

Supplementary Material S3: Variation over time of the non-cumulative FRP statistics every 12 hours and Maximum FRP every 24 hours

Article: A Near Real-Time and Free Tool for the Preliminary Mapping of Active Lava Flows during Volcanic Crises: The Case of Hotspot Subaerial Eruptions

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A. FRP statistical analysis every 12 hours

1. Wolf - 2015

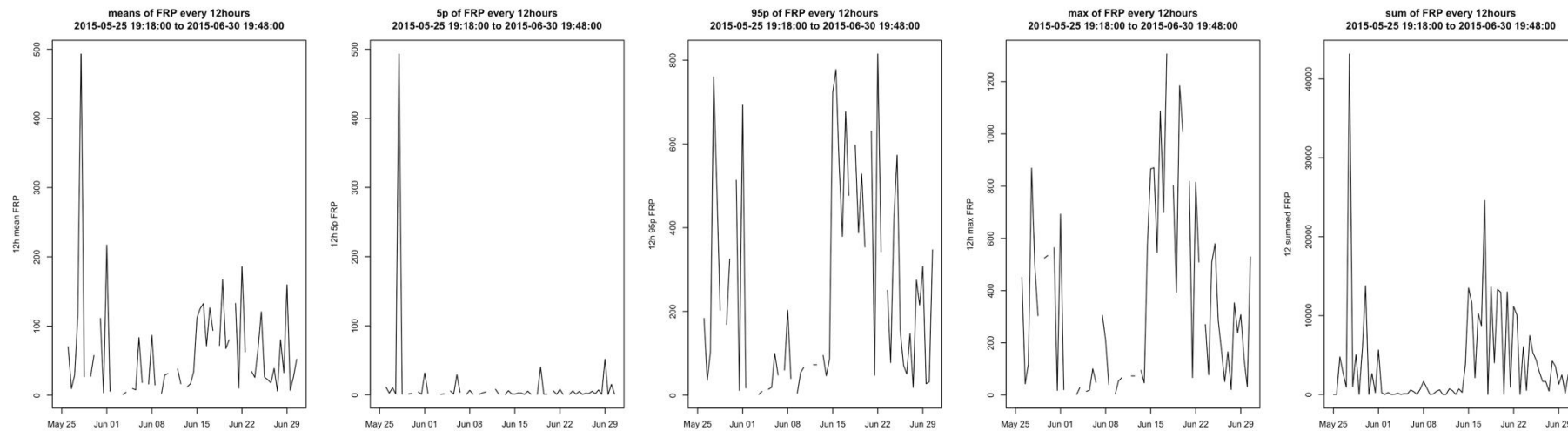


Figure S3-1: Variation over time of the FRP statistics (mean, the 5th and 95th percentiles, maximum and the sum) based on FRP data retrieved every 12 hours by the S-NPP satellite for Wolf volcano from 25 May to 05 July 2015.

2. Kilauea - 2018

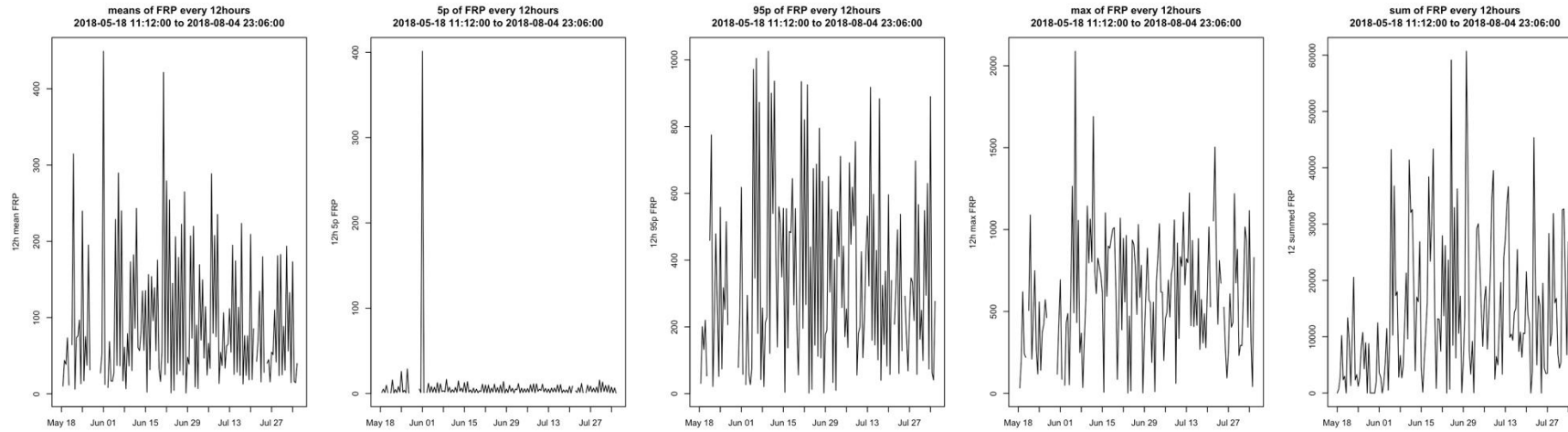


Figure S3-2: Variation over time of the FRP statistics (mean, the 5th and 95th percentiles, maximum and the sum) based on FRP data retrieved every 12 hours by the S-NPP satellite for Kilauea volcano from 18 May to 04 August 2018.

3. Sierra Negra – 2018

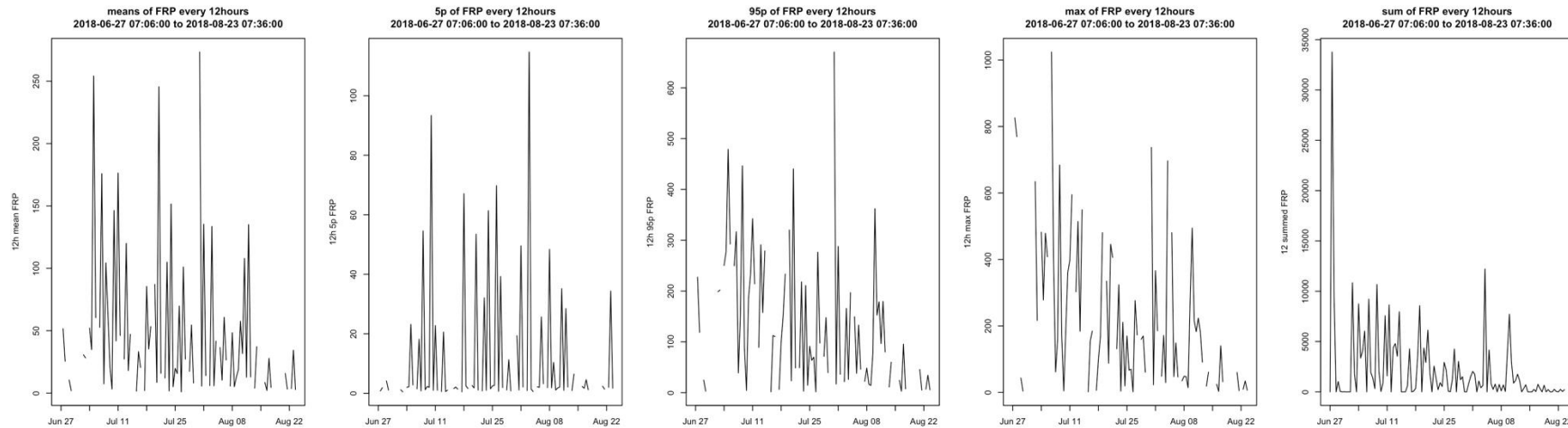


Figure S3-3: Variation over time of the FRP statistics (mean, the 5th and 95th percentiles, maximum and the sum) based on FRP data retrieved every 12 hours by the S-NPP satellite for Sierra Negra volcano from 27 June to 23 August 2018.

4. Fagradalsfjall - 2021

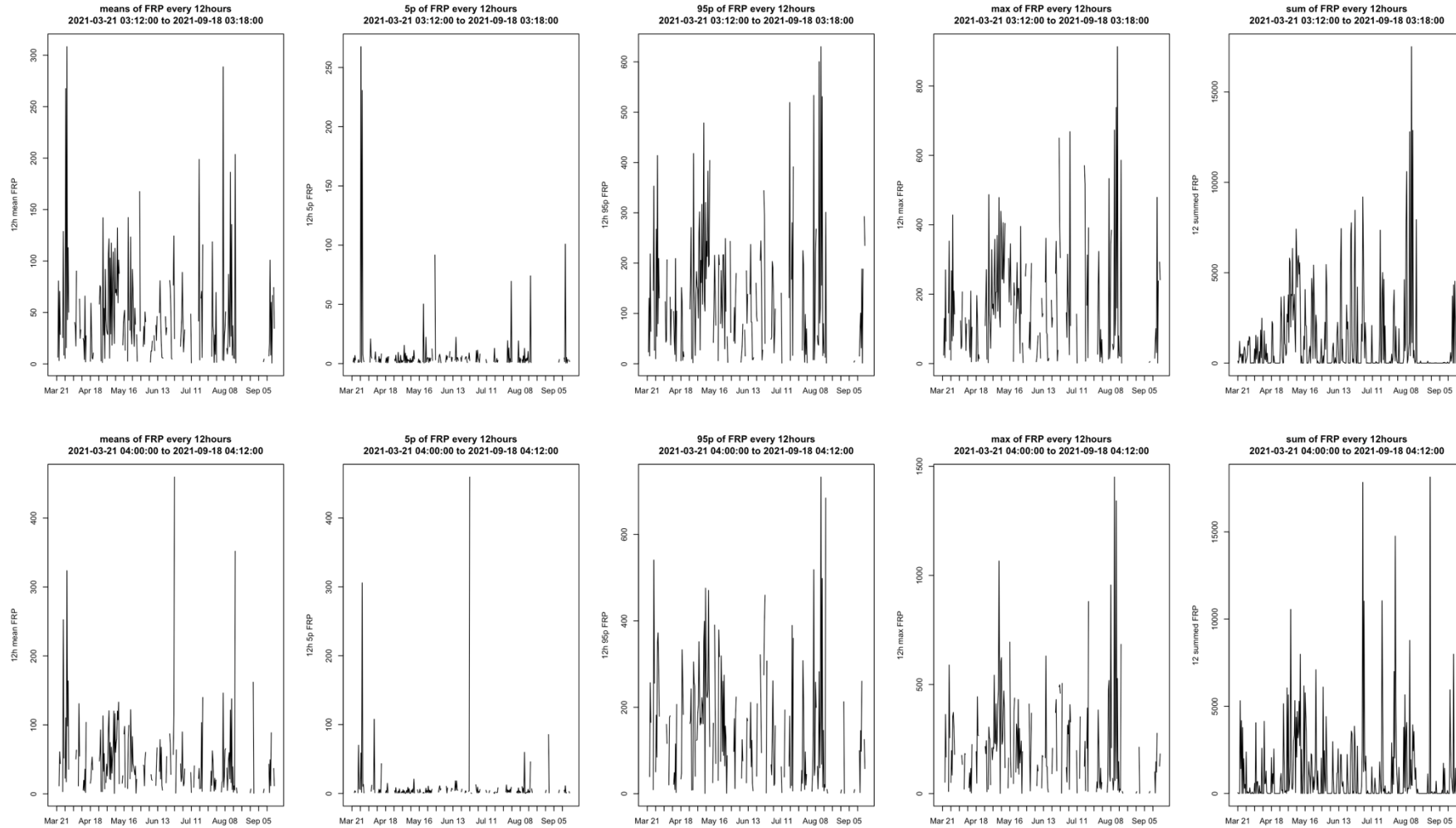


Figure S3-4: Variation over time of the FRP statistics (mean, the 5th and 95th percentiles, maximum and the sum) based on FRP data retrieved every 12 hours by the S-NPP (top) and NOAA-20 (bottom) satellites for Fagradalsfjall eruption from 21 March to 18 September 2021.

5. Cumbre Vieja - 2021

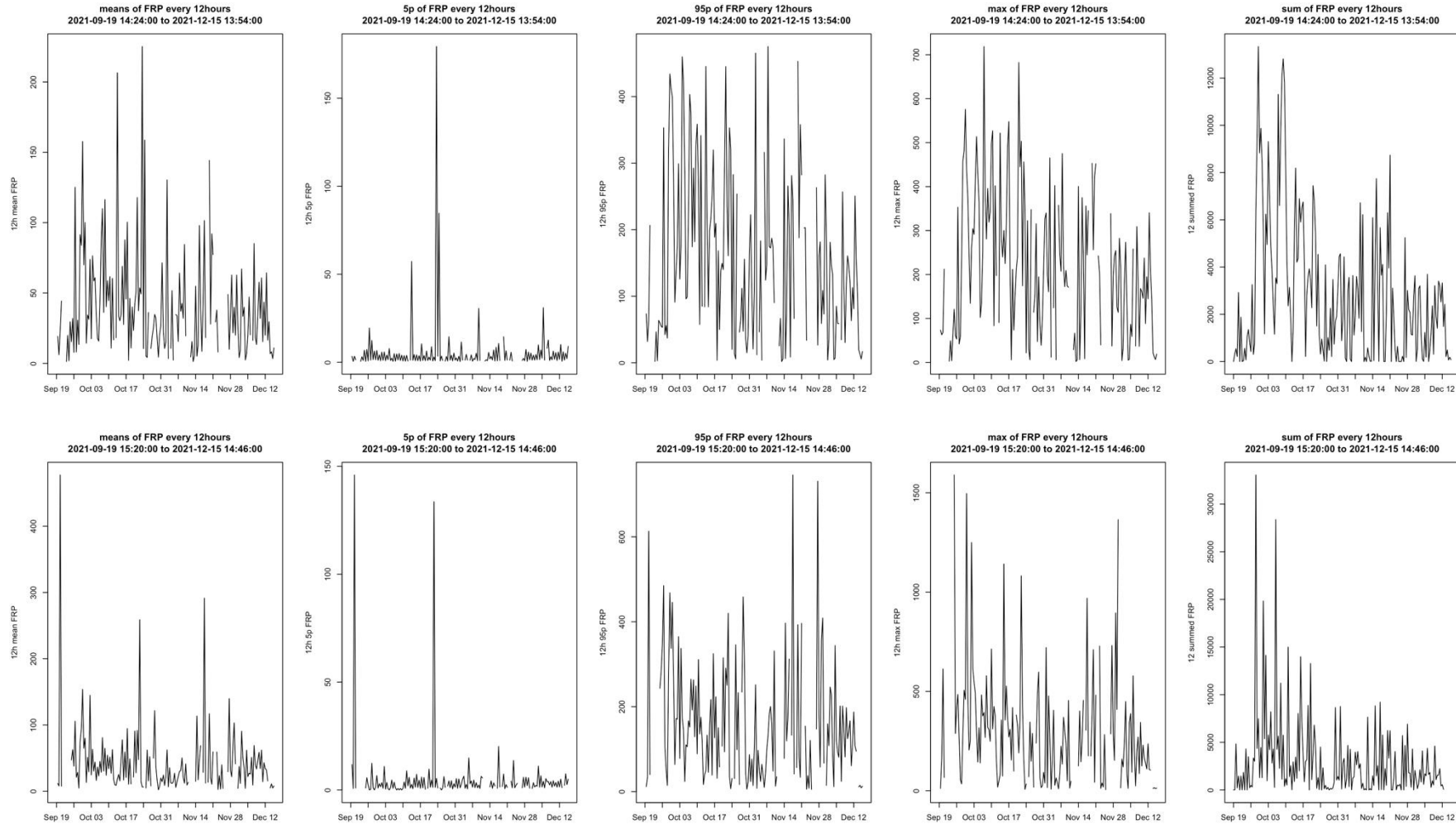


Figure S3-5: Variation over time of the FRP statistics (mean, the 5th and 95th percentiles, maximum and the sum) based on FRP data retrieved every 12 hours by the S-NPP (top) and NOAA-20 (bottom) satellites for Cumbre Vieja eruption from 19 September to 15 December 2021.

6. Wolf-2022

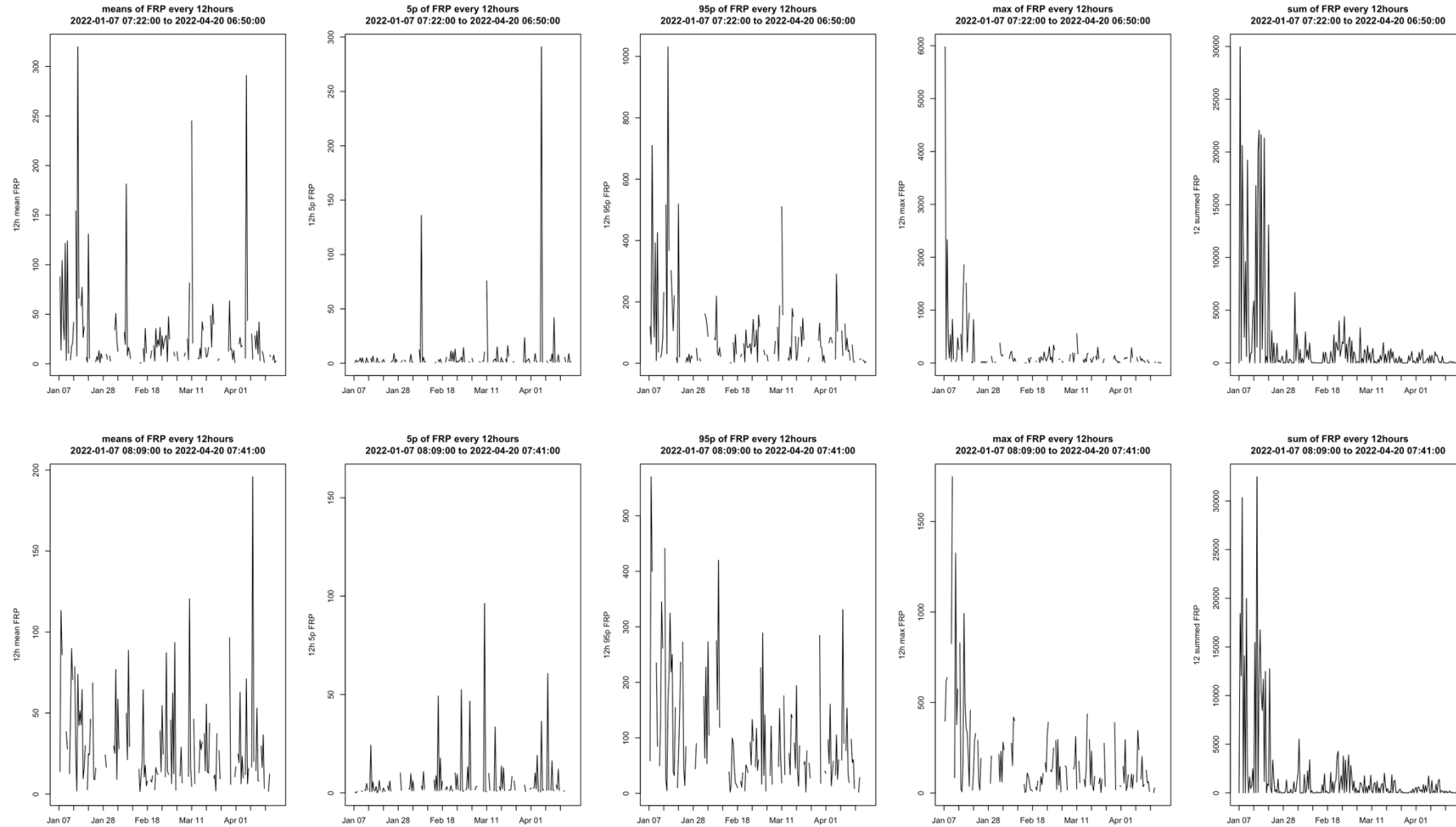


Figure S3-6: Variation over time of the FRP statistics (mean, the 5th and 95th percentiles, maximum and the sum) based on FRP data retrieved every 12 hours by the S-NPP (top) and NOAA-20 (bottom) satellites for Wolf volcano from 7 January to 20 April 2022.

B. Maximum FRP every 24 hours: analysis of the end of the eruption

1. Wolf - 2015

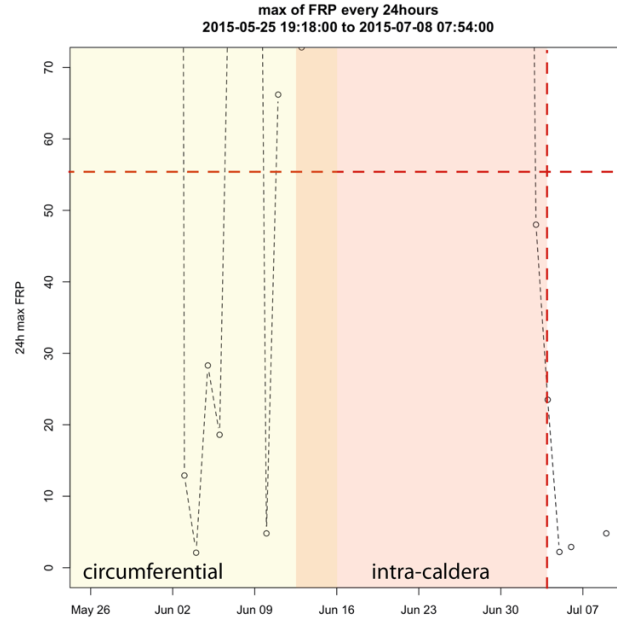


Figure S3-7: Variation over time of the maximum FRP every 24 hours by the S-NPP satellite. The red vertical line highlights the official end of the eruption and the horizontal line the mean FRP-filter. When more than two consecutive days have maximum FRP values below the FRP-filter a break in the eruptive activity or the end of an eruption pulse can be inferred. Colour backgrounds depict the two eruptive phases.

2. Kilauea - 2018

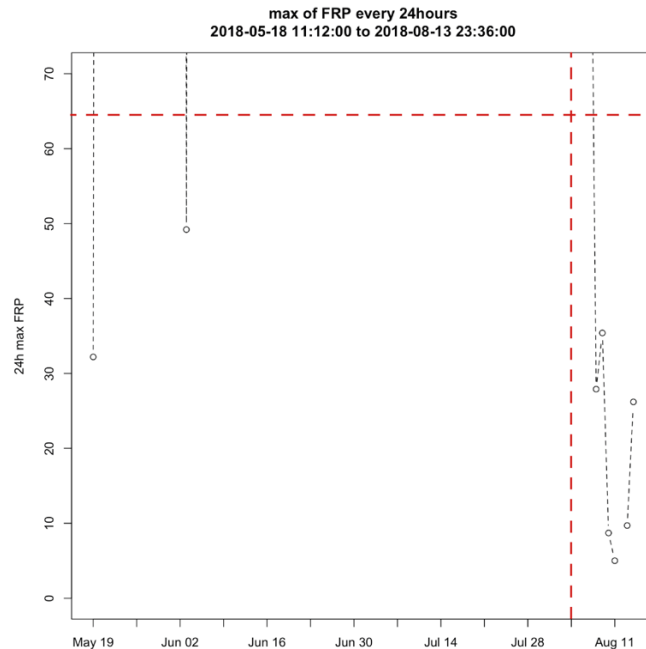


Figure S3-8: Variation over time of the maximum FRP every 24 hours by the S-NPP satellite. The red vertical line highlights the official end of the eruption and the horizontal line the mean FRP-filter. When more than two consecutive days have maximum FRP values below the FRP-filter a break in the eruptive activity or the end of an eruption pulse can be inferred.

3. Sierra Negra – 2018

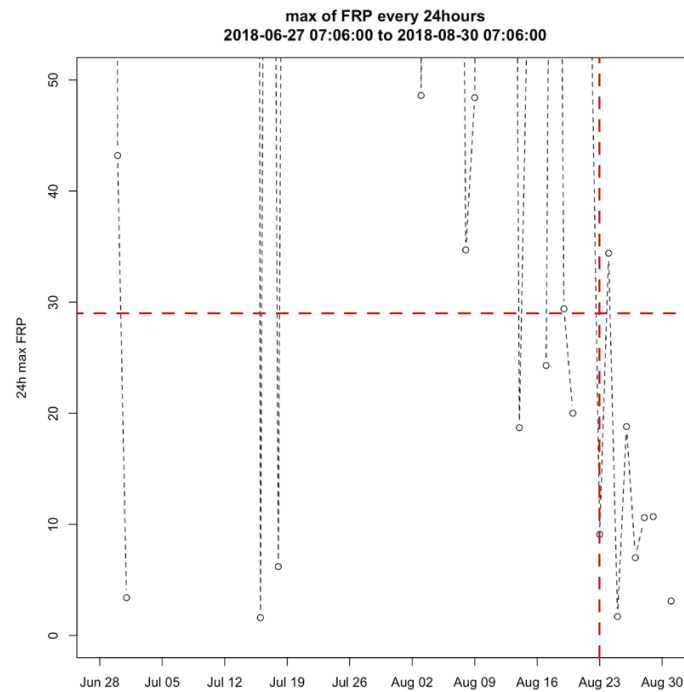


Figure S3-9: Variation over time of the maximum FRP every 24 hours by the S-NPP satellite. The red vertical line highlights the official end of the eruption and the horizontal line the mean FRP-filter. When more than two consecutive days have maximum FRP values below the FRP-filter a break in the eruptive activity or the end of an eruption pulse can be inferred.

4. Fagradalsfjall - 2021

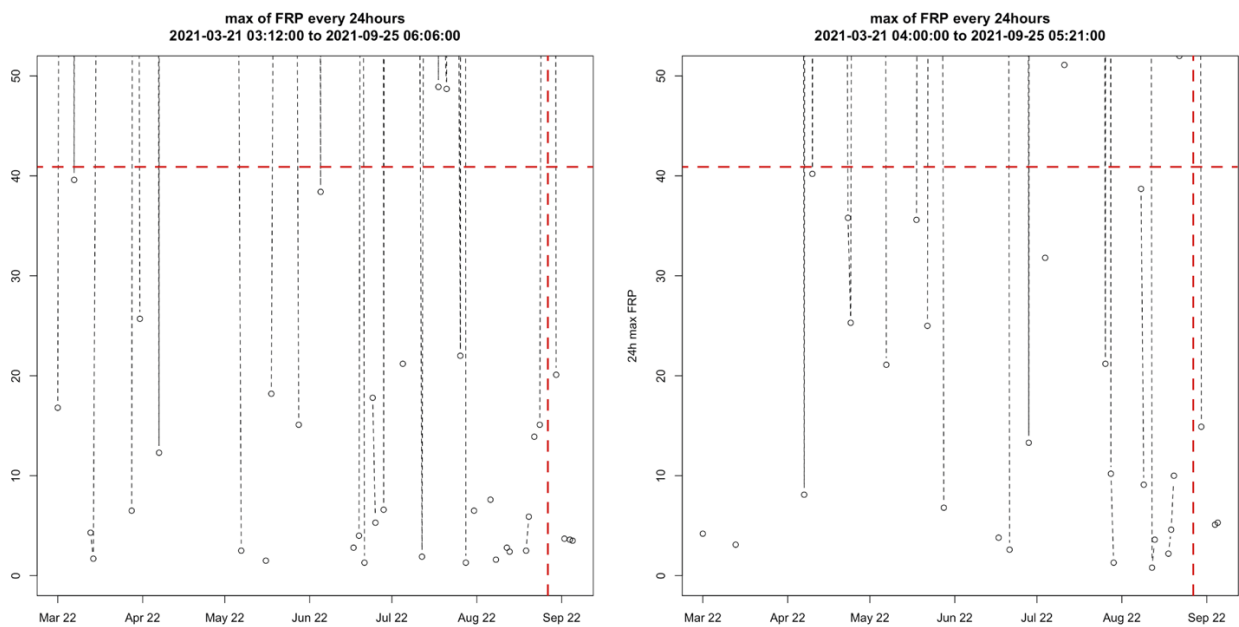


Figure S3-10: Variation over time of the maximum FRP every 24 hours by the S-NPP (left) and NOAA-20 (right) satellites. The red vertical line highlights the official end of the eruption and the horizontal line the mean FRP-filter. When more than two consecutive days have maximum FRP values below the FRP-filter a break in the eruptive activity or the end of an eruptive pulse can be inferred.

5. Cumbre Vieja - 2021

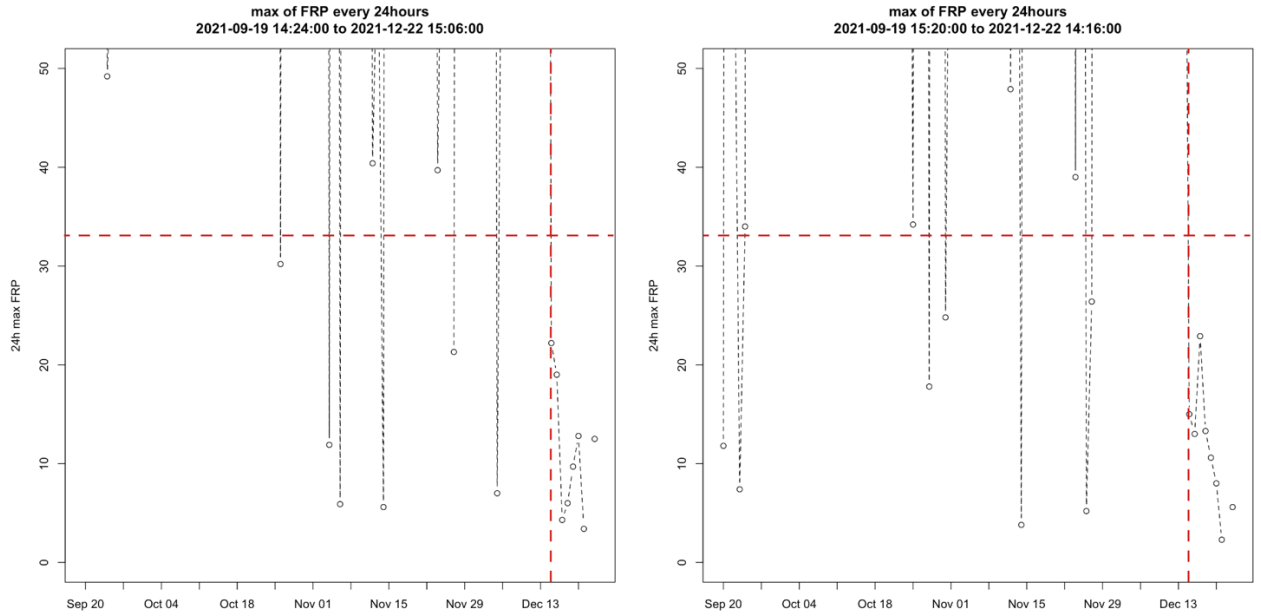


Figure S3-11: Variation over time of the maximum FRP every 24 hours by the S-NPP (left) and NOAA-20 (right) satellites. The red vertical line highlights the official end of the eruption and the horizontal line the mean FRP-filter. When more than two consecutive days have maximum FRP values below the FRP-filter a break in the eruptive activity or the end of an eruptive pulse can be inferred.

6. Wolf-2022

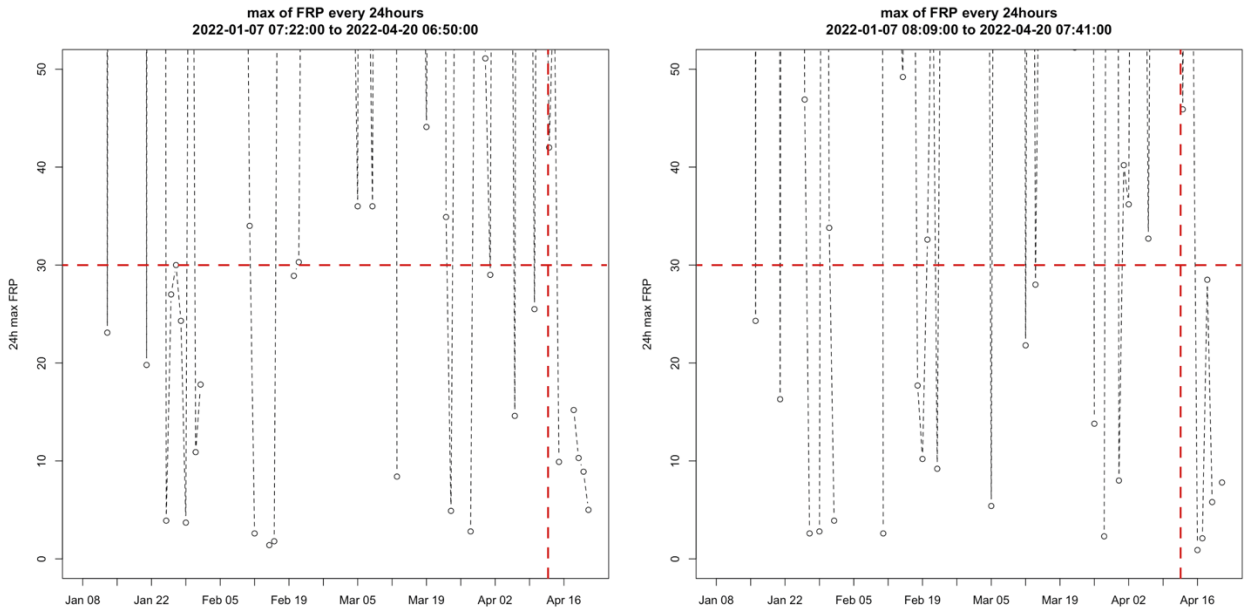


Figure S3-12: Variation over time of the maximum FRP every 24 hours by the S-NPP (left) and NOAA-20 (right) satellites. The red vertical line highlights the official end of the eruption and the horizontal line the mean FRP-filter. When more than two consecutive days have maximum FRP values below the FRP-filter a break in the eruptive activity or the end of an eruptive pulse can be inferred.