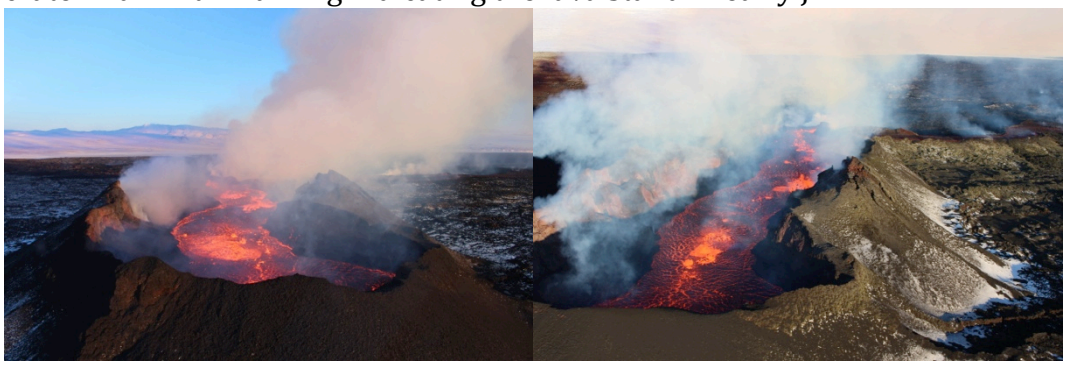
Notes from surveillance flight with LHG to the eruption site, 21 JAN 2015.

Observations from the previous surveillance flight held on 10 JAN had already indicated that the intensity of the eruption had decreased since early DEC 2014. Observations made on 21 JAN not only confirm this, but also indicate that the intensity of the eruption has decreased (markedly) further. The collective evidence is given here below.

Vent activity and appearance:

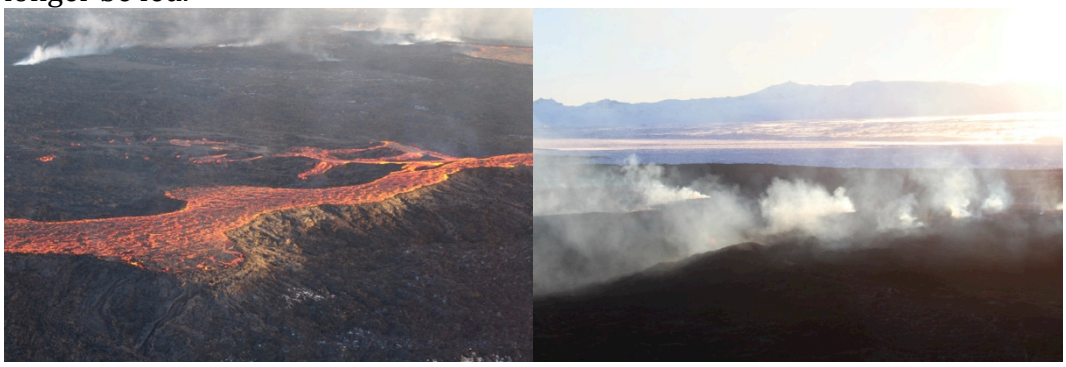
By comparison of the below two images from 10 JAN (left) and 21 JAN (right), it is evident that the bubble bursting activity (already reduced from NOV) has reduced even more during JAN. On 10 JAN occasional larger bubble bursts still had the thrust required to send spatter outside the high southern crater wall. The northern end of the rampart remain active and the thermal erosion of the northern crater wall observed on 10 JAN has by now caused the wall to collapse and lengthen the rampart. There is still no pathway for the lava to flow directly N/NW. The level of the lava stand inside the crater is now at the lowest level since the lake first formed. On the photo from JAN 21 note the steep lower inside crater wall with marking indicating the lava stand in early JAN.



Photos from the southern end of the rampart on 10 JAN (left) and 21 JAN (right).

Lava channels:

The northern channel that formed during mid-DEC [following rupture of a levee as consequence of preceding pulsating activity in the vent, delivering surges of lava into the lava river] is no longer active. The assessment is that following a recent further decrease in effusion rate (after 15 JAN) this open channel can no longer be fed.



Photos of the northern lava channel on 10 JAN (left) and 21 JAN (right). Outgassing in the background on both photos are from the northeastern and eastern channels. Light conditions were challenging on 21 JAN for photo-documenting the northern channel. The frozen lava channel is the gray area in right foreground, bound by brown/black levees.

The lava now stands lower against the levees in the ponds belonging to the channels flowing east and northeast, corroborating with observations made at the vent. Both channels remain active, feeding closed pathways leading further east and identified from outgassing and thermal imagery.

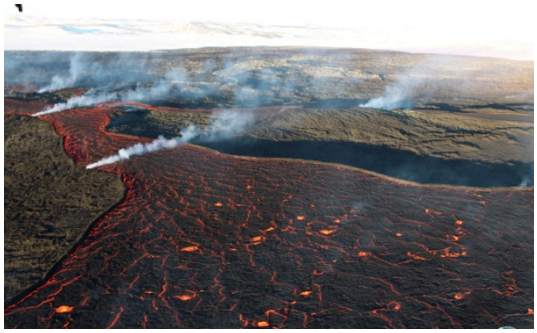
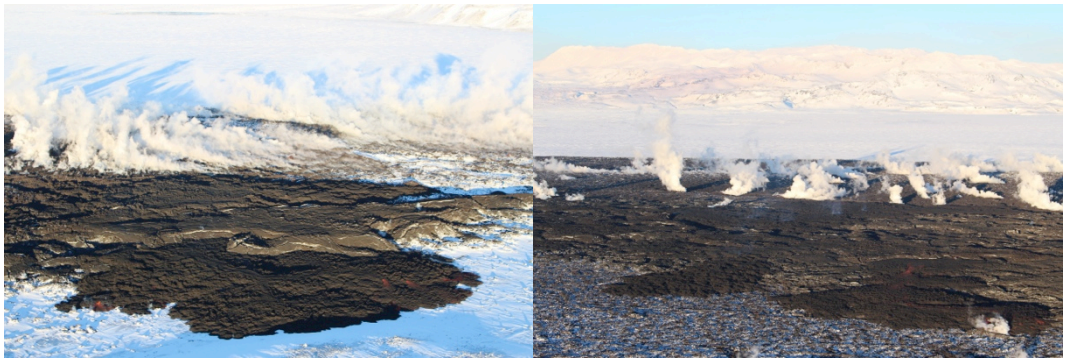


Photo of channel and pond leading east (left and foreground) and channel leading northeast (right and middle ground) on 21 JAN.

Lava field:

The field north of the vent appears to be inactive at present. The channel to the northeast feeds a modest lobe that advances by the road junction at Thorvaldshraun. The channel flowing east still feeds active breakouts at the front of the far east field by Jökulsá, as well as by vertical stacking of the lava field as closed pathways inflate and rupture. The lava field is riddled with lava rise-pits, abandoned channels, tumuli structures and hornitos.



Photos of a frontal breakout far east by Jökulsá ~18 km from vent (left) and flank breakouts stacking on top of lava from SEPT with snow cover (foreground) from a closed, inflating pathway (middle ground) with Dyngjufjöll as backdrop (right).

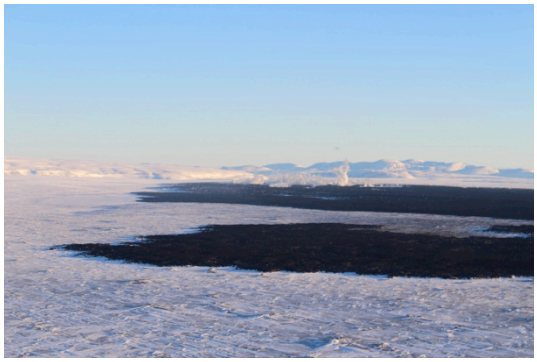


Photo of recent lava lobes from JAN 2015 overlapping with Thorvaldshraun. This may cause a natural dam for spring flooding from the western branch of Jökulsá. Vadalda in left background. Hydrothermal steam plumes rise from the far east lava field.

During the day assistance was also provided to the gas monitoring team from BGS, airborne collection of gas samples from inside the plume. Observations were also made on ice cauldrons and Bardarbunga GPS station, and the ice dam in Jökulsá up- and downstream from Grimsstadir.

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