

Grímsvötn 2011 eruption: Data from 10.1038/ngeo2044

# Volcanic plume height correlated with magma-pressure change at Grímsvötn Volcano, Iceland

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Nature Geoscience (2014) doi:10.1038/ngeo2044

A) GPS DATA, B) TILT DATA

## A) GPS DATA

Kinematic trajectory of GPS station GFUM estimated using TRACK module of GAMIT/GLOBK software.

### i) 1 Hz unfiltered GPS time series

[GPS\\_TIME\\_North\\_East\\_Up.txt](#):

Column 1: Time, Hours since 00:00 UTC 21 May 2011

Column 2: North displacement, millimeters

Column 3: East displacement, millimeters

Column 4: Up displacement, millimeters

### ii) Filtered GPS time series using Boxcar filter and time steps of 1 min.

One Minute Boxcar filter:

[GPS1minfilter\\_TIME\\_North\\_East\\_Up.txt](#)

Five Minute Boxcar filter:

[GPS5minfilter\\_TIME\\_North\\_East\\_Up.txt](#)

Column 1: Time, Hours since 00:00 UTC 21 May 2011

Column 2: North displacement, millimeters

Column 3: East displacement, millimeters

Column 4: Up displacement, millimeters

### iii) Projected GPS data

Horizontal GPS displacements in direction N38.5 and transverse to it.

One Minute Boxcar filter with 1 min time steps:

[GPS1min\\_alongN38.5W.txt](#)

[GPS1min\\_transverseN38.5W.txt](#)

Five Minute Boxcar filter with 1 min time steps:

[GPS5min\\_alongN38.5W.txt](#)

[GPS5min\\_transverseN38.5W.txt](#)

Column 1: Time, Hours since 00:00 UTC 21 May 2011

Column 2: Displacement, millimeters

## **B) TILT DATA**

Tilt data have been corrected for artificial spikes and offsets resulting from digitization

### **i) North component of tilt**

[TILT\\_TIME\\_NORTH.txt](#)

Column 1: Date, YYYY-MM-DD

Column 2: Time, HH:MM:SS

Column 3: North tilt, micro radians

### **ii) East component of tilt**

[TILT\\_TIME\\_EAST.txt](#)

East tilt data, corrected for artificial spikes and offsets

Column 1: Date, YYYY-MM-DD

Column 2: Time, HH:MM:SS

Column 3: East tilt, micro radians

### **iii) Filtered tilt time series using Boxcar filter and time steps of 1 min.**

One Minute filter:

[TILT1minfilter\\_TIME\\_EAST.txt](#)

[TILT1minfilter\\_TIME\\_NORTH.txt](#)

Five Minute filter:

[TILT5minfilter\\_TIME\\_NORTH.txt](#)

[TILT5minfilter\\_TIME\\_EAST.txt](#)

Column 1: Date, YYYY-MM-DD

Column 2: Time, HH:MM:SS

Column 3: East tilt, micro radians