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# Futurvolc and the Bardarbunga eruption 2014-15 Iceland, success in the field and laboratory.

Armann Hoskuldsson, Ingibjorg Jonsdottir, and Thor Thordarson
Nordvulk, Futurevolc, University of Iceland, Institute of Earth Sciences, Reykjavík, Iceland (armh@hi.is)

The Bardarbunga volcanic system in Iceland started unrest in August 2014. Seismic activity gradually build up, until magma began to be extruded on surface. The first eruption occurred on the 28th of August and was small and subglacial, the second eruption took place outside the glacier, on the 29th of August and lasted for few hours. Third and largest eruption started on early morning 31st of August. This was to be the largest eruption in Iceland since Laki eruption 1783. The eruption used the same fissure that had opened up on the 28th but was much larger. The fissure was about 2 km long with a curtain of fire along the whole fissure, curtains reaching up to 150 m into the air. The area in which the eruption took place is a glacial river outwash plain, thus relatively flat. Although the eruption site is remote, being in the highlands north of the icecap Vatnajökull, at an average altitude of some 700 m, the flat sandur plain offered a unique opportunity to combine satellite and on site observations methods. The eruption ended on the 27th of February 2015, thus lasting for almost 6 months, during this time some 1.44 km3 of lava was erupted. From day one satellite data from NOAA AVHRR, MODIS, LANDSAT 7 and 8, ASTER, EO-1 ALI, EO-1 HYPERION, SENTINEL-1, RADARSAT-2 COSMO SKYMED and TERRASAR X where collected and used in combination with onsite observation. Resulting data give unique information on the effusion rates in basaltic fissure eruptions and its evolution with time. Further information on flow behavior and cooling of basaltic lava being emplaced in a relatively flat land can be used for future and past predictions. In this talk we shall show how valuable the combination of satellite data to field observation are to be able to precisely monitor on of the largest lava eruption on earth for the past 200 years.
The role of Futurevolc and preparedness involved in that work greatly enhanced and facilitated synchronization of onsite and remote data during the Bardarbunga eruption improving information flow between Futurevolc science group and authorities. In this presentation we will discuss the framework set up, security and information flow during the 1.44 km3 lava eruption that reached a peak effusion rate of some 530 to 450 m3/s,