

Conference and Plenary Meeting of the Permanent Committee on Cadastre in the European Union (PCC)

“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “

Fernando Serrano, ES, Dirección General del Catastro

Use of cadastral data for monitoring and recovering from the Volcano catastrophe in La Palma (Spain)



REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING
THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA



PCC
Permanent Committee
on Cadastre in the
European Union

EuroGeographics

Cadastre and Land Registry
Knowledge Exchange Network

ERUPTION OF THE CUMBRE VIEJA VOLCANO ON THE ISLAND OF LA PALMA (SPAIN)



“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “

Un volcán entra en erupción en la isla española de La Palma y fuerza masivas evacuaciones



Primera modificación: 19/09/2021 - 23:45



Lava y humo se elevan por la erupción de un volcán en el Parque Nacional Cumbre Vieja en El Paso, Isla de La Palma, Islas Canarias, el 19 de septiembre de 2021. © Borja Suarez / Reuters

Texto por: France 24 3 min

Bajo estrecha vigilancia durante días debido a la intensa actividad sísmica, el volcán Cumbre Vieja en la isla española La Palma, en el archipiélago de las islas Canarias, entró en erupción este 19 de septiembre por primera vez desde 1971. La erupción forzó la evacuación de diez municipios. No se reportan víctimas por el momento.

“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “

Volcán Cumbre Vieja entra en erupción en Canarias

El volcán, ubicado en La Palma, escupe grandes columnas de humo y lava, según imágenes de la televisión pública. Las autoridades locales comenzaron a evacuar las zonas habitadas más cercanas al volcán.



EUROPA

La erupción del volcán en La Palma obliga a una evacuación masiva

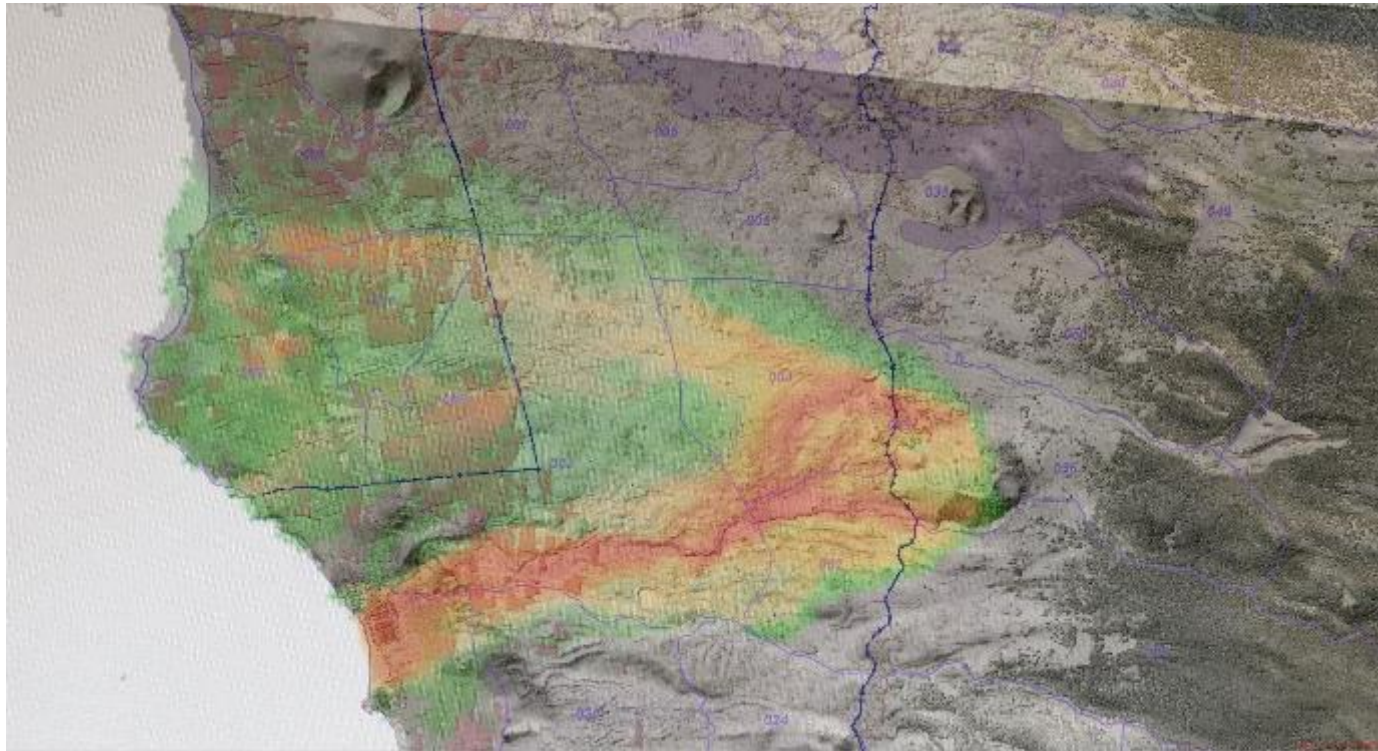
El plan de traslado ha afectado ya a 5.000 vecinos. "No es previsible que haya que evacuar a nadie más", asegura el presidente de Canarias, Ángel Víctor Torres



Una columna de lava en erupción durante la erupción del volcán en La Palma, en las Islas Canarias. (Foto: La Agencia de Noticias EFE) EFE (AGENCIA), EUROPA PRESS

SEPTIEMBRE 2021						
Lunes	Martes	Miércoles	Jueves	Viernes	Sábado	Domingo
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

The Canary Islands Volcanic Emergency Plan (PEVOLCA) is activated



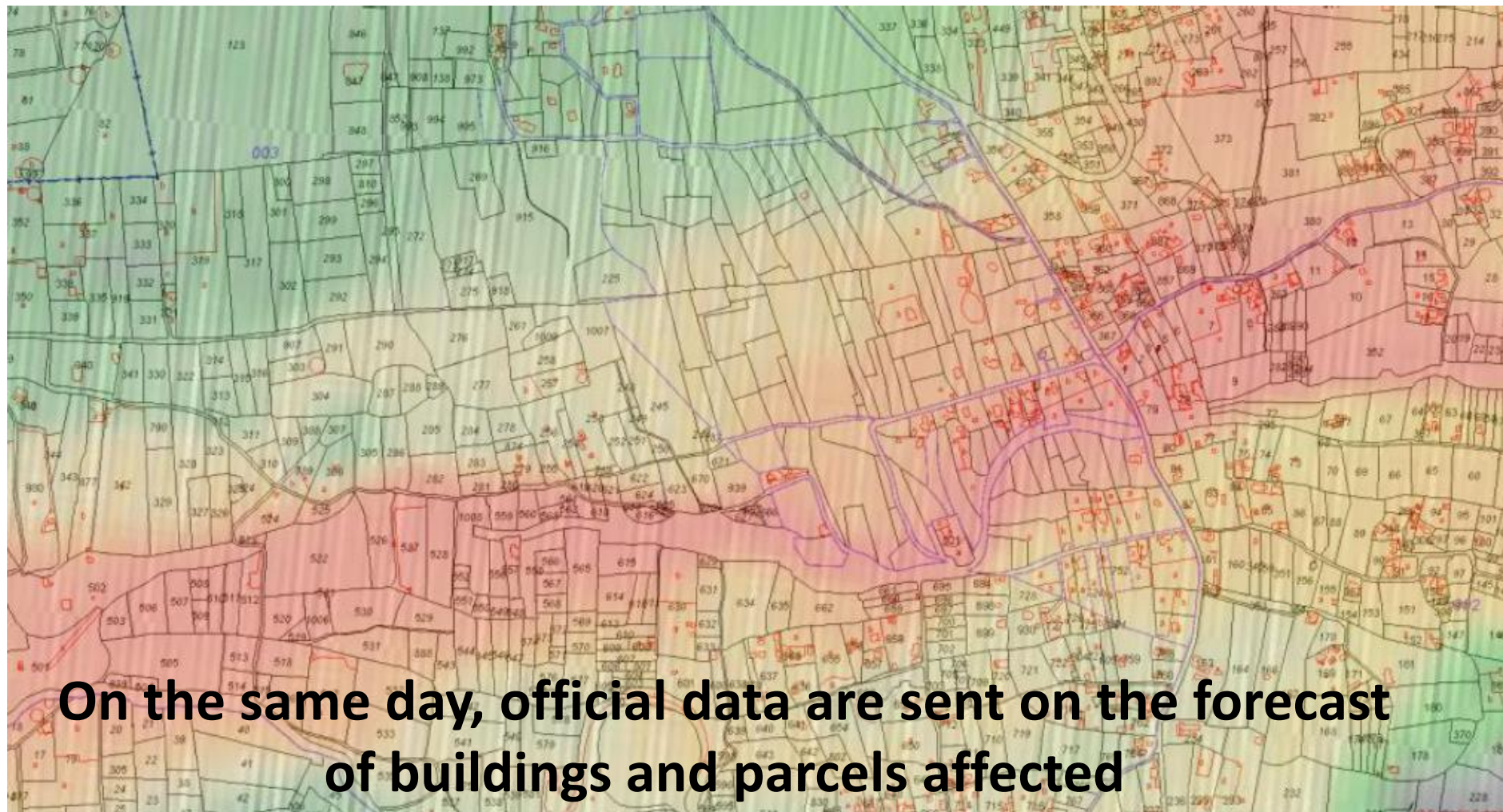
The National Geographic Institute sends us a forecast of the possible affected areas

“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “

SEPTIEMBRE 2021

Lunes	Martes	Miércoles	Jueves	Viernes	Sábado	Domingo
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

The General Directorate for Cadastre cross-match the IGN information with its BBDD



On the same day, official data are sent on the forecast of buildings and parcels affected

“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “

But...



Jesús Puebla

Forecasts do not match to reality

Jesús Puebla

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COPERNICUS

Emergency Management Service - Mapping



Civil protection activates the EU emergency Copernicus service

Home | What is Copernicus | EMS - Mapping | Linking with Early Warning Systems | News

LATEST NEWS - 2021-10-27 | [EMSR548] Flood in Eastern Sicily, Italy

EMS - MAPPING

- Service Overview
- Who can use the service
- How to use the service
- Portfolio: Rapid Mapping
- Portfolio: Risk and Recovery
- Quality control
- User Guide

RAPID MAPPING

- List of Activations
- Map of Activations
- GeoRSS Feed
- Online Manual

RISK AND RECOVERY

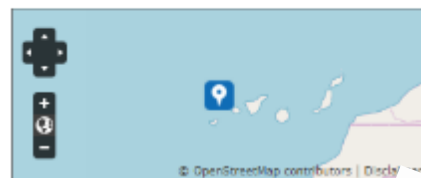
- List of Activations
- Map of Activations
- GeoRSS Feed
- Online Manual

OTHER

- Map of Activations of Other Organizations
- Meetings, Workshops
- Citation Guidelines
- Citations
- Press Mentions
- Calls for Tender

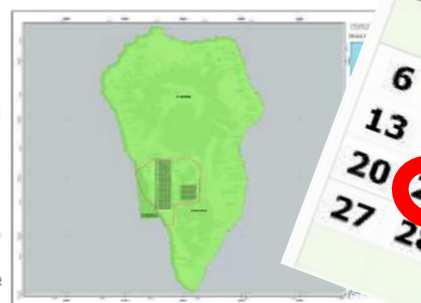
EMSR546: Volcano eruption in La Palma, Spain

Event Time (UTC): 2021-09-19 15:15
Event Time (LOC): 2021-09-19 14:15
Event Type: Volcanic activity (Lava flow)
Activation Time (UTC): 2021-09-19 19:08
Activation Status: Open
Affected Countries/Territories:
 Kingdom of Spain
Service Output: 36 products (72 maps)
 Gratings: 36 products (72 maps)



Authorised User:
 Spain|Centro de Coordinación Operativa (CECOP) de la Dirección General de Protección Civil y Emergencias

Activation Reason:
 Since 11 September 2021, a swarm of seismic activity had been ongoing in the southern part of the Spanish Canary Island of La Palma (Cumbre Vieja region). The volcano was under strict surveillance after more than 22,000 tremors were reported in one week. The increasing frequency, magnitude, and shallowness of the events were an indication of a pending volcanic eruption; which occurred on 19 September, leading to evacuation of people in the vicinity.



EMSR546 - Activation Extent Map
 Release: r71 - Version: v1 - Delivered: 2021-10-28 19:14
 View as: EMSR546-AEM-JPG - EMSR546-AEM-KMZ - EMSR546-AEM

Related activation(s):
 [EMSN112] Ground deformation in La Palma Island, Spain

- Relevant news:**
- The Copernicus Emergency Management Service Provides Support in the Emergency Management of the Volcanic Eruption in La Palma, Canarias, Spain
 - The Copernicus Emergency Management Service Continues to Provide Support in the Emergency Management of the Volcanic Eruption in La Palma, Canarias, Spain



[EMSR546] La Palma: Grading Product, Monitoring 1, version 3, release 1, RTP Map #01

Published: 2021-09-22 18:38:57 (UTC)
 Product version: v3

Downloadable items:
 PDF: 200 DPI
 JPEG: 200 DPI
 Vector package: ZIP

[EMSR546] La Palma: Grading Product, Monitoring 1, version 3, release 1, Vector Package

Published: 2021-09-22 18:38:19 (UTC)
 Product version: v3

Downloadable items:
 Vector package: ZIP

[EMSR546] La Palma: Grading Product, version 2, release 1, RTP Map #01

Published: 2021-09-21 13:24:22 (UTC)
 Product version: v2

Downloadable items:
 PDF: 200 DPI
 JPEG: 200 DPI

[EMSR546] La Palma: Grading Product, version 2, release 1, RTP Map #02

Published: 2021-09-21 13:24:22 (UTC)
 Product version: v2

Downloadable items:
 PDF: 200 DPI
 JPEG: 200 DPI

[EMSR546] La Palma: Grading Product, version 1, release 1, Vector Package

Published: 2021-09-21 03:51:49 (UTC)
 Product version: v1

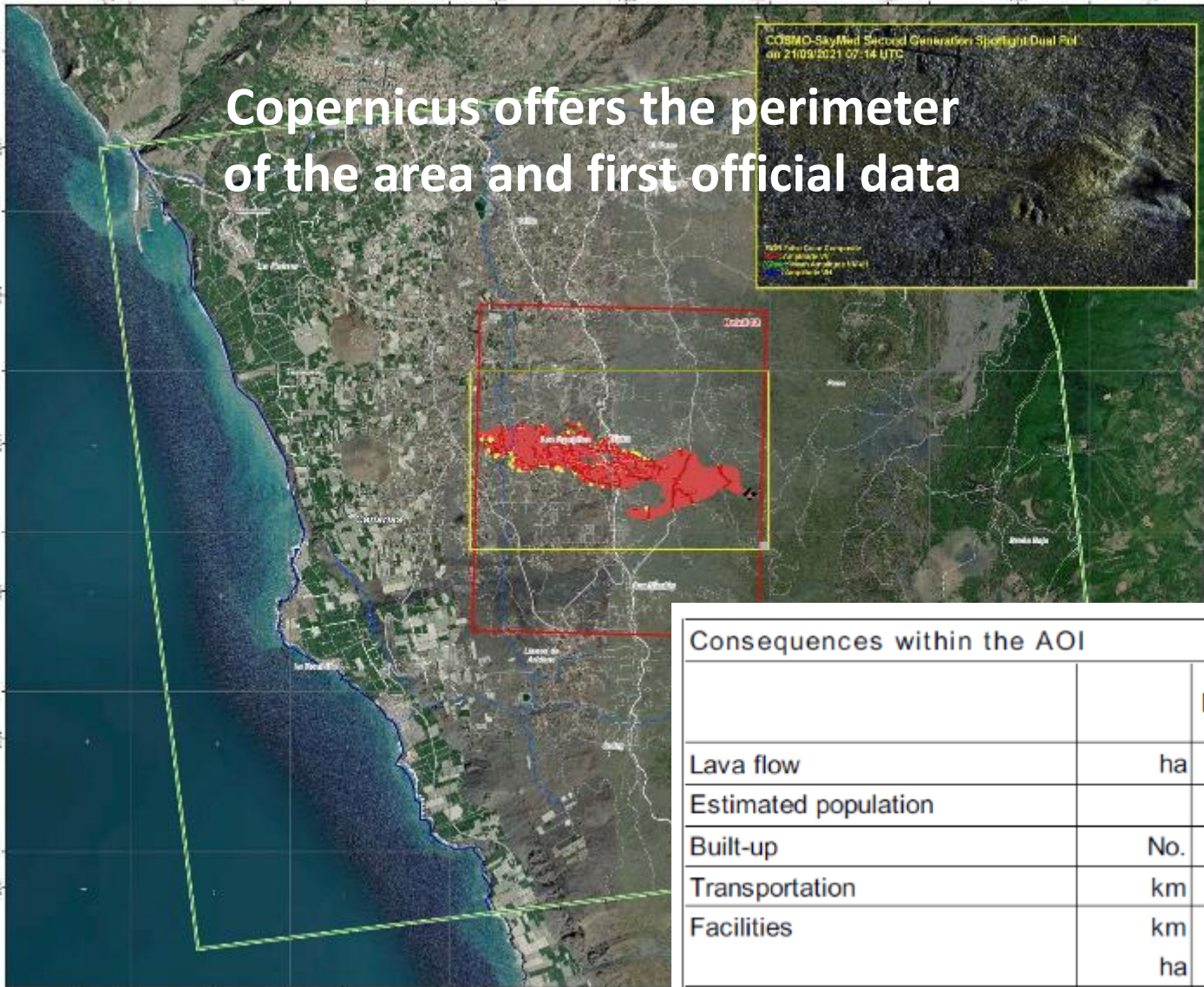
Downloadable items:
 Vector package: ZIP

They start to generate data

“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “

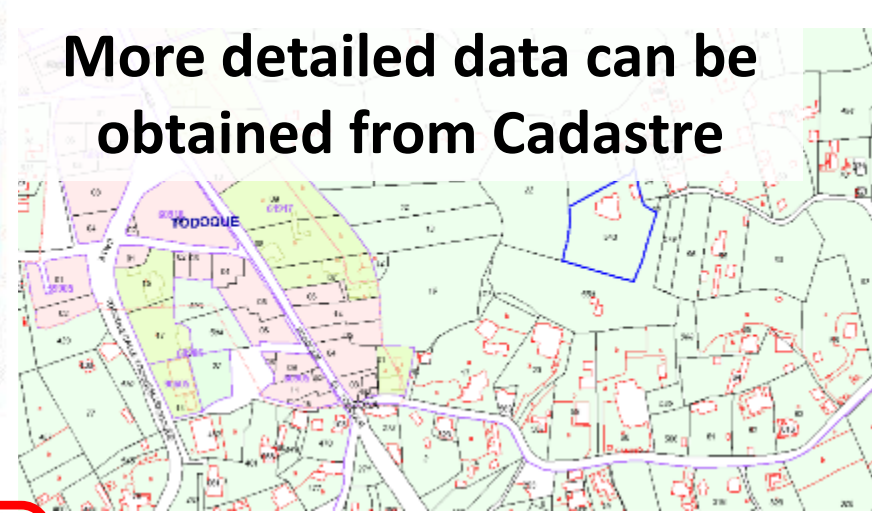
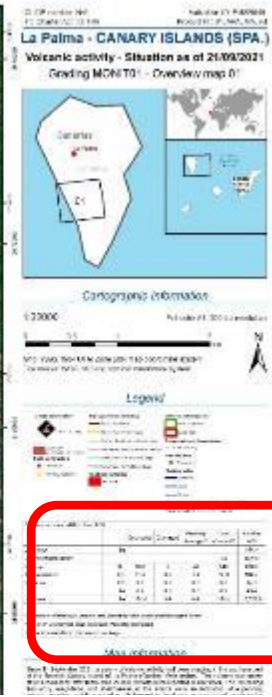


Copernicus offers the perimeter of the area and first official data



COSSMO-SkyMed Second Generation Spotlight Dual Pol
on 21/09/2021 07:14 UTC

2024 Polar Core Zone
 - Yellow: 100%
 - Red: 75%
 - Green: 50%
 - Blue: 25%
 - Purple: 0%



More detailed data can be obtained from Cadastre

Consequences within the AOI

		Destroyed	Damaged	Possibly damaged*	Total affected**	Total in AOI
Lava flow	ha					154.4
Estimated population					NA	16,118
Built-up	No.	320	0	28	348	8,350
Transportation	km	11.4	0.0	1.2	12.6	532.4
Facilities	km	0.0	0.0	0.0	0.0	14.1
	ha	0.2	0.0	0.0	0.2	49.4
Land use	ha	154.4	NA	NA	154.4	11,528.8

* Presence of damage proxies and proximity with destroyed/damaged asset

** Sum of Destroyed, Damaged and Possibly damaged

Full table available in the vector package

“Role of National Mapping, Cadastre and Authorities in Resilience and Recovery”



WHAT IS BEING DONE SINCE THE D.G. FOR CATASTRE?

WE PROVIDE MORE DATA WITH A GREATER DEGREE OF DETAIL

“Rol
Auth

Jesús Puebla

Every time data are published, the affected area is extracted

[EMSR546] La Palma: Grading Product, Monitoring 35, version 1, release 1, RTP Map #01



Published: 2021-10-27 14:21:21 (UTC)
Product version ? : v1

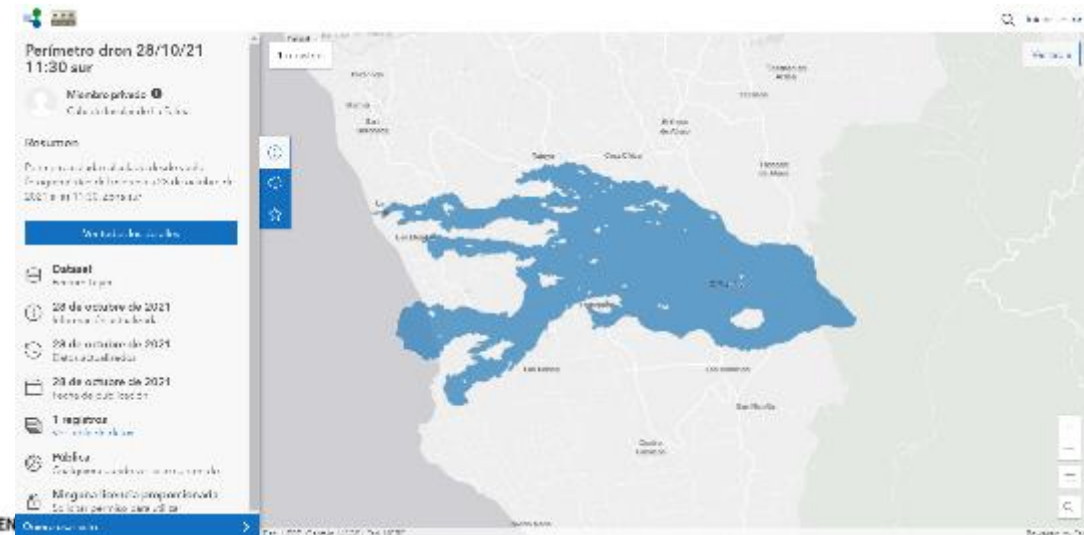


Downloadable items ?

PDF: 200 DPI

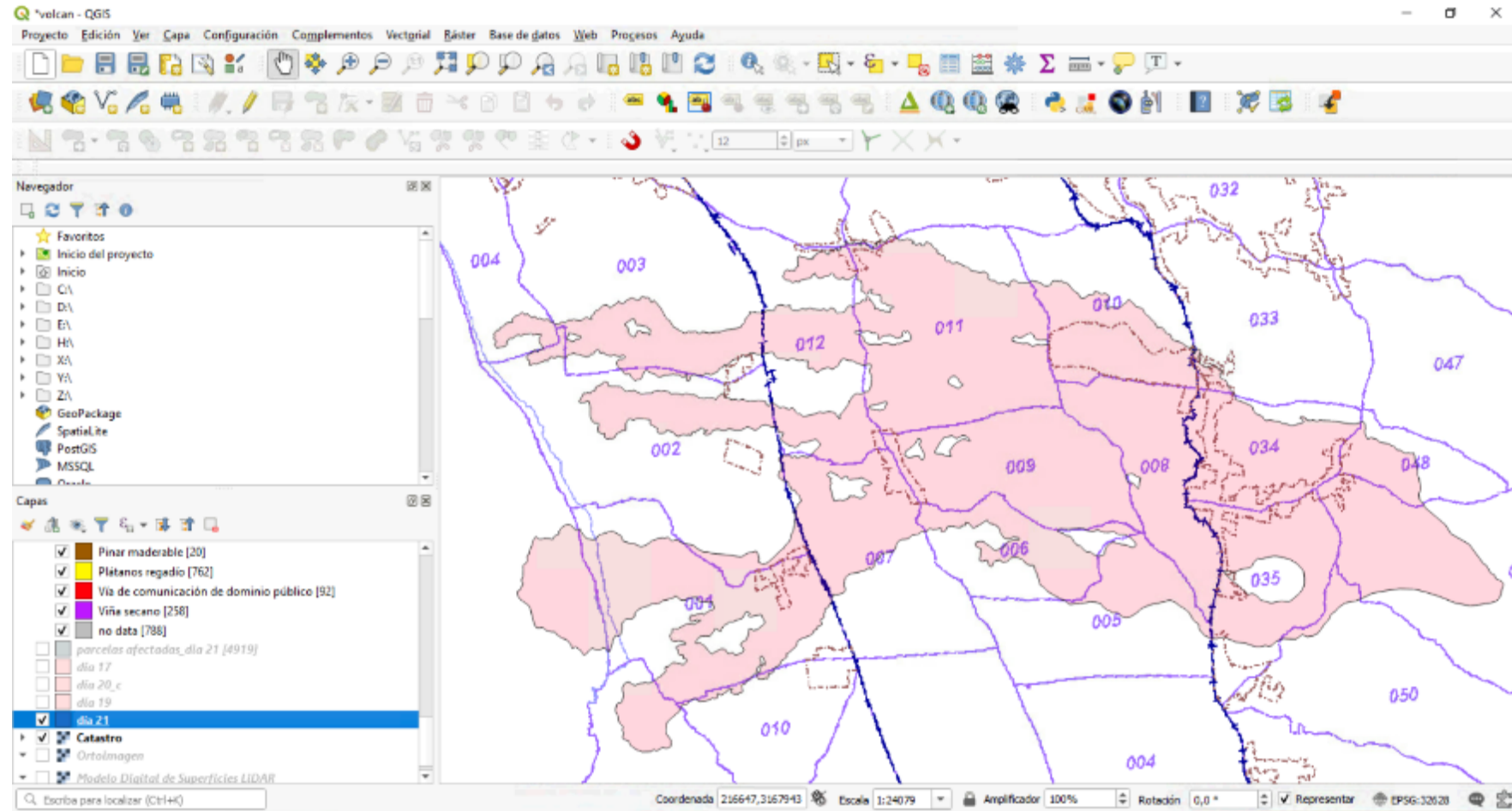
JPEG: 200 DPI

Vector package: ZIP



“Role of National Mapping, Cadastre and Land Registry
Authorities in Resilience and Recovery program “

The affected area is cross-matched with information from the cadastral database



“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “

Descriptive data of each property on continuous mapping

- Cartography, localization, georeferencing
- Cadastral reference
- Surface area of land and buildings by floor
- Use or cultivation, use of buildings
- Owner, type and right percentage
- NIF, fiscal address
- Coordination with Registre
- If construction:
 - ✓ Type
 - ✓ Quality
 - ✓ Age
 - ✓ Use
- Reference value (statistical market value)
- Cadastral value (official value for taxes)
- Floor plans
- Picture of facade

9872023 VH5797S 0001 WX



“Role of National Mapping, Cadastre and Land Registry
Authorities in Resilience and Recovery program “

Date	BUIDING USE							TOTAL
	Residential	Agricultural	Office	Industrial	Hotels and accomodation	Public Services	Others	
20/09/2021	131	9	0	5	9	2	3	159
21/09/2021	80	10	0	6	3	0	1	100
22/09/2021	16	4	0	1	0	0	0	21
23/09/2021	33	2	0	0	2	0	1	38
24/09/2021	14	0	0	0	0	0	0	14
25/09/2021	21	0	0	1	1	0	0	23
26/09/2021	5	1	0	1	2	0	0	9
26/09/2021(1)	16	2	0	0	-2	0	2	18
27/09/2021	57	4	0	3	1	2	1	68
28/09/2021	18	0	0	0	1	0	0	19
29/09/2021	128	12	0	6	2	3	0	151
30/09/2021	7	3	0	0	-1	0	0	9
01/10/2021	16	2	0	0	-1	0	0	17
02/10/2021	24	4	0	4	0	0	1	33
04/10/2021	39	5	0	3	1	0	-1	47
07/10/2021	6	10	0	-1	1	0	0	16
08/10/2021	9	2	0	0	0	0	0	11
11/10/2021	64	7	0	3	2	0	2	78
12/10/2021	79	12	1	12	1	0	1	106
13/10/2021	46	6	0	2	0	1	0	55
14/10/2021	58	10	0	6	3	1	1	79
15/10/2021	-13	0	0	0	0	0	0	-13
16/10/2021	24	3	0	1	0	0	0	28
17/10/2021	24	7	0	3	0	1	1	36
19/10/2021	78	16	0	4	2	0	1	101
21/10/2021	50	1	0	3	2	1	0	57
23/10/2021	6	1	0	0	0	0	0	7
24/10/2021	0	2	0	0	0	0	0	2
24/10/2021(2)	2	0	0	0	0	0	0	2
25/10/2021	1	1	0	0	0	0	0	2
27/10/2021	5	2	0	1	0	0	0	8
28/10/2021 (Cab.)	48	0	0	-1	1	0	0	48
28/10/2021	44	6	0	2	1	1	1	55
29/10/2021	5	0	0	1	0	0	0	6
30/10/2021	12	1	0	1	1	1	0	16
31/10/2021	2	0	0	0	0	0	0	2
01/11/2121	11	2	0	1	1	0	0	15
02/11/2021	-1	0	0	0	-1	0	0	-2
TOTAL	1165	147	1	68	32	13	15	1441

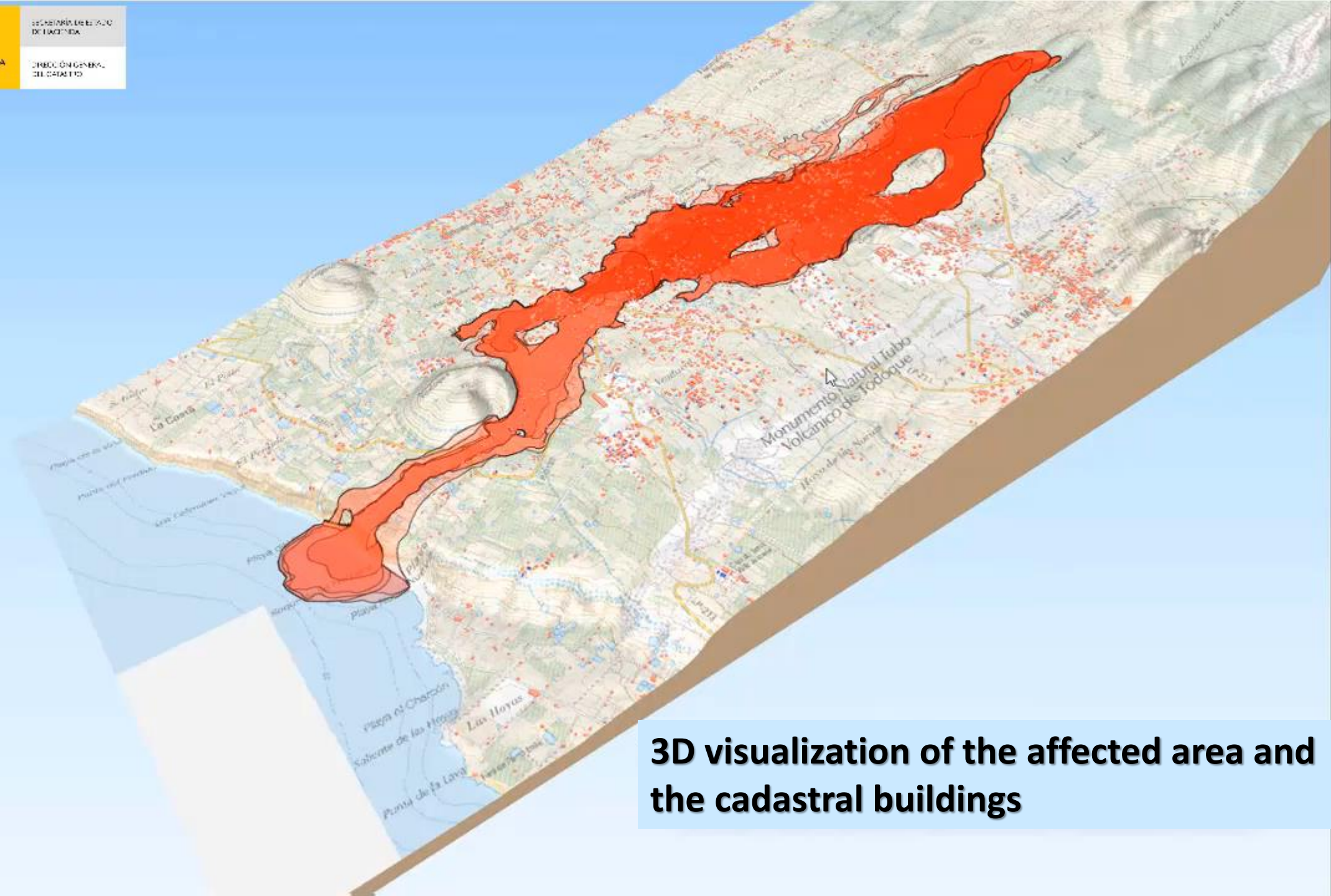
Acumulated	Simple building
159	270
259	461
280	501
318	565
332	601
355	645
364	653
382	695
450	811
469	849
620	1091
629	1106
646	1125
679	1203
726	1284
742	1315
753	1332
831	1457
937	1653
992	1761
1071	1916
1058	1872
1086	1917
1122	1976
1223	2165
1280	2260
1287	2273
1289	2275
1291	2278
1293	2285
1301	2301
1349	2404
1404	2507
1410	2515
1426	2544
1428	2548
1443	2578
1441	2574

“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “



CROPS	MIUNICIPALITY						TOTAL number of parcels	TOTAL area (m ²)
	LOS LLANOS DE ARIDANE (24)		EL PASO (27)		TAZACORTE (45)			
	Number of parcels	Area (m ²)	Number of parcels	Area (m2)	Number of parcels	Area (m2)		
Almond trees	2	5512	3	2506			5	8018
Irrigated fruit trees	4	10587	7	3668			11	14255
Fruit trees					1	355	1	355
Tropical and subtropical fruit trees	96	131465	6	7203	4	31080	106	169748
Reservoirs	1	59					1	59
Rivers			2	515	1	49382	3	49897
Irrigated huerta	24	24310			1	260	25	24570
Unproductive	509	164541	212	96970	176	24176	897	285687
Flower greenhouses	4	5463					4	5463
Vegetable greenhouses	6	6889					6	6889
Irrigated arable land	58	61300	61	39780	2	9507	121	110587
Non-irrigated arable land	19	20190	17	11198	4	21228	40	52616
Scrub	2	747					2	747
Scrubland			1	141			1	141
Pastures	2092	3674251	712	1340056	236	388070	3040	5402377
Timber pine			20	101182			20	101182
Irrigated banana plantations	211	466387			600	1348412	811	1814799
Communication road	19	54432	46	64624	34	80229	99	199285
Rainfed vineyard	11	7424	273	477737			284	485161
Others/ No data	534	557374	199	28186	140	36494	873	622054
TOTAL	3592	5190931	1559	2173766	1199	1989193	6350	9353890

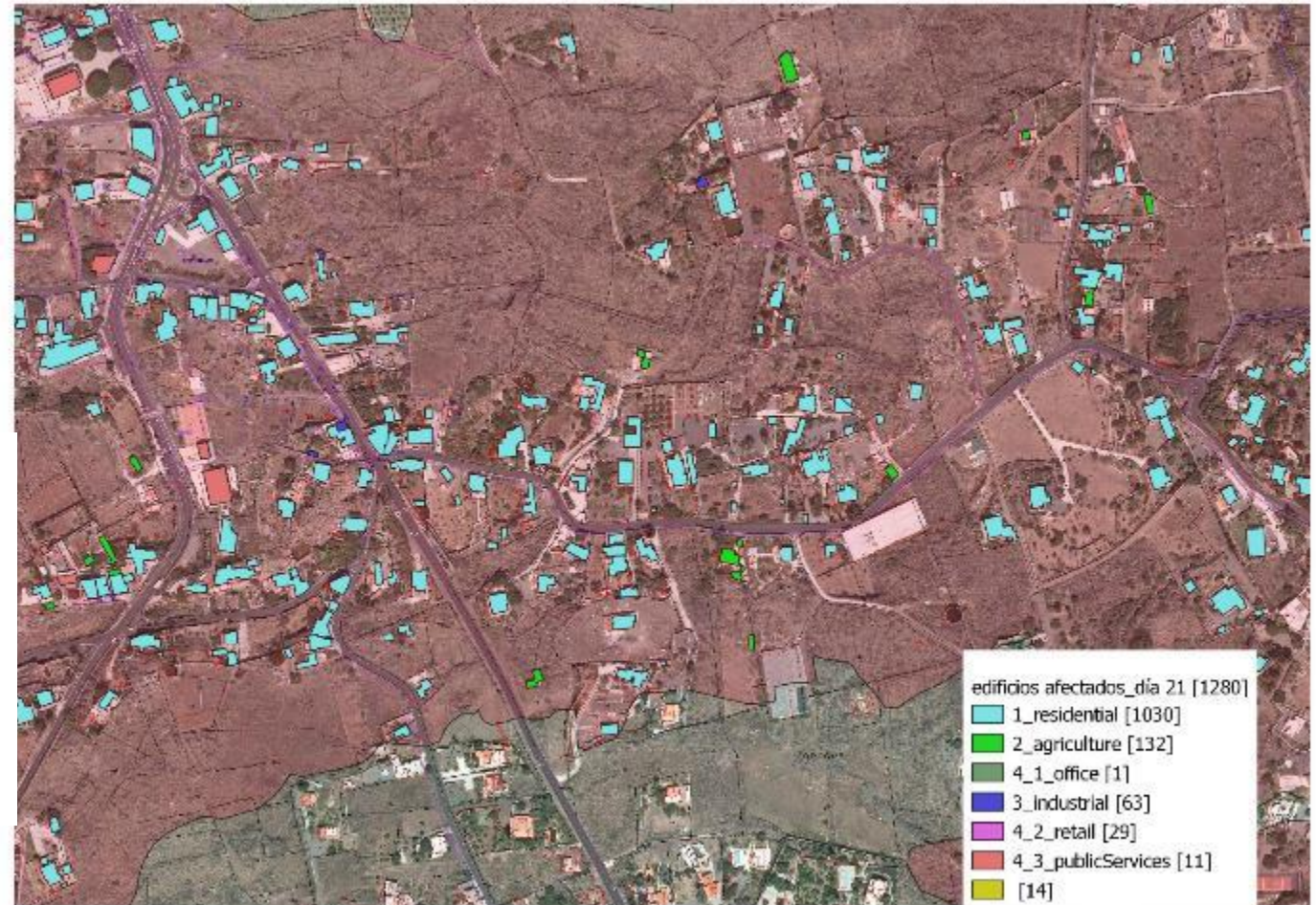
“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “



3D visualization of the affected area and the cadastral buildings



- Crops affected
- Rainfed almond
 - Irrigated fruit trees
 - Rainfed fruit trees
 - Tropical fruit trees
 - Constructed
 - Hydrography
 - Natural hydrography
 - Irrigated orchards unproductive
 - Flower greenhouses
 - Vegetable greenhouses

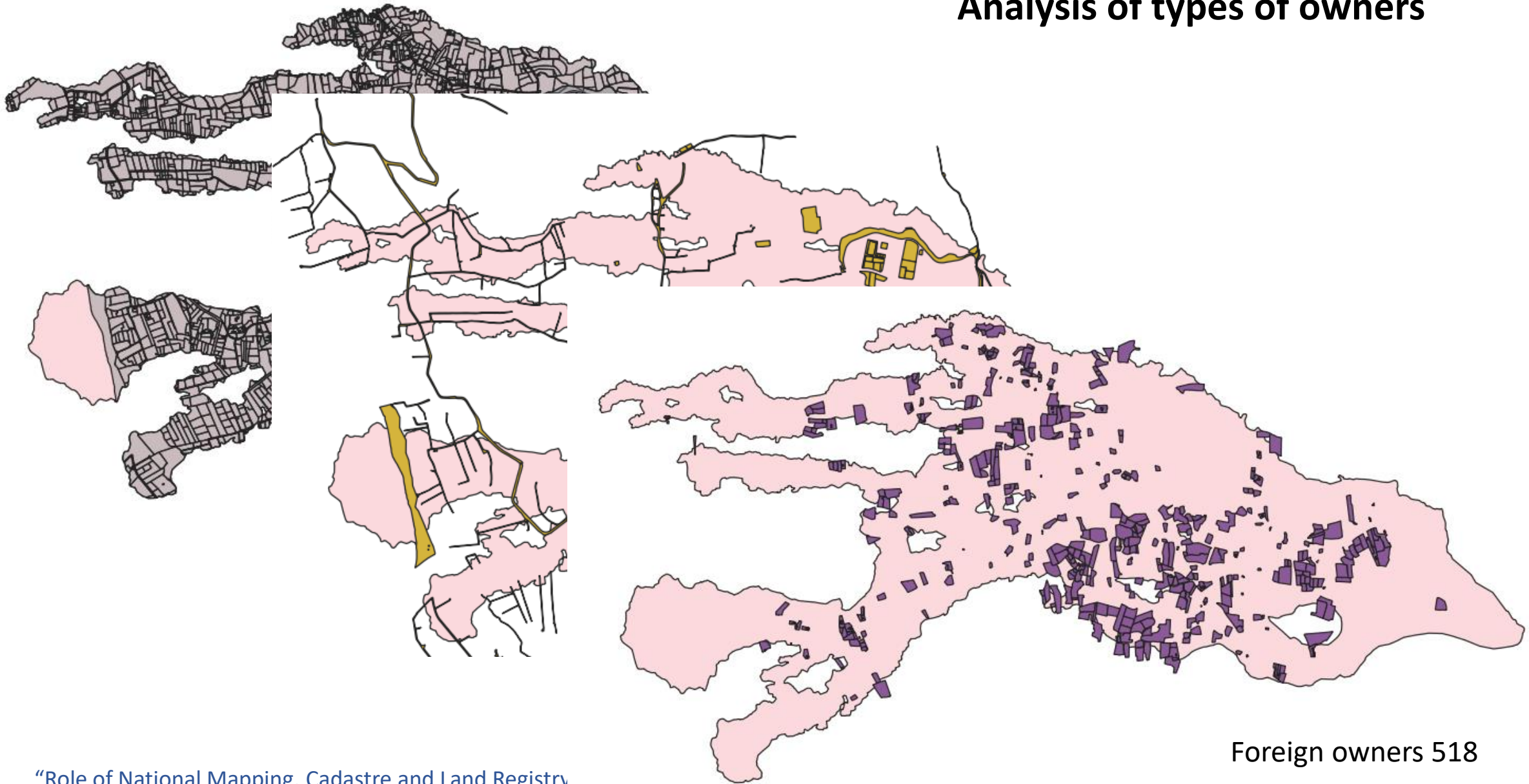


“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “



“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “

Analysis of types of owners



Foreign owners 518

“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “

I. DISPOSICIONES GENERALES

JEFATURA DEL ESTADO

- 16231** *Real Decreto-ley 20/2021, de 5 de octubre, por el que se adoptan medidas urgentes de apoyo para la reparación de los daños ocasionados por las erupciones volcánicas y para la reconstrucción económica y social de la isla de La Palma.*

Royal Decree-Law 20/2021, of October 5, which adopts urgent support measures to repair the damage caused by the volcanic eruptions and for the economic and social reconstruction of the island of La Palma.

Artículo 29. *Medidas en materia catastral.*

2. La Dirección General del Catastro habilitará en la Isla de la Palma un servicio de atención al público en materia catastral. Dicho servicio se atenderá de manera telemática y presencial con cita previa, para facilitar gestiones y certificaciones en la Isla, así como cualquier otro asunto relacionado con el Catastro. Este servicio reforzará al ya prestado por la Oficina Local de Información de La Palma y los Puntos de Información Catastral existentes en la isla.

Article 29. Measures in Cadastral Matters.

2. The General Directorate of the Cadastre will enable on the Island of La Palma a service of attention to the public in cadastral matters. This service will be attended telematically and in person with previous appointment, to facilitate managements and certifications in the Island, as well as any other matter related to the Cadastre. This service will reinforce the one already provided by the Local Information Office of La Palma and the existing Cadastral Information Points on the island. existing on the island.

“Role of National Mapping, Cadastre and Land Registry
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GOBIERNO DE ESPAÑA
MINISTERIO DE HACIENDA Y FUNCIÓN PÚBLICA
SECRETARÍA DE ESTADO DE INICIATIVA PÚBLICA
DIRECCIÓN GENERAL DEL CATASTRO

Sede Electrónica del Catastro

Bienvenido a la Sede Electrónica del Catastro

La Palma Island. Information Registered user -

PROPERTY FINDER AND CARTOGRAPHIC VIEWER
Allows access to all cadastral information and the parcel edition

VALOR DE REFERENCIA
Permite el acceso a toda la información relativa al valor de referencia de los bienes inmuebles urbanos y rústicos

MY CADASTRE
Real estates Administrative files Notifications

PROCEDURES AT THE CADASTRE
Declarations, appeals, requests... Collating and downloading documents

DISSEMINATION OF CADASTRAL DATA
Download of cartographic and alphanumeric information, web services, INSPIRE formats, statistical data

GRAPHIC VALIDATIONS
Cadastral map graphic validation report and constructions location report

AGREEMENTS, ANNOUNCEMENTS AND EDICTS IN THE SEC
Relativos a procedimientos catastrales de valoraciones colectivas
Relativos al valor de referencia

COMMUNICATION ASSISTANT CITIZEN CADASTRE
This tool will help you channel communication with the Cadastre according to your needs

Regulatory norms
Electronic signature (firmas admitidas)
Verification system of the site
Privacy policy
Accessibility
Property search

Registration in the SEC
Accesses to real estate information of a titleholder
Scheduling service interrupts
Calendar, date and official time
Web map
SEC terms of use

Service Guide of the Cadastral Electronic site
Statistics of accesses
Links of interest

“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “



📌 Isla de La Palma. Información

Oficinas de Catastro en la isla de La Palma (atención telefónica o presencial, previa obtención de cita):

- Avenida de los Indianos nº10, 38700, Santa Cruz de La Palma. Horario de atención al público 9:00 a 14:00 horas, de lunes a viernes
- Casa Massieu, Pz. Llano Sotomayor nº 31, 38760, Los Llanos de Aridane. Horario de atención al público 9:00 a 14:00 horas, de lunes a viernes

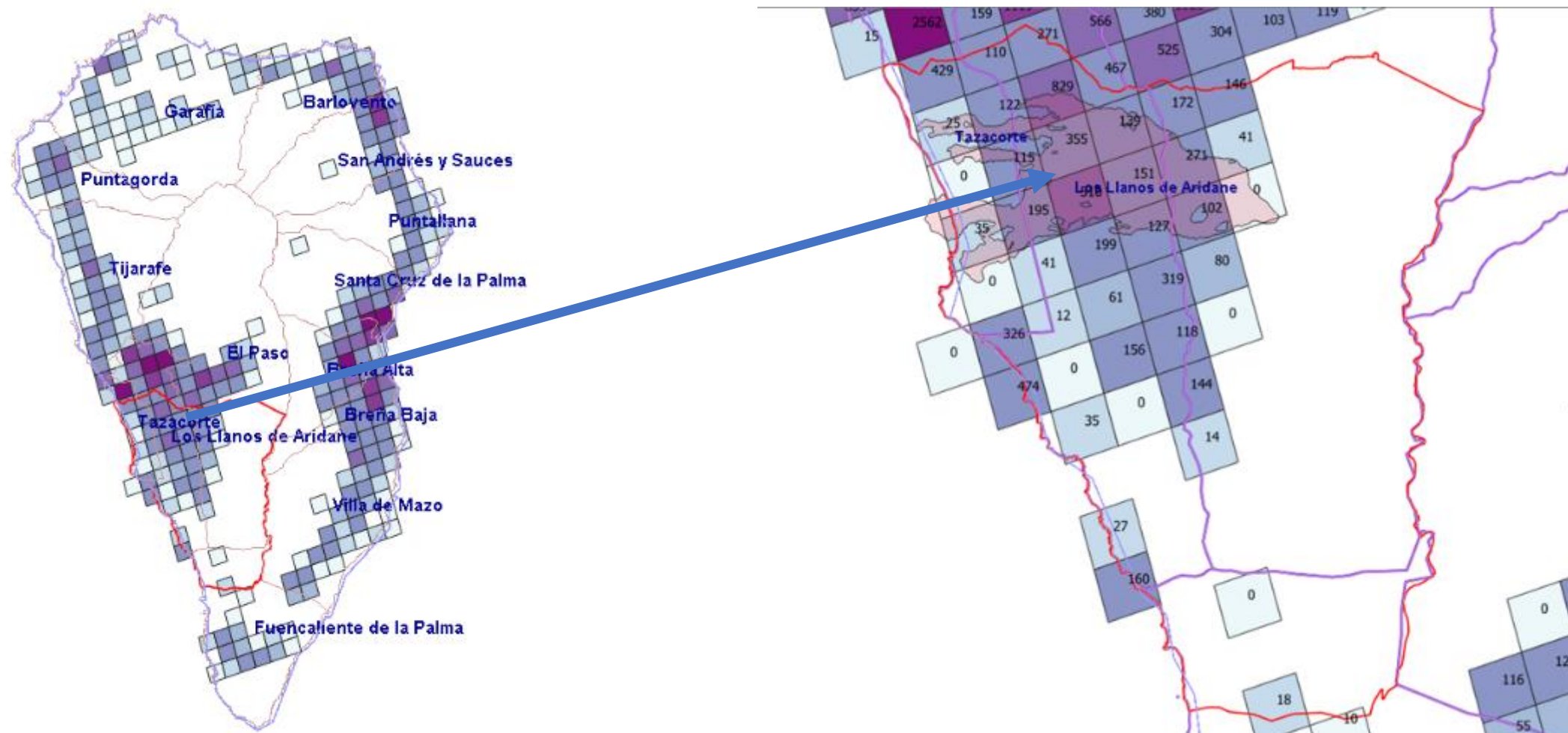
Teléfono para atención al ciudadano y concertar cita previa: **922410060**

Correo electrónico de contacto: lapalma.tenerife@catastro.hacienda.gob.es

El RDL 20/2021, de 5 de octubre establece la [exención de la tasa de acreditación catastral](#) en la expedición, por parte de la Dirección General del Catastro, de certificaciones sobre inmuebles ubicados en municipios directamente afectados por las erupciones volcánicas acaecidas en la isla de La Palma desde septiembre de 2021.

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Massive evacuation. GRID Eurostat 2018. Total population of the island 81.658
Others queries: Tax exemptions; Area covered by ashes; Damage assessment, etc.



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*Thank you very much for your attention
Fernando Serrano Martínez*