M02-2: Pico Pequeno eruptions 2014

These materials provide the content for your first story map. Each title below corresponds to one sequential sidecar slide of the story map. The information consists mainly of publications about the last major eruption in November 2014 (see below). They are also backed by topo-graphical background information. For example, you can use the given coordinates to link the information to its corresponding location on the map.

The story behind the map (script) This story map about “Volcanic eruption of the Pico Pequeno on Fogo 2014” provides a general overview of the eruption for a wider audience. It contains various media such as texts, pictures, videos and maps. The story map has a temporal sequence and starts with the volcanic activities from October 2014. After erupting in 1995, the volcano on Fogo once again became active in 2014. The eruption began shortly after 10 a.m. on Sunday, 23 November 2014. There were a few days of heightened seismic activity leading up to the eruption, but they worsened beginning at 8 p.m. on Saturday, 22 November 2014. After 77 days of activity the eruption finally stopped on 8 February 2015.

Title of the story map Volcanic eruption of the Pico Pequeno in the Chã das Caldeiras on Fogo 2014

Titles of the single pages of the story map

1. Before the first eruption
2. The first eruption in November 2014
3. Video of the eruptions
4. Online article on the second day of the eruption (24.11.2015)
5. The followings days
6. The lava flow morphology and emitted material
7. The end of the eruptions

Before the first eruption

The island of Fogo (English: fire) in Cabo Verde is about 25 km in diameter. The majority of the population resides in coastal cities, while a small portion of the population lives in the summit caldera, where every eruption has taken place. During the 20th century, Pico Pequeno erupted in 1909, 1951 and 1995. During the period from 23 November 2009 to April 2014, background CO2 levels typically remained well below 150 tons per day (t/d). Between March and November of 2014, however, emissions increased to fluxes of ~327 t/d. The night before the eruption residents felt earthquakes. The aerial photograph of the Chã das Caldeiras is from May 2008; it shows the Pico (the highest point on the island at 2829 m), the caldera and two small villages (Bangaeira and Portela).

Image title	Chã das Caldeiras in 2009
Link to image	https://upload.wikimedia.org/wikipedia/commons/4/48/Ilha_do_Fogo_aerial_shot_1.jpg
Coordinates	Y: 14.910925 X: -24.331813

The first eruption in November 2014

The 2014 eruption began at 10:00 local time on 23 November. Residents felt earthquakes the night

before the eruption. Lava streamed from a fissure in the caldera on Pico's outer West-South-West flank. The initial fissure vent emerged close to the location of the vent from the 1995 eruption, though materials apparently began to vent at multiple points along the fissure. An ash plume from this eruption could be seen as far as Praia (the capital city, 90 km to the east). This aerial photograph taken from a TACV plane captures the ash plume, which reached a height of 4500 m that day.

Image title	Ash plume taken from a TACV plane
Link to image	http://imgs.sapo.pt/gfx/ca/b8/581452.gif
Coordinates	Y: 14.944005 X: -24.354414

Video of the eruptions and their destructive power

This video captures the eruption of Pico Pequeno and shows its destructive power.

Video title	Volcano Fogo: Eruption destroyed houses
Link to video	https://www.youtube.com/watch?v=ozSoiPHvJ88
Coordinates	Y: 14.944005 X: -24.354414

Online article on the second day of the eruption (24.11.2015)

People living in the caldera were evacuated on the second day.

Article title	
Short summary	A volcano has erupted in the Cape Verde islands, causing hundreds of residents living in the vicinity to be evacuated and a local airport to be closed.
Link to article	http://www.bbc.com/news/world-africa-30175986
Coordinates	Y: 14.944005 X: -24.354414

The following days

The 2014 eruption released more lava than the 1995 eruption. Lava continued to slowly flow out of the vents and toward the villages day by day. This map summarizes the chronology of the lava flows between 29 November and 24 December 2014 and are keyed by color. Dates in the legend reflect estimates made based on satellite imagery. The North-South distance between the horizontal lines across the map are about 2.5 km.

Image title	Image of the lava flow from 30 November to 24 December
Link to image	Currently no image available

The lava flow morphology and emitted material

Fogo typically has Strombolian eruptions. Strombolian eruptions are powerful lava fountains when they first erupt but are often short-lived. Lava flows are a normal part of it. The lava flow, which was

over 6 km in length, destroyed much of Portella, Bangaeira and the national park headquarters. The local airport in São Filipe was closed as well. Lava destroyed utility poles, hindering communications. Thicker areas of lava stood higher than single-story buildings. In the three-in-one picture, the lava front appears strongly fragmented, composed of diverse-sized blocks. The other image depicts a compact lava flow that is clearly composed of a comparatively thin body.

Image title	Pictures of the lava and the destructive power it had.
Links to image	Currently no image available

The end of the eruptions

The eruptions lasted 77 days from 23 November until the 8 February. “The OVCV (Observatório Vulcanológico de Cabo Verde – Volcanological Observatory of Cape Verde) reported that on 8 February the eruption at Fogo had ended. SO2 emissions were almost undetectable on 8 February and continued to remain so at least through 11 February. During that period, the lava front had not moved, and only minor fumarolic activity was present at the edge of the new crater. Lava flow temperatures had dropped.” (Smithsonian Institution, 2015)

Image title	Picture of the final lava flow
Link to image	http://thumbs.web.sapo.io/?pic=http%3A%2F%2Fsm2.imgs.sapo.pt%2Fmb%2F5%2F5%2F7%2Fb980fd958899409838bf166754adef30dc330.jpg&W=600&H=380
Coordinates	Y: 14.970326 X: -24.366905

Author: Klaus Herrmann

From:
https://geotraining.geomedienlabor.de/ -

Permanent link:
https://geotraining.geomedienlabor.de/doku.php?id=en:courses:training:element-20:code-examples:sm-ce-02-02

Last update: **2023/08/27 17:53**