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Numerical simulations of the climatology of winds in Iceland

The atmospheric flow over Iceland has been simulated at 8 km horizontal resolution during a period of 12 years. The results of the simulations are presented graphically and they reveal substantial horizontal variability in the mean wind speed. The variability in the winds can be explained by orographic processes that are fairly well known, but theoretical knowledge of these processes are not useful for producing quantitative maps of the wind climate as we do here. The wind maps indicate high frequency of strong winds over the downstream slopes of the largest glaciers and and at their foothills. No observations are available to confirm this so far, but if the simulations are correct, these winds may be of value for energy production