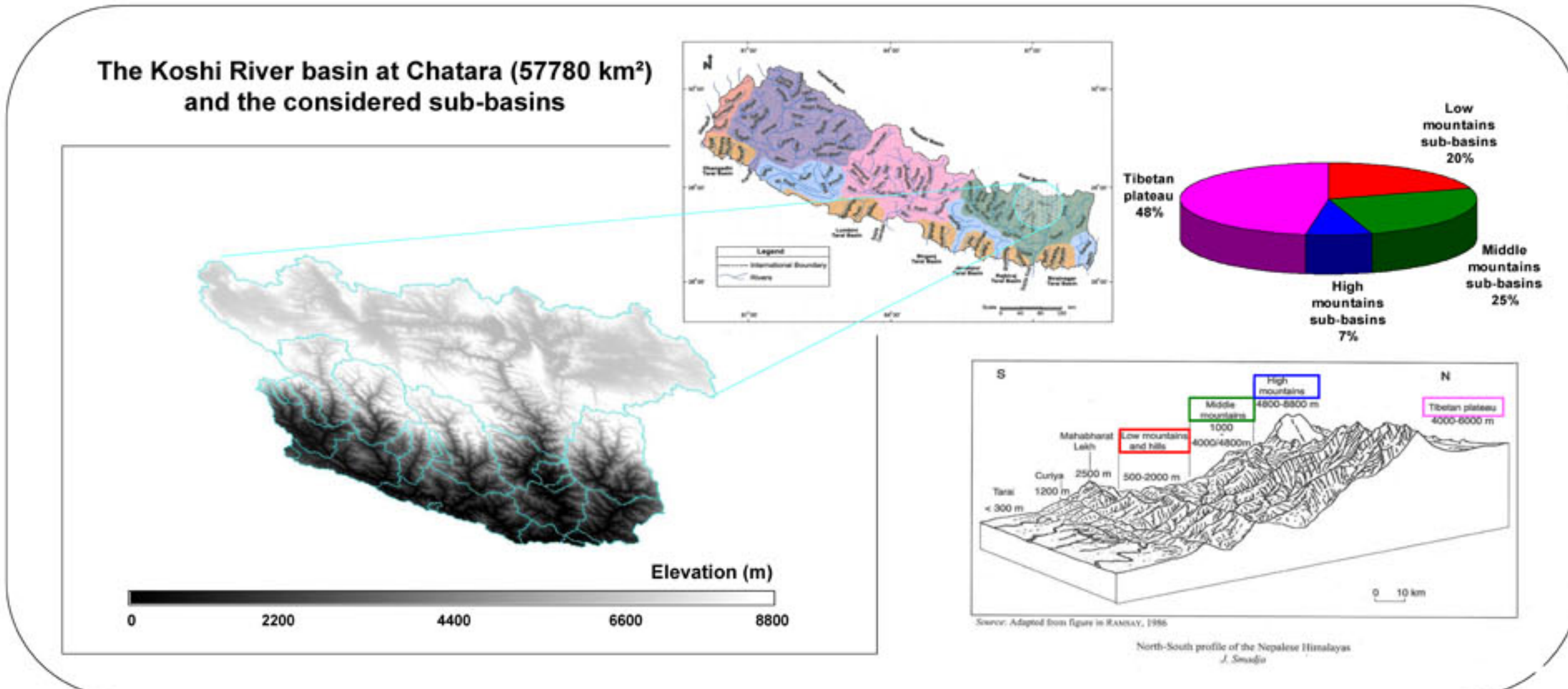
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Estimation of snow cover contribution to runoff is one of the goals of PAPRIKA (Cryospheric responses to Anthropogenic Pressures in the Hindu Kush - Karakoram -Himalaya regions: impacts on water resources and Availability) project in Nepal. In order to evaluate snow-induced runoff modelling, ten years of 8-days MODIS snow products (MOD10-V005) have been analyzed over the Koshi river basin in Nepal (57 800 km²), from 2000 to 2010. Seasonal and interannual snow cover extension and dynamics have been investigated on the whole basin and 30 sub-basins, which have been classified here in 4 categories, according to their geographic location: low mountains sub-basins, middle mountains sub-basins, high mountains sub-basins and the Tibetan plateau.



Interannual variability can be observed essentially in high mountains sub-basins; when looking to lower sub-basins, the variability decreases.

No significant trend in snow cover duration can be highlighted during the considered period (2000-2010) at annual or seasonal scales, neither at basin scale, nor depending on elevation.

