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Mesoscale meteorological conditions associated with the March 2006 wildfires in Iceland

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The meteorological conditions prior to and during the extreme wildfires in SW-Iceland on 30 March 2006 are explored. They are characterized by dry airmasses and locally strong winds. The strong winds can be associated with a low-level inversion. This inversion and the dryness of the air can be attributed to meso-to synoptic scale flow disturbances generated by the topography of Greenland and Iceland.

The study concludes that a high-resolution vertical profile of the atmosphere should be considered when predicting evolution of wildfires in future climate scenarios.

The smoke from the fires provided a good tracer to estimate the flow in the atmospheric boundary layer and the rate of horizontal turbulent mixing.