

Supplementary Information for

Thermal Patterns at Campi Flegrei caldera Inferred from Satellite Data and Independent Component Analysis.

Francesco Mercogliano ^{1,2,7}, **Andrea Barone** ^{2,7*}, **Luca D’Auria** ³, **Raffaele Castaldo** ^{2,7}, **Malvina Silvestri** ⁴, **Eliana Bellucci Sessa** ⁵, **Teresa Caputo** ⁵, **Daniela Stroppiana** ⁶, **Stefano Caliro** ⁵, **Carmine Minopoli** ⁵, **Rosario Avino** ⁵ and **Pietro Tizzani** ^{2,7}.

¹ Dipartimento di Ingegneria (DI), Università degli Studi di Napoli ‘Parthenope’, Centro Direzionale Isola C4 80143 Naples, Italy; francesco.mercogliano001@studenti.uniparthenope.it (F. M.);

² Istituto per il Rilevamento Elettromagnetico dell’Ambiente, Consiglio Nazionale delle Ricerche (IREA CNR), via Diocleziano, 328, 80124 Naples, Italy; barone.a@irea.cnr.it (A.B.); castaldo.r@irea.cnr.it (R.C.); tizzani.p@irea.cnr.it (P.T.)

³ Instituto Volcanológico de Canarias (INVOLCAN), Calle Irlanda 2, 38400, Puerto de La Cruz, Tenerife, Spain; ldauria@iter.es (L.D.);

⁴ Istituto Nazionale di Geofisica e Vulcanologia (INGV), Osservatorio Nazionale Terremoti, via di Vigna Murata, 605, 00143 Rome, Italy; malvina.silvestri@ingv.it (M.S.);

⁵ Istituto Nazionale di Geofisica e Vulcanologia (INGV), Sezione di Napoli Osservatorio Vesuviano via Diocleziano, 328, 80124 Naples, Italy; eliana.bellucci@ingv.it (E.B.S.); teresa.caputo@ingv.it (T.C.); stefano.caliro@ingv.it (S.C.); carmine.minopoli@ingv.it (C.M.); rosario.avino@ingv.it (R.A.);

⁶ Istituto per il Rilevamento Elettromagnetico dell’Ambiente, Consiglio Nazionale delle Ricerche (IREA CNR), via A. Corti, 12, 20133 Milan, Italy; stroppiana.d@irea.cnr.it (D.S.);

⁷ GAIA iLAB at the CNR – Portici Research Center, Piazzale E. Fermi 1, 80055 Portici, Italy.

* Correspondence: barone.a@irea.cnr.it

Introduction

This Supplementary Information file consists of the following two items:

- Table S1. Processed images.
- Figure S1. Mean LST maps of CFc.

Table S1 – Processed images. Selected dates of the non-cloudy nighttime L8 C2L1 scenes of the CFc in 2013 – 2022 from the USGS data catalog.

2013	2014	2015	2016	2017
		13 March		
		30 April		3 April
	6 February	1 June	16 April	5 May
	22 February	17 June	18 May	6 June
4 December	11 April	19 July	3 June	22 June
20 December	30 June	4 August	5 July	8 July
	16 July	20 August	21 July	9 August
	1 August	21 September	26 November	25 August
	17 August	7 October		12 October
	21 November	23 October		
		8 November		
		10 December		
2018	2019	2020	2021	2022
24 May	20 February	6 January	25 February	11 January
9 June	24 March	22 January	13 March	27 January
25 June	9 April	7 February	29 March	12 February
11 July	28 June	11 April	14 April	3 May
27 July	30 July	27 April	30 April	19 May
12 August	15 August	30 June	17 June	4 June
28 August	16 September	16 July	3 July	20 June
29 September	18 October	18 September	19 July	6 July
15 October		4, 20 October	4 August	22 July
16 November			20 August	7 August
18 December			5 September	24 September
			21 September	26 October
			7 October	11 November
				27 November

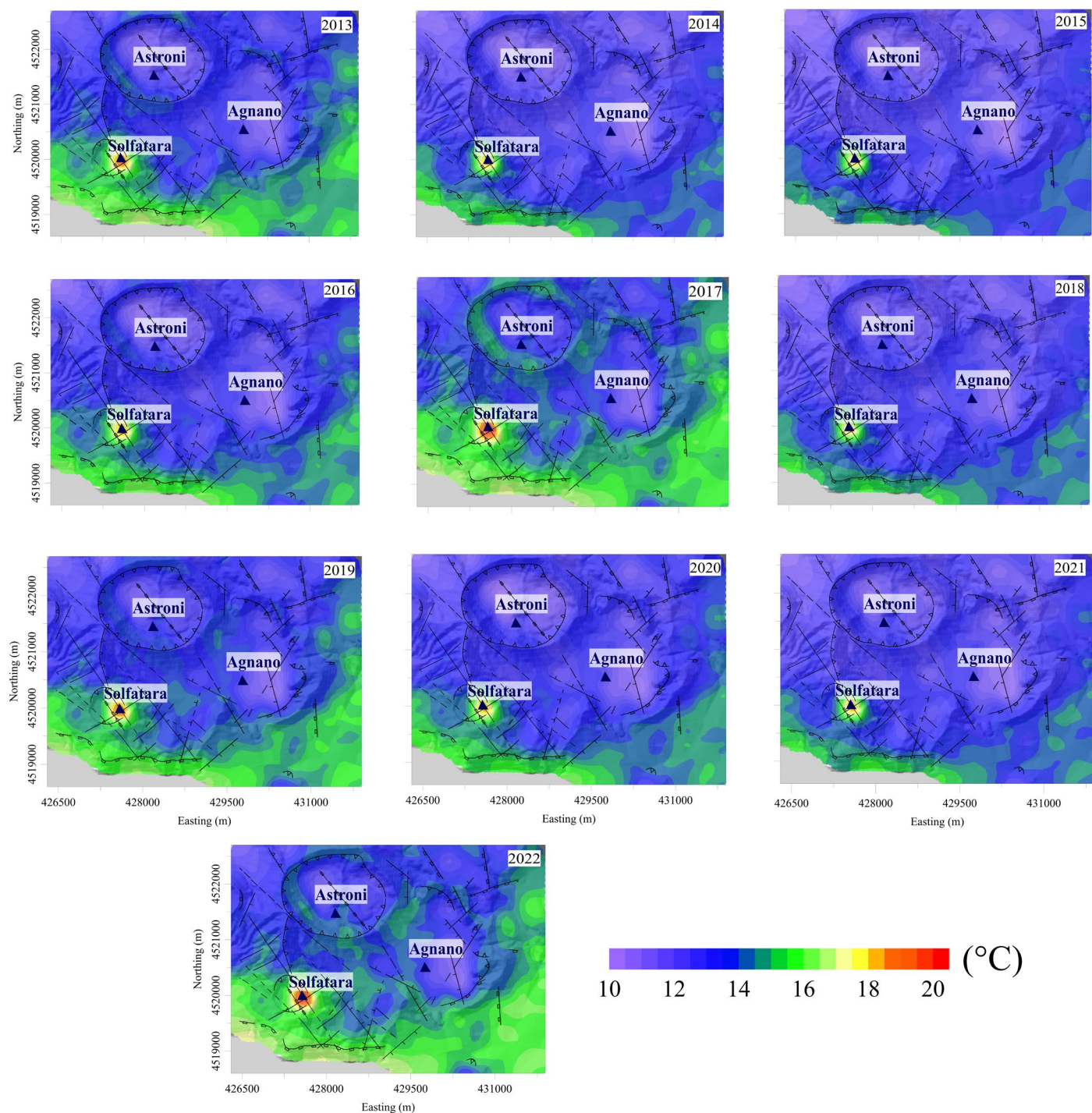


Figure S1 – Mean LST maps of CFc. Detrended mean annual LST maps during each year of the considered 2013 – 2022 time period superimposed on the structural map redrawn from Bellucci Sessa and Milano (2024).