



Contributions to the moisture budget of airmasses over Iceland

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Motivated by the excellent skills of a new Lagrangian diagnosis method to identify the contributions to the moisture budget over a region (STOHL and JAMES, 2004, 2005), this study examines the main areas where there is net uptake of moisture in airmasses over Iceland. The method computes budgets of evaporation minus precipitation by calculating changes in the specific humidity along back-trajectories for the previous 10 days. We tracked the origin of all air-masses, including precipitating airmasses, residing over Iceland during a period of five years (2000–2004). Air transported into the Icelandic waters has a large uptake of water over the Norwegian Sea in the preceding first three days and from the Western-North Atlantic in the range of 3–10 days. Concerning the days with observed precipitation in SW-Iceland, it was found that the major net uptake of moisture was the final northward segment of the Gulf Stream and the Atlantic waters immediately surrounding Iceland.