



Idealized simulations of the sea breeze in Iceland

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Development of sea-breeze circulations over Iceland is simulated with a numerical model. The full four-dimensional flow field is explored, including strong interaction with topography. The simulations reveal quasi-stationary convergence lines and complex interaction with the ice-covered topography. The most surprising elements of the flows are non-stationary mesoscale lows which are generated above peninsulas and advected along the coast. These mesoscale structures have a strong impact on offshore circulations and the deceleration of the sea-breeze at the coast.