

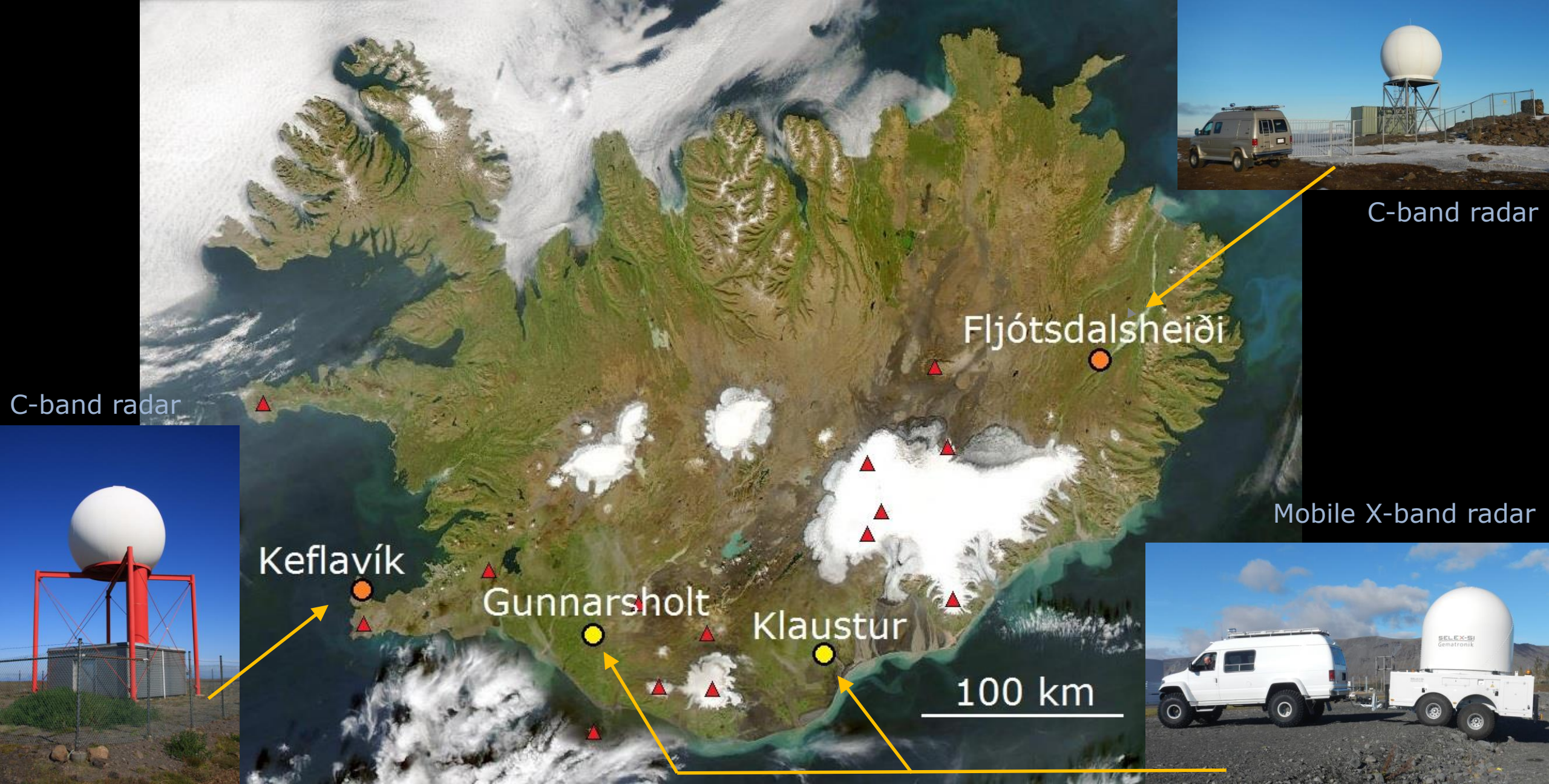
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# Status Report on Weather Radars in Iceland

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C-band radar

C-band radar

Mobile X-band radar

Keflavík

Gunnarsholt

Klaustur

Fljótsdalsheiði

100 km

SELEX-SI  
Gematronik

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# Major Events

## March 2018 – Feb 2019

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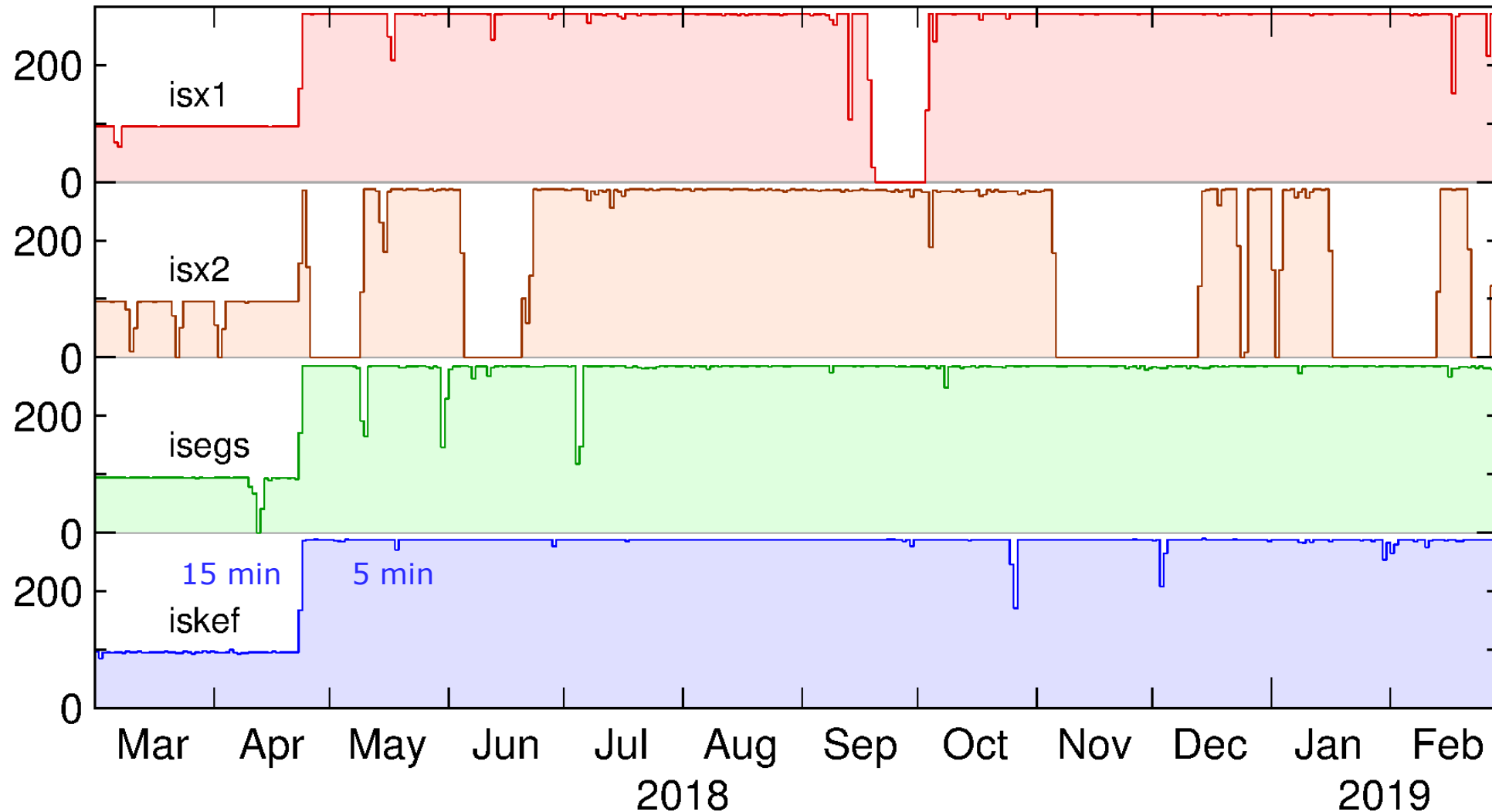
- 2018-04-13 – Servo amplifier replaced at isegs
- 2018-04-23 – Scanning frequency for all four radars increased from 15 to 5 min
- 2018-05-15 – Disks for radar archive full

## Plans for installations of new C-band radars

- 2019 Tender documents – Selection – Contract
- 2020 iskef renewed (SW-Iceland)
- 2020 isegs renewed (E-Iceland)
- 2021 New radar in N-Iceland

# Radar Data Retrievals

## Number of scans per day, March 2018 – Feb 2019



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# Keflavík C-band Radar - iskef

## Logbook March 2018 – Feb 2019

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- 2018-04-04 – Lightning protection installed
- 2018-04-23 – Scans every 5 min
- 2018-10-25 – Cache problems - local computer restarted
- 2018-12-04 – **Calibration**
  
- Data retrieval in 2018: **99.5%**
- Data retrieval March 2018 – Feb 2019: 99.5%



Keflavík SW-Iceland Ericson C-band radar.  
Photo Þórður Arason 9 August 2011

# Fljótsdalsheiði C-band Radar - ísegs

## Logbook March 2018 – Feb 2019

- 2018-04-13 – Servo amplifier replaced
- 2018-04-23 – Scans every 5 min
- 2018-05-09 – Pulse shape problems
- 2018-06-11 – Tuning
- 2018-07-04 – Az-motor replaced
- 2018-08-07 – Calibration problems
  
- Data retrieval in 2018: **95.5%**
- Data retrieval March 2018 – Feb 2019: 97.9%



Fljótsdalsheiði E-Iceland EEC C-band radar.  
Photo Hermann Arngrímsson 8 July 2016

# Mobile X-band Radar - isx1

## Logbook March 2018 – Feb 2019

- 2018-03-01 – In operation at Klaustur (SE-Iceland)
  - 2018-03-08 – Inspection, adjustments
  - 2018-04-23 – Scans every 5 min
  - 2018-09-13 – Rainbow server problems
  - 2018-09-19 – Moved to Reykjavík
  - 2018-09-24 – Calibration problems, pulse problems
  - 2018-10-03 – Moved to Klaustur, pulse retrieval
  - 2019-03-01 – In operation at Klaustur
  - 2019-04 – Calibration planned
- 
- Data retrieval in 2018: **94%**
  - Data retrieval March 2018 – Feb 2019: 95%



Mobile X-band radar isx1, Selex Meteor 50DX, installed with clear view over Bárðarbunga before the 2014-2015 volcanic eruption. Photo Þorgils Ingvarsson 22 August 2014

# Mobile X-band Radar - isx2

## Logbook March 2018 – Feb 2019

- 2018-03-01 – In operation at Gunnarsholt (S-Iceland)
- 2018-04-23 – Scans every 5 min
- 2018-04-25 – Moved to Reykjavík
- 2018-05-07 – New Gunnarsholt site tested
- 2018-06-04 – Moved to Reykjavík
- 2018-06-19 – New Gunnarsholt Observatory site
- 2018-11-05 – Moved to Reykjavík
- 2018-11-28 – **Calibration**
- 2018-12-13 – Moved to Gunnarsholt
- 2018-12-25 – Computer failure
- 2019-01-16 – Computer failure
- 2019-01-31 – Moved to Reykjavík
- 2019-02-13 – Moved to Gunnarsholt
- 2019-03-01 – In operation at Gunnarsholt



Specially adapted truck to take mobile radar off road.  
Photo Hermann Arngrímsson 20 October 2016.

- Data retrieval in 2018: **69%**
- Data retrieval March 2018 – Feb 2019: 66%



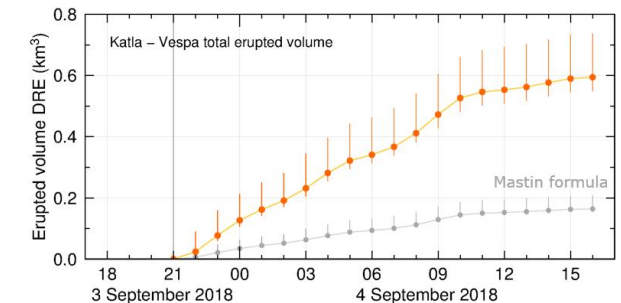
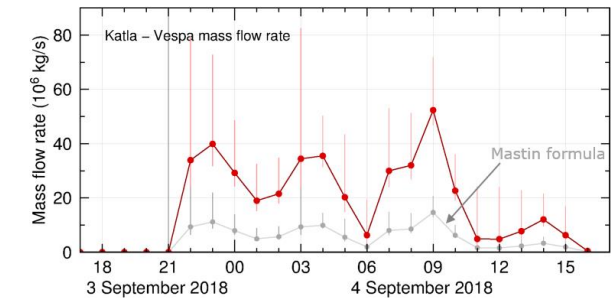
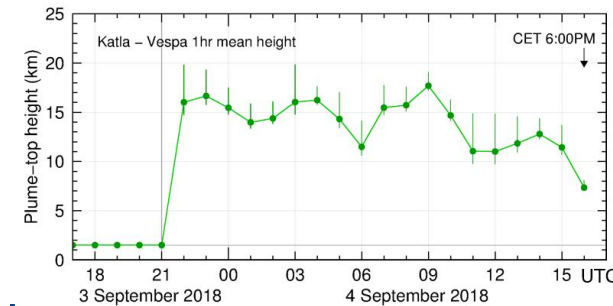
# Radar Volcano Monitoring Volcanic Eruptive Source Parameter Assessment

## Integrated automatic real-time system:

- Weather radars used to estimate plume height over volcano
- Volcanic source parameters estimated by a numerical volcanic plume model and ECMWF model
- Ash dispersal model using NWP model
- Data published in real-time at

<http://brunnur.vedur.is/radar/vespa>

## Exercise using Vespa: Katla eruption



## Shame on us:

- DWD Odyssey data hub – Our IT-dept busy doing other things (since 11 Dec)
- Solar monitoring – Our HDF5 header is missing radar-constant etc. information

## New radars: What is essential? – Common pitfalls?

- We are working on tender documents for new radars
- Hopeful for bids from (Saab) - Vaisala - EEC - Baron - Selex
  
- Software for standard products
- Software for R&D