

Open Dataportal

Transforming Data into Information

With a bit of ***Belgingur*** and ***Search and Rescue*** applications

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or@belgingur.is

www.belgingur.is klasi.belgingur.is portal.belgingur.is

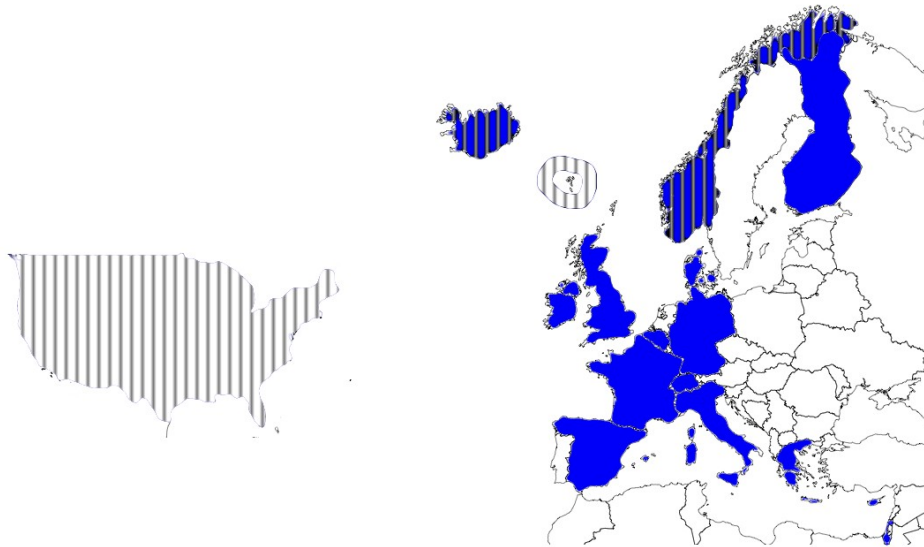
Outline

- Short introduction to what we do
 - Activities in collaboration with UiB/BCCR
- Open Dataportal – how to transform data into information
 - portal.belgingur.is
- Other services on the web
 - www.belgingur.is
 - klasi.belgingur.is
- Weather service for Search and Rescue applications
- Future thoughts
- An exceedingly funny cartoon

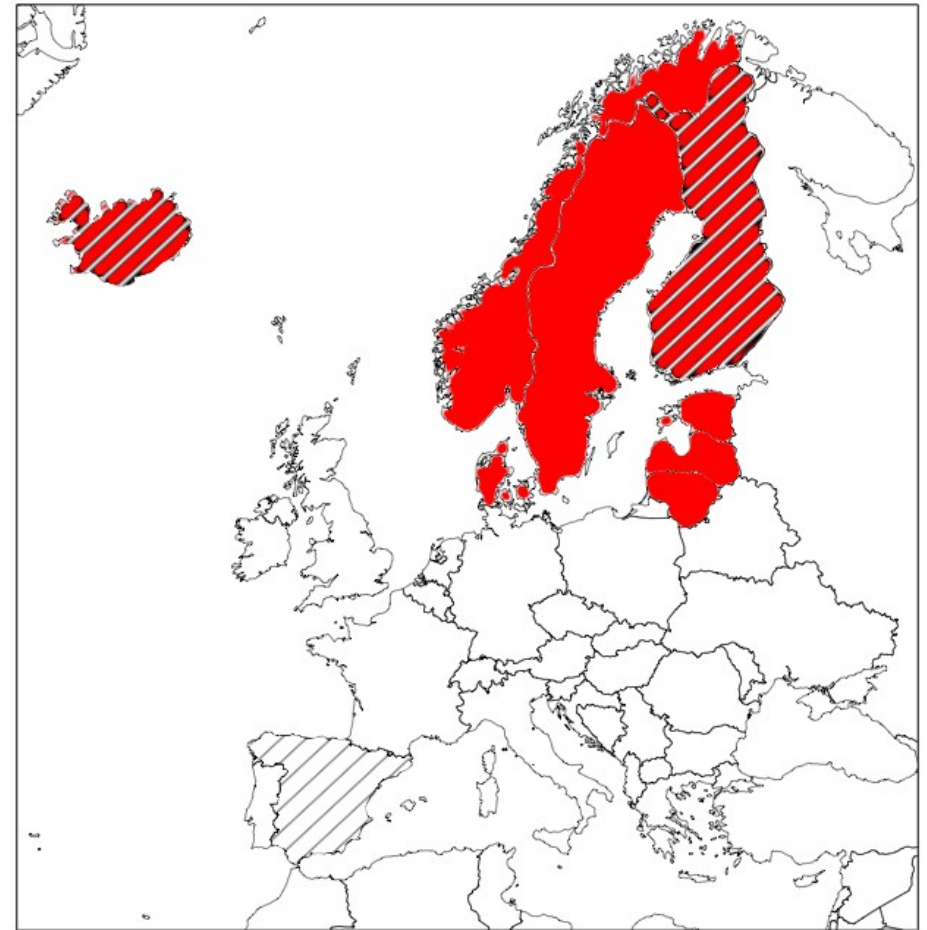
About us

- A small R&D company focusing on research in weather and climate
 - Special emphasis on investigating and understanding the interaction between orography and the atmospheric flow
- Run the following weather and forecasting services
 - www.belgingur.is
 - klasi.belgingur.is
 - portal.belgingur.is
- Service both Veðurstofa Íslands (VÍ) and Landsvirkjun with daily forecasts (deterministic and ensemble)
- Active participants in both domestic and international research projects
- Are developing a novel forecasting tool for Search 'n Rescue operators in the N-Atlantic

International research projects

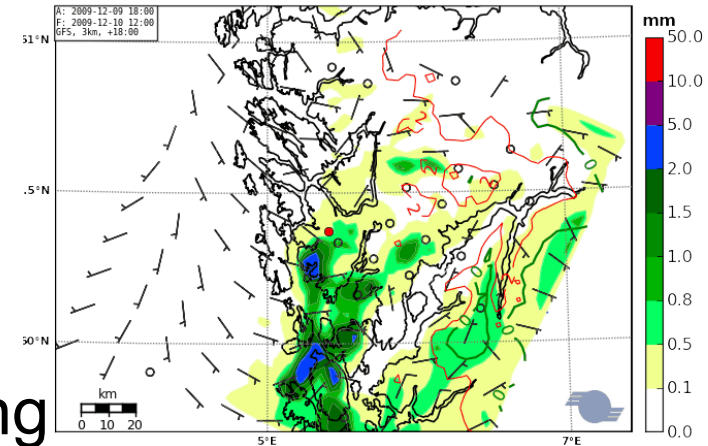


SnR
MABLA
CES
GalileoCast
SUMO / COST ES0802



Collaboration with UiB/BCCR

- High resolution numerical weather forecasts for the Bergen area - www.belgingur.is
- The MABLA project
- The SUMO project
 - Includes students from UiB coming to Iceland and creating an instant media frenzy
- Dynamical downscaling of past, present and future climate scenarios



The Data Portal

- Since the summer of 2008 a part of VÍ database has been replicated to our local database
- On top of that we run OpENDAP with a java based web interface

Old interface

Tested on Netscape 4.61 and Internet Explorer 5.00.

Action:

Get ASCII

Get Binary

Show Help

Data URL:

http://thjarkur.orkugardur.is:8080/dods/stafli/ath

Global Attributes:

Variables: Sequence ath

☐ **STOD: 32 bit Integer**

STOD =

☐ **TIMI: String**

TIMI =

☐ **AR: 16 bit Integer**

AR =

☐ **MAN: 16 bit Integer**

MAN =

☐ **DAGUR: 16 bit Integer**

DAGUR =

☐ **KLST: 16 bit Integer**

KLST =

☐ **TEG: 16 bit Integer**

TEG =

☐ **T: 64 bit Real**

T =

☐ **TW: 64 bit Real**

TW =

Not very user friendly

Done

New interface - portal.belgingur.is

Gagnatorg veðurupplýsinga

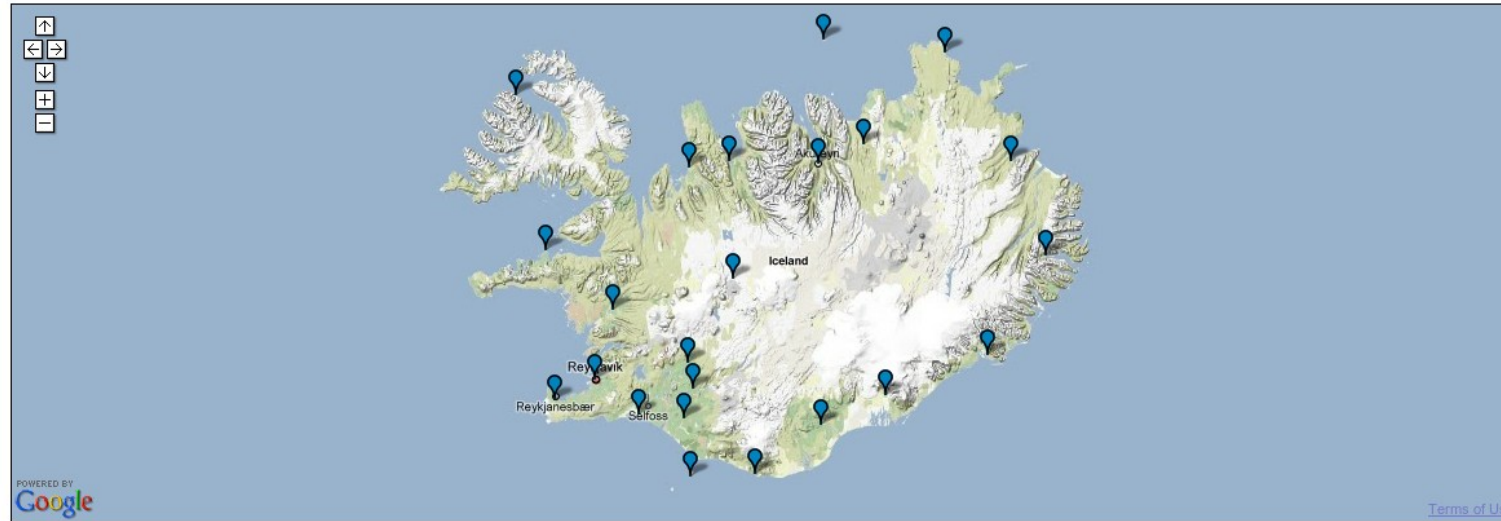
Einfalt viðmót Fullt viðmót

Tímabil

* Frá 1. 12. 2001 * Til 10. 12. 2009 * Tíðni Mánuður

Áfram

Veðurstöðvar



- Q
- ☐ Reykjavík (1)
 - ☐ Skjaldþingsstaðir (527)
 - ☐ Kirkjubæjarklaustur (772)
 - ☐ Kollaleira (635)
 - ☐ Stafholtsey (108)
 - ☐ Stykkishólmur (178)
 - ☐ Akurnes (707)
 - ☐ Bolungarvík (252)
 - ☐ Vatnsskarðshólar (802)
 - ☐ Stórhófi (815)
 - ☐ Blönduós (341)
 - ☐ Hella (855)
 - ☐ Skaftafell (6499)
 - ☐ Bergstaðir (361)
 - ☐ Hveravellir (892)
 - ☐ Grímsey (3976)
 - ☐ Hæll (907)
 - ☐ Eyrarbakki (923)
 - ☐ Hjarðarland (931)
 - ☐ Akureyri (422)
- Select Clear

Mæling

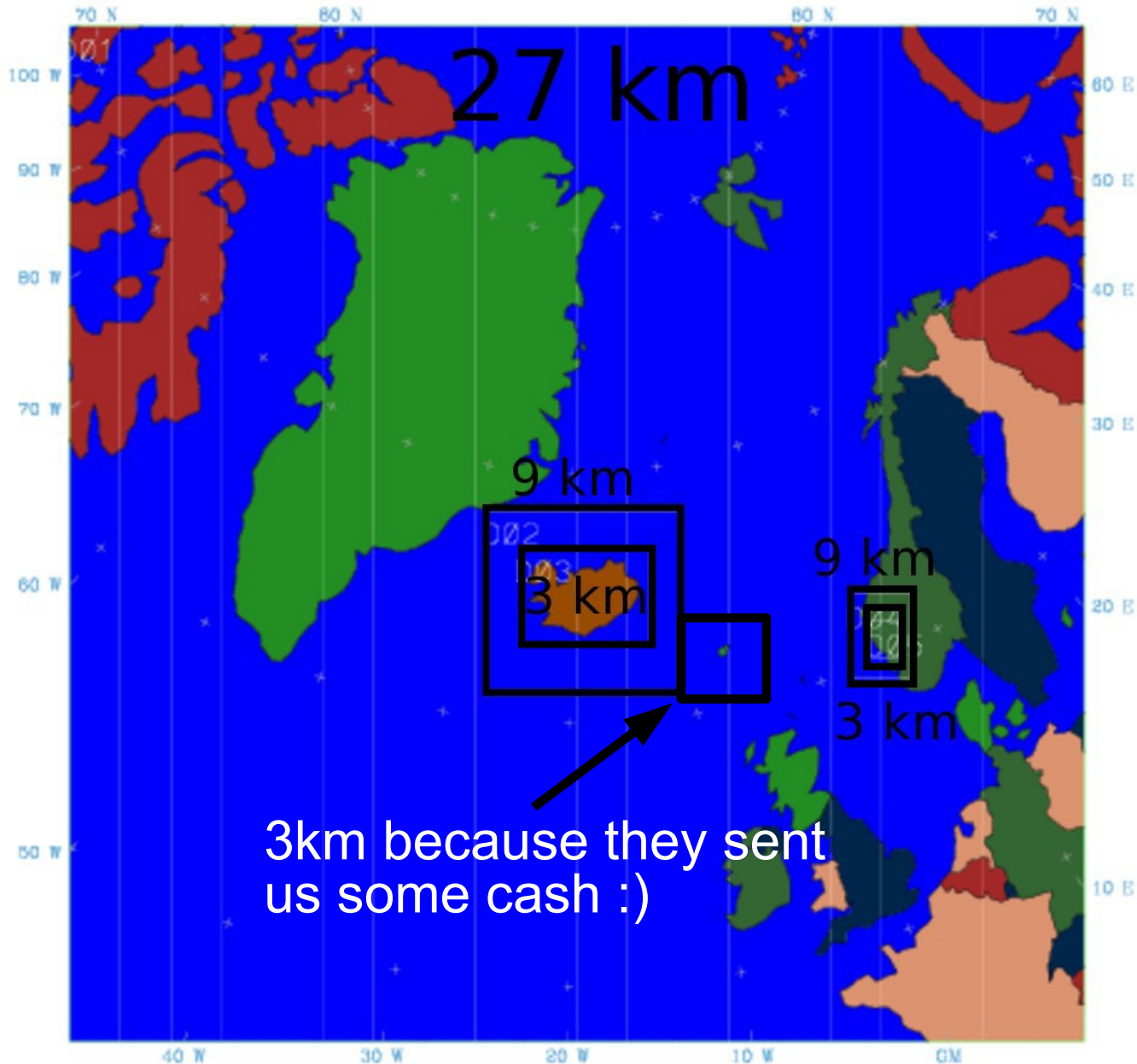
- ☐ Loftþiti ☐ Rakastig ☐ Úrkoma
- ☐ Vindátt ☐ 10 mín. meðalvindhraði

Select Clear

Upprunaleg gildi

Gæðastimplar

www.belgingur.is



The SnR concept

- Develop a user friendly, web based, on-demand weather forecasting system to be used by SAR operators in the North Atlantic region



SnR – four step process

Search & Rescue

Föstudagurinn 18. janúar 2009

Rekinistofa í veðurfræði

VEDURÞÆTTIR

☒ Hiti
☐ Vindur
☐ Úrkoma
☐ Úrkoma, vindur og hiti

PÖNTUN

Pöntun frá 16. júl 2009 kl. 13:00 er virk.

NY PÖNTUN

Veðurspá uppfærð:

16. júl 2009 kl. 11:28

Næsta uppfærsla:

16. júl 2009 kl. 17:28

[Flytjéð á þessa síðu](#)

NY PÖNTUN

Panta út frá tveimur GPS punktum 1)

GPS hnit

GPS hnit

Panta út frá staðarhelti 3)

Staðarhelti

Síðu inn staðarhelti

Panta út frá GPS punkti og radius 2)

GPS hnit

Radius í kílómetrum

ÁFRAM >

One can define the SnR area in three different ways:

1) By defining the Lat/Lon values of the lower left and upper right corners.

2) By defining the center Lat/Lon value and radius.

3) By selecting a pre-defined region.

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Search & Rescue

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< TIL BAKA

STADFESTA

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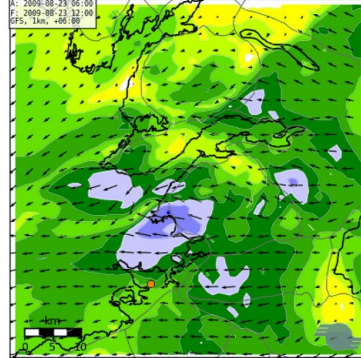
16. júl 2009 kl. 11:28

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16. júl 2009 kl. 17:28

[Flytjéð á þessa síðu](#)

GILDIR FIMMUDAGINN 16. JÚLÍ 2009 KL. 13:00



Sunnudagur

Mán

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On-site data collection

- The AR-WRF model offers variational data assimilation:
 - The goal of any data assimilation system is to produce an optimal estimate of the true atmospheric state at analysis time through iterative solution of a prescribed cost function ;-)
- In short – if we can provide the model with additional atmospheric data “on-site”, we can improve the local forecast
 - Surface data are of limited use, better to get a profile through the atmosphere
 - Balloon data, or data from an airplane...

SUMO – Small Unmanned Meteorological Observer



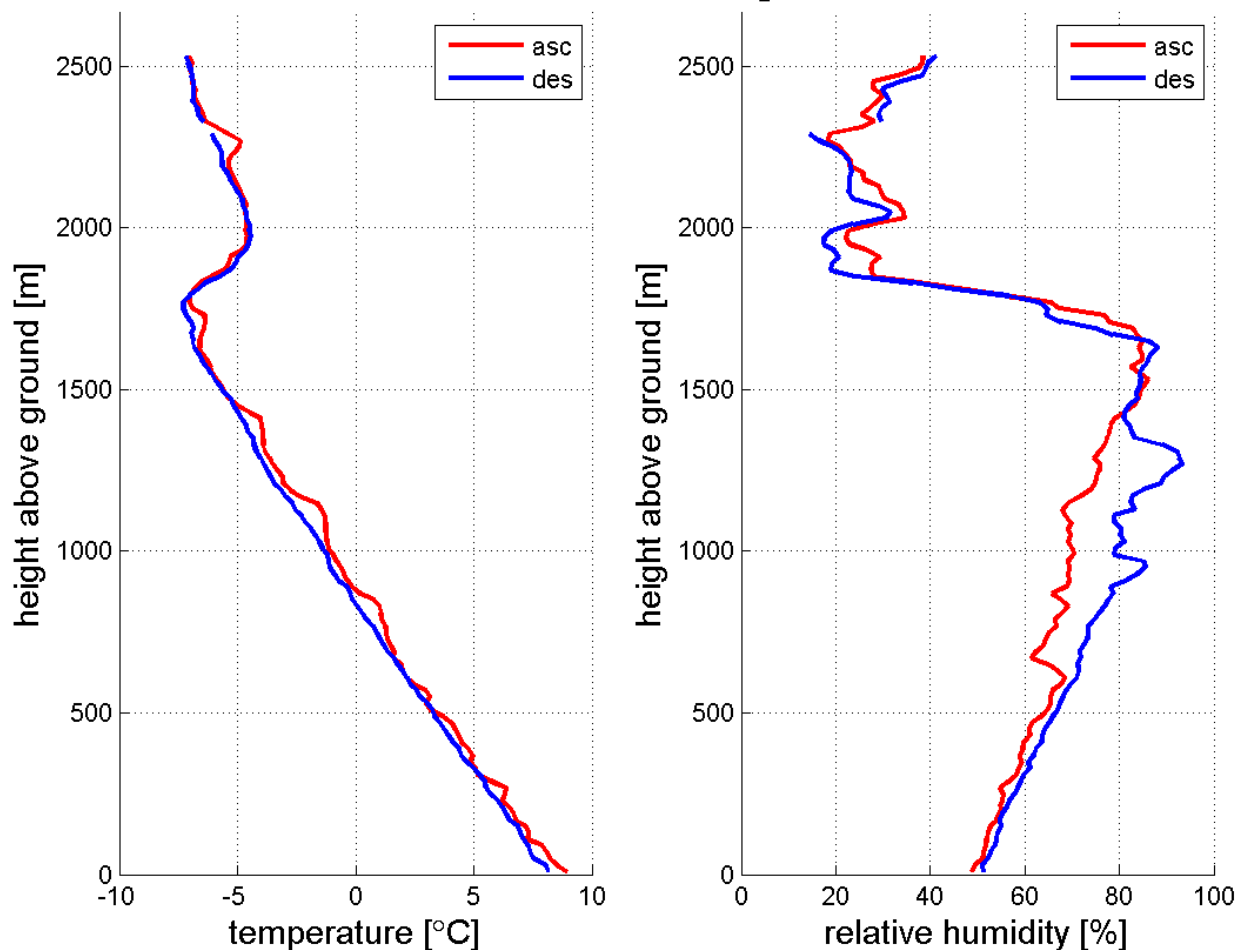
SUMO

- SUMO is intended to provide a cost-efficient measurement and profiling system for atmospheric boundary layer research that can be operated as “recoverable radiosonde”
- SUMO is equipped with meteorological sensors for the measurement of temperature, humidity and pressure. For autonomous navigation, the SUMO system uses Paparazzi, an open source autopilot system. Wind profiles can be determined without flow sensors by information on the altitude of the aircraft and the ground speed from the autopilot’s GPS.

SUMO

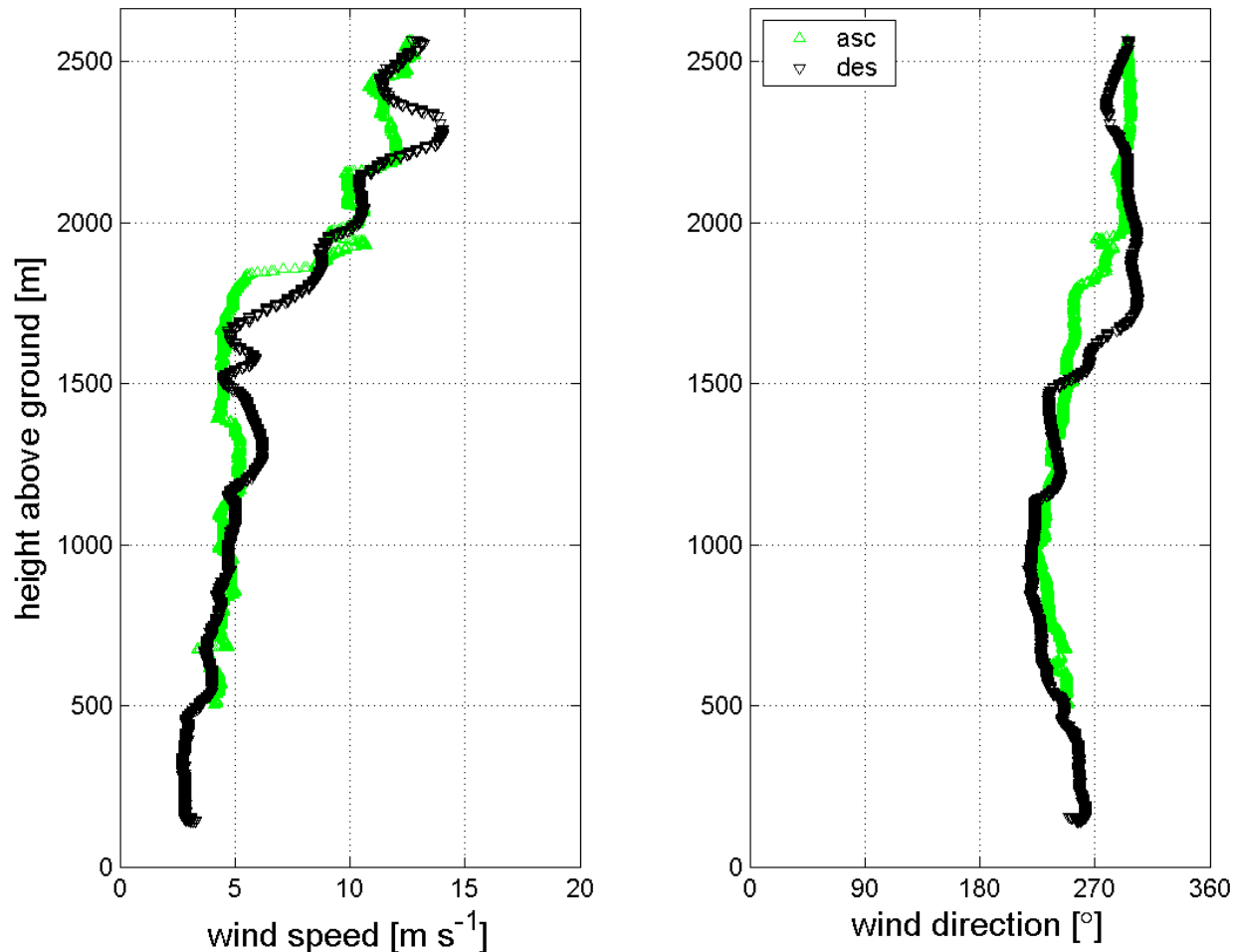


SUMO – Examples of data



Profiles of temperature and humidity, taken during the FLOHOF campaign at the Ingolfsskáli base camp on 18 August, 2007. The campaign was the first environmental test of the SUMO system. It proved its functionality with more than 30 ascents, reaching up to 3500 m above ground.

SUMO – Examples of data



Profiles of wind speed and direction, taken during the FLOHOF campaign at the Ingolfsskáli base camp on 18 August, 2007.

SUMO – Not just boring stuff...



Ingólfsskáli cabin, north of
Hofsjökull ice cap, and some nerdy
scientists...

The future...

- It's our believe that weather and climate information and forecasts will play an ever increasing role in decision making, both automatic and on a personal level
- This requires us (and you:) to have:
 - Good background in meteorology
 - Advanced knowledge of numerical models like WRF
 - Good programming skills
 - Knowledge regarding data management
 - Data processing know-how
- All necessary skills in order to be able to transform DATA into INFORMATION !!!

Further collaboration?

- Modify the Data Portal in order to handle the weather observations from the Bergenskolevær project
- Set up an academic version of the SnR system at UiB/ BCCR



Thank you...

