



Chances of short-term cooling trends over Canada for the next decades

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As climate services continue to develop in Quebec, Canada, an increasing number of requests are made for providing information relevant for the near term. As a response, one approach has been to consider short-term cooling trends as a basis for climate products. This project comprises different aspects: technical steps, knowledge transfer, and societal use. Each step does represent a different challenge. The technical part, i.e. producing probabilistic distributions of short-term temperature trends, involves relatively complex scenario construction methods including bias-related post-processing, and access to wide simulation and observation databases. Calculations are performed on 60 CMIP5-based scenarios on a grid covering Canada during the period 2006-2035, and for 5, 10, 15, 20 and 25-year trend durations. Knowledge transfer implies overcoming misinterpretation, given that probabilistic projections based on simulation ensembles are not perfectly related to real-Earth possible outcomes. Finally, societal use of this information remains the biggest challenge. On the one hand, users clearly state their interest in near-term relevant information, and intuitively it seems clear that short-term cooling trends embedded within the long-term warming path should be considered in adaptation plans, for avoiding over-adaptation. On the other hand, the exact way of incorporating such information within a decision-making process has proven not to be obvious. Irrespective of that, the study and communication of short-term cooling chances is necessary for preventing decision-makers to infer from the eventual occurrence of such a trend that global warming isn't happening. The presentation will discuss the three aspects aforementioned.