Dynamic and Synoptic Meteorology in the Middle Ages

The King's Mirror (Konungsskuggsjá)

værda. Ugger þætt pulkt er alle fæm fæt haulemero ochickur mer undarteck hur Written around 1240 base har or hapile or held or presarapor mæi gurnax bangar fya mioc ar rara er ochindieren pramme lya færn abel æge for mikelt ligh halks book vil elle book men er hocaer apollo logu halle en deer belar. On h brooks ap parents pra as loka cilbell lane fi lem til nychemie horre Bagozku Syapil ecoc best mais rum læti act hæpre cæge ovær horar leggi fyrra pie huac la like lipit er f land bigger eda huzerlo landeno erpatro oclangar um gram abeat sma creije oc The King's mirror has a chapte standa her topra gome i and verbu home huare her thum baco frem hapte water hul hanf ergol ochmice vil verpa oc & how ho at hapte le rolte eda et nocife las alafidino læm a aleti lafidi Byaros ruta mæi har af lærear alar sia ac on meteorology: pael deaga fære cuge manja ærer resp ella vicinar mic och hvar her ache ache plears occers be sesse there Deelle macgun land ella evland dia em bardire lada koner nu hapii per um more baero nocon aber large Salliker lucer farm rubar kallaber by ac ber robar i fro a adeit lond it ero. faser ar er bu payrenar um boar of the first of the part of ina più abia puba ocero bent maifii pret secur oc be serge frem hyalar byrac hua lar ero sever apolto dagti læm abeer pulpar Ba hur mæn para bangat the mike tres haska haskage har vel brackollo en hællet tilkar eto æigi ærit nema Tage by a by a by or manifer of manifer or m ha er knoc that era. En argu perc ec ples u i gromalanz have holyu ba er mer bycki geen varde eda finlagnar nama gara bangar fæm mikelf er halka van hem un hope per now 5 1142 oc gera fecar by przegan. Chi añak effer lucer mann allu bickra luce exporption byrach et oc marient que undarleger benn bem herra. nacura ac porprena ocha balucier Fog is associated with bæde il krimfl þan er cold hapa pæric hand ero lagger ocyrca hvare fraer chape by Syalkula mer oc ar hera Cam hanii yaw lago eda aeige. hii brite har man yara lormfamara en huen lace or pur pong by tab hvær pærna southerly winds annaña och yeker mer hpr f undarlete lerca mæij æprer peno har fæm hen ac her back maes elam il peccii oc ferria acrepongen ero bo acmittell umrii.um pra oll anor hop hau fem halke leannan yang pid Cagnonalande Rainshowers are associated with southwesterly winds

See Páll Bergþórsson; The Wineland Millenium, 2000

Using the rules of the King's Mirror it becomes apparently quite easy to navigate across the ocean

However, the King's mirror had no section on mountain meteorology



Bjarni Herjólfsson set off for Greenland. His ship sailed into fog and barrier winds blowing from the NE to the southeast of Greenland. Bjarni turned too far to the south, missed Greenland and ended up in Wineland (America).



he first European settlements in N-America were a direct result jarni Herjólfsson's lack of knowledge of mountain meteorology

В

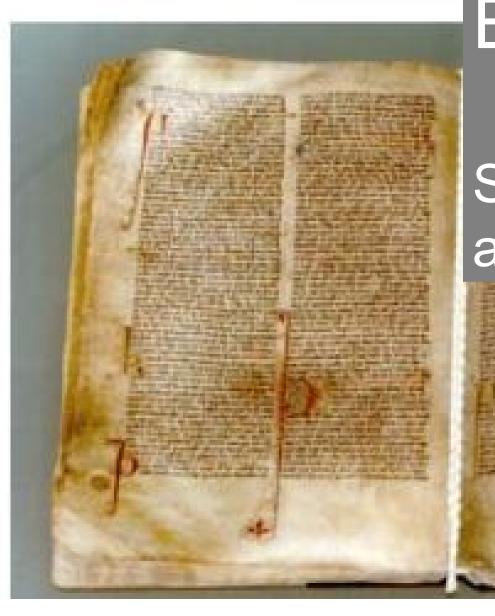
A: Sea breeze, B: Land breeze

Wikipedia:

Land breeze (Wikipedia)

Land breezes

At night, the land cools off quicker than the ocean due to differences in their specific heat values, which forces the dying of the daytime sea breeze. If the land cools below that of the adjacent sea surface temperature, the pressure over the water will be lower than that of the land, setting up a land breeze as long as the environmental surface wind pattern is not strong enough to oppose it. If there is sufficient moisture and instability available, the land breeze can cause showers or even thunderstorms, over the water. Overnight thunderstorm development offshore can be a good predictor for the activity on land the following day, as long as there are no expected changes to the weather pattern over the following 12-24 hours. The land breeze will die once the land warms up again the next morning.



Egils saga

Snorri Sturluson(?) a.d. 1220 (?)



Egils saga Ch.56

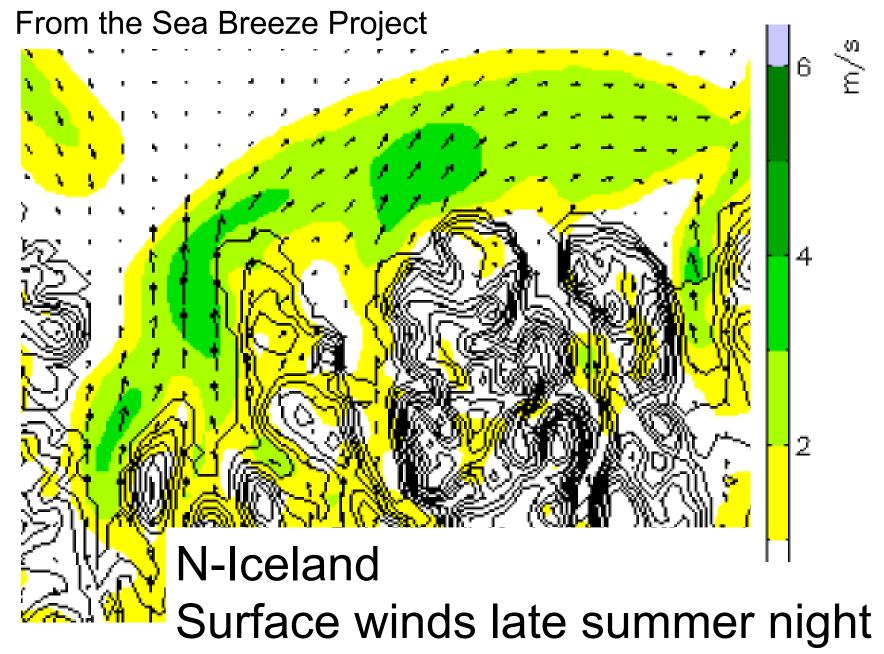
Veður voru vindlítil, fjallvindur um nætur, en hafgola um daga. Eitt kveld sigldu þeir Egill út á haf, en fiskimenn reru þá inn til lands, þeir er til njósnar höfðu settir verið um farar þeirra Egils. Kunnu þeir það að segja, að Egill hafði út látið og á haf siglt og hann var á brottu; létu þessa njósn koma til Berg-Önundar.

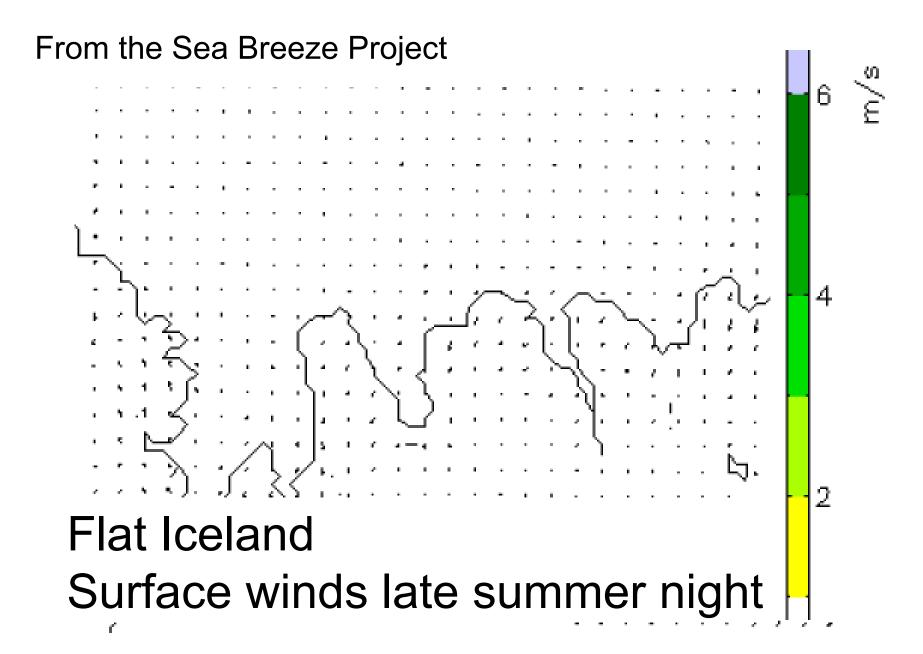
Og er hann vissi þessi tíðindi, hann sendi þá frá sér menn þá er hann hafði áður haft þar til varúðar. Reri hann þá inn til Álreksstaða og bauð Fróða til sín, því að Berg-Önundur átti öl mikið heima að sín; Fróði fór með honum og hafði með sér nokkura menn; tóku þeir þar veislu góða og höfðu gleði mikla; var þar þá allt óttalaust.

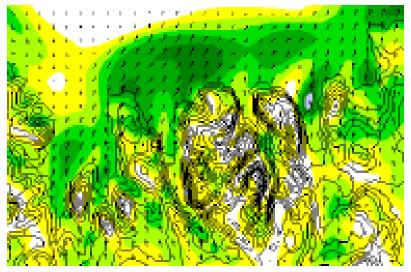
Rögnvaldur konungsson átti karfa einn, reru sex menn á borð; hann var steindur allur fyrir ofan sjó; hann hafði með sér menn tíu eða tólf, þá er honum fylgdu einart.

Og er Fróði var heiman farinn, þá tók Rögnvaldur karfann, og reru þeir út til

Herðlu tólf saman; þar var konungsbú mikið, og réð sá maður fyrir, er hét Skegg-Þórir; þar hafði Rögnvaldur verið á fóstri í barnæsku. Tók Þórir feginsamlega við konungssyni; skorti þar og eigi drykk mikinn.

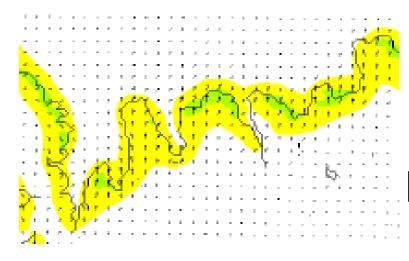






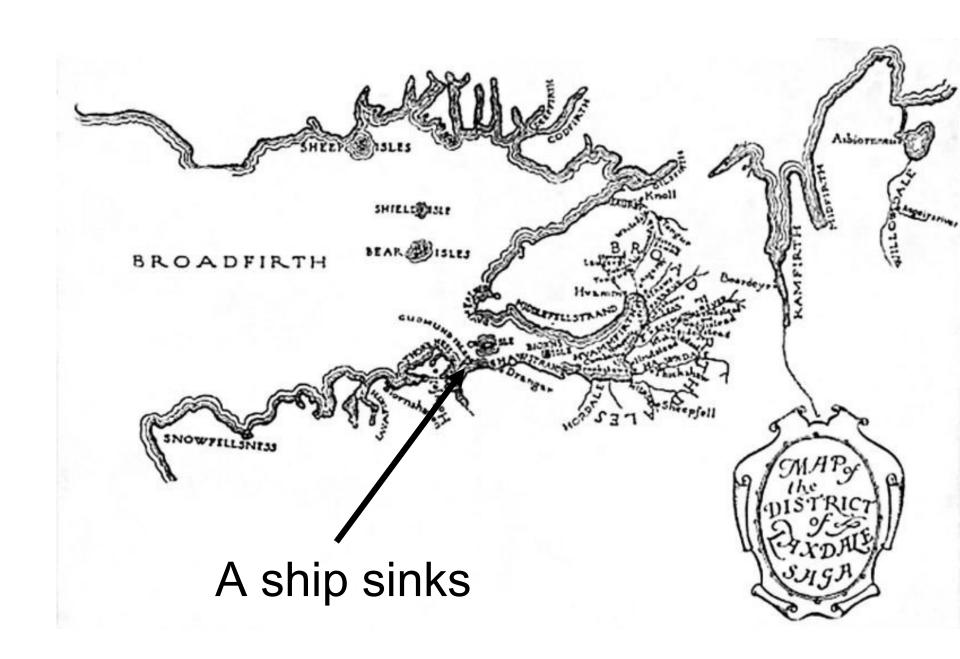
"True" topography

Surface winds in December

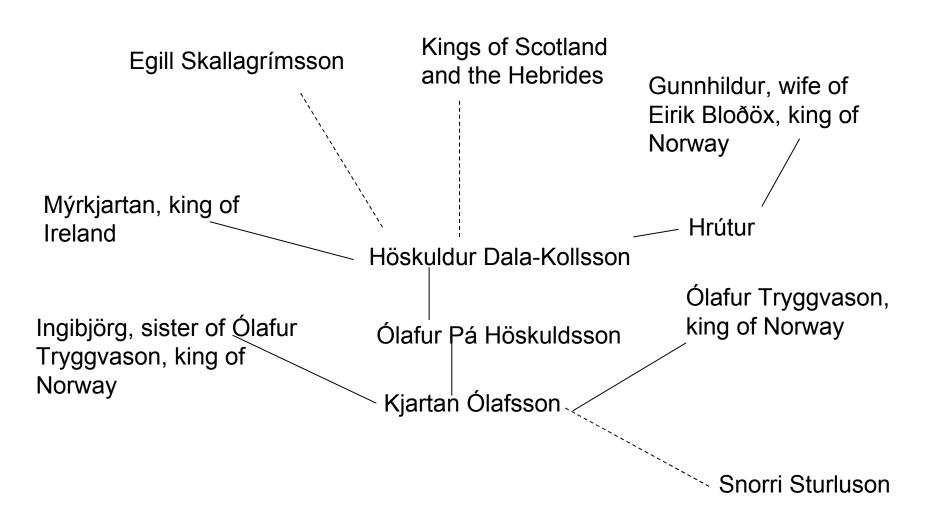


Flat





The drowning of Þorsteinn Surtur – Höskuldur buys Hrappsstaðir farm



Laxdæla Ch.18

Þorsteinn tók útsynning hvassan. Sigla þeir inn að straumum í þann straum er hét Kolkistustraumur. Sá er í mesta lagi þeirra strauma er á Breiðafirði eru. Þeim tekst siglingin ógreitt. Heldur það mest til þess að þá var komið útfall sjávar en byrinn ekki vinveittur því að **Skúraveður var á og var hvasst veðrið þá er rauf en vindlítið þess í milli.** Þórarinn stýrði og hafði aktaumana um herðar sér því að þröngt var á skipinu.

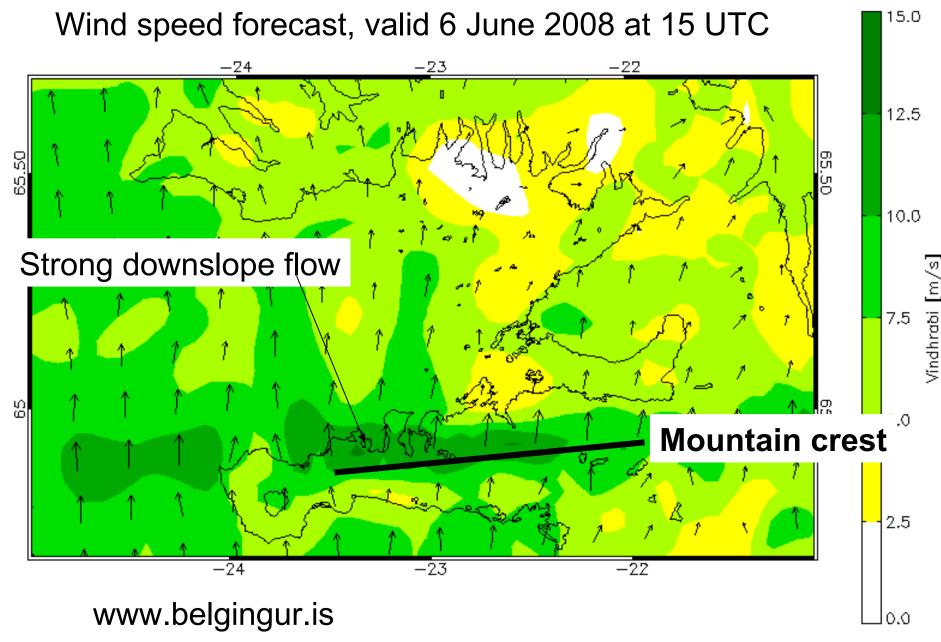
Osk Torsteinsdotter og Hild Helgesdotter, som var berre 3 vintrar gamall. Dei fekk ein kvass sudvest og siglde etter straumom inn i Kolkistestraumen, ein av dei sterkaste straumom i Breidafjorden. Der vart det ugreidt med siglingi deira, av di at sjøen fall og vinden ikkje var god; for **det var skurver, kvast naar det reiv i, men mest stilt dessimillom.** Torarin styrde og hadde brasen um akslerne sine, av di det var trongt paa skipe

Thorstein's daughter, and Hild, her daughter, who was three years old, went with them too. Thorstein fell in with a high south-westerly gale, and they sailed up towards the roosts, and into that roost which is called Coal-chest-Roost, which is the biggest of the currents in Broadfirth. They made little way sailing, chiefly because the tide was ebbing, and the wind was not favourable, the weather being squally, with high wind when the squalls broke over, but with little wind between whiles.

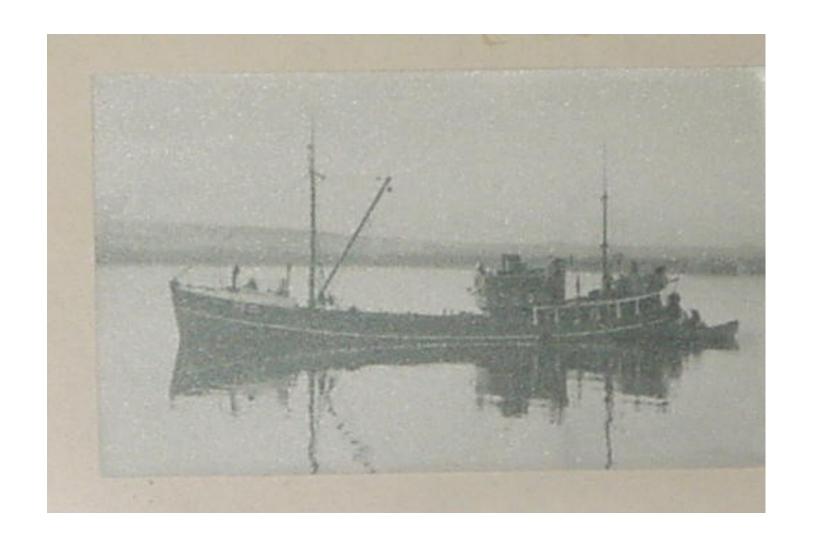
1880, English transl. Muriel A. C. Press,

the ebbing of the sea, but the breeze was not friendly to them; for the weather was showery and the wind was strong when it grew clear, but blew little between-whiles.

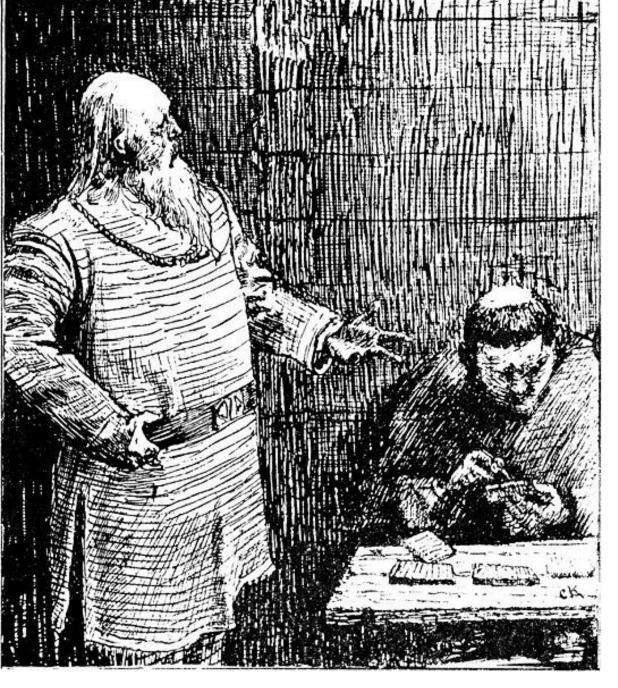
1903, English v.2 transl. Robert Proctor



Gildir föstudaginn 06.06.08 kl. 15:00 (05.06.08 kl. 12:00 +27 klst.)



MS Edda sank in a downslope windstorm at the South Coast of Breidafjörður in 1953



These men knew about katabatic winds, sea breeze, downslope windstorms and the Bergen School Cyclone Model

Egils saga (1893, English transl. W. C. Green)

The weather was calm, a fell-wind blew by night, a sea breeze by day. One evening Egil sailed out to sea, but the fishermen were then rowing in to land, those, to wit, who had been set as spies on Egil's movements. They had this to tell, that Egil had put out and sailed to sea, and was gone. This news they carried to Bergonund. And when he knew these tidings, then he sent away all those men that he had had before for protection. Thereafter he rowed in to Alrekstead, and bade Frodi to his house, for he had a great ale-drinking there. Frodi went with him, taking some men. They were feasted well there, and they made merry, with no fear of danger. Rognvald, the king's son, had a pinnace, rowed by six men on either side, painted all above the sea line. He had with him ten or twelve who constantly followed him; and when Frodi had left home, then Rognvald took the pinnace and they rowed out to Herdla twelve in number. A large farm of the king's was there, whereof the manager was named Skegg-Thorir. Rognvald in his childhood had been fostered there. Thorir received the king's son joyfully. There too was no lack of drink.





