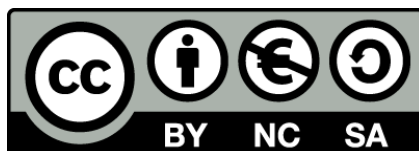




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El volcán Tagoro y el banco de Concepción: Estadios juvenil y maduro de la evolución geomorfológica de montes submarinos en aguas canarias

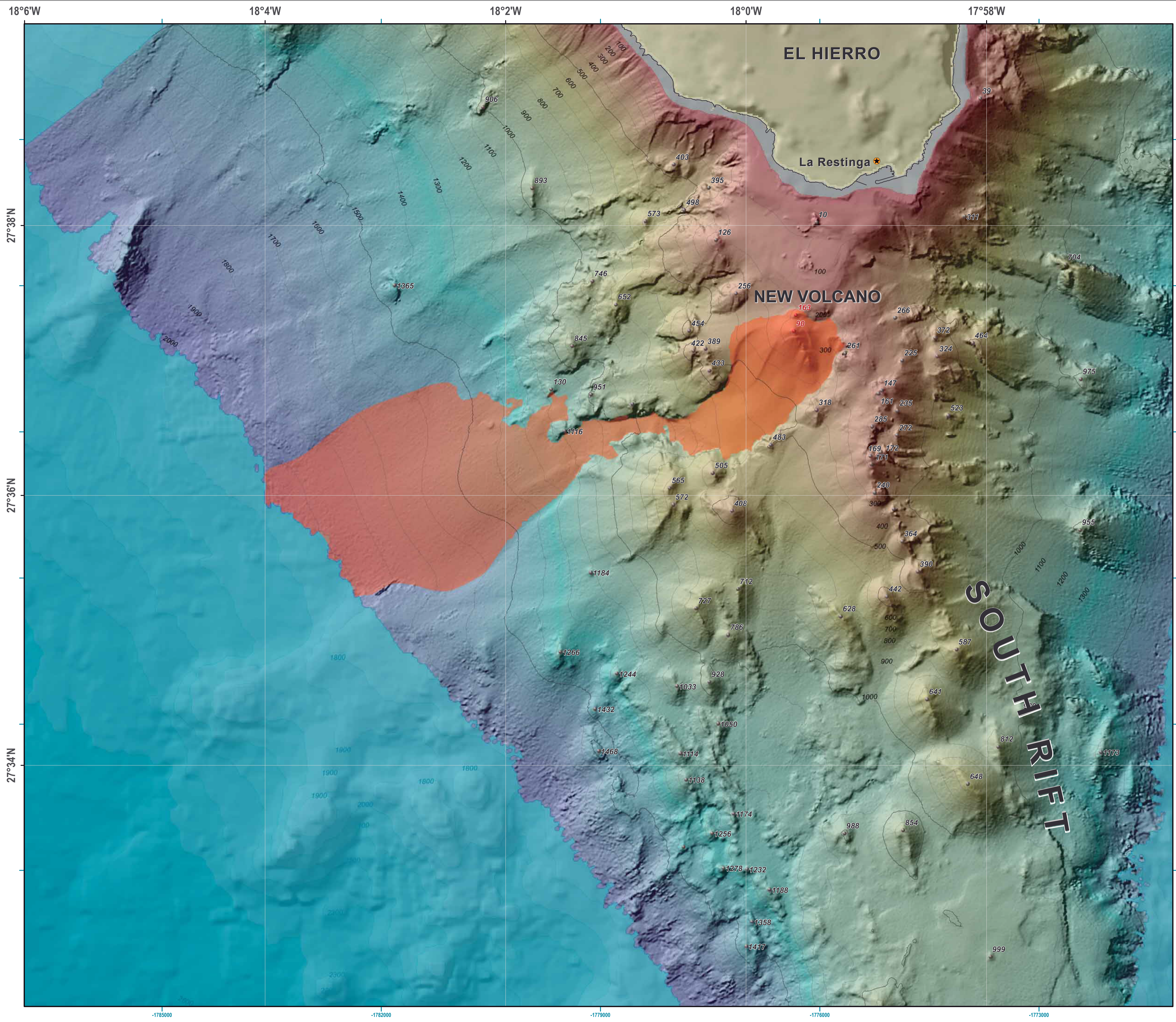
Jesús Rivera Martínez



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BATHYMETRY OF A NEW SUBMARINE VOLCANO (2011-2012). EL HIERRO - THE CANARY ISLANDS

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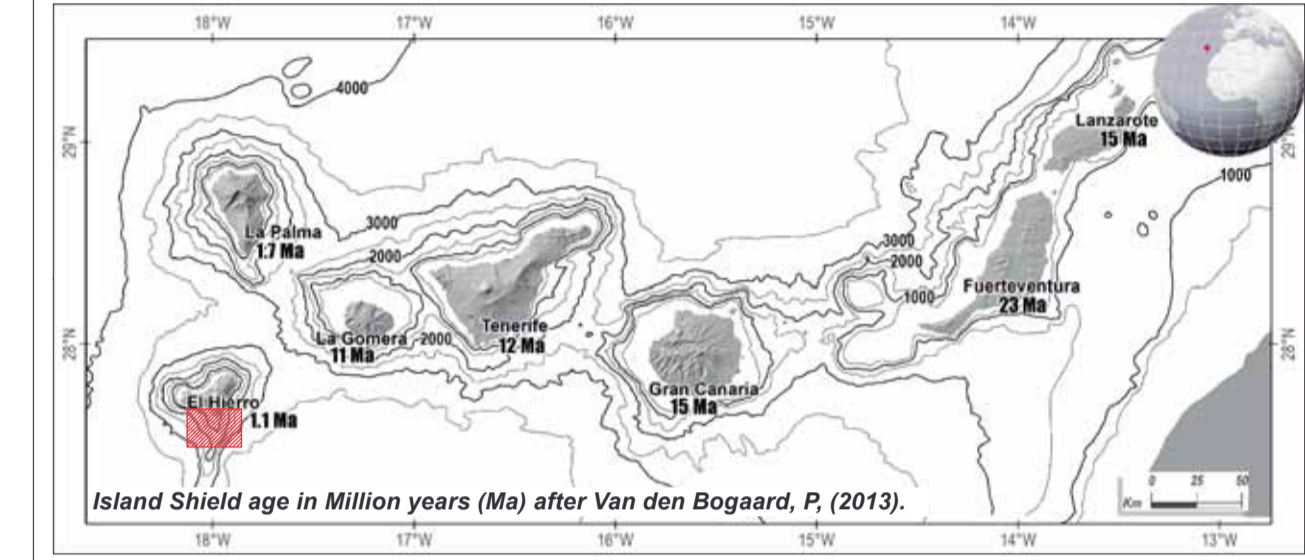
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Map viewer of surveys conducted during volcano crisis: www.ideo-elhierro.ideo.es/

Abstract

We present here the bathymetric map of a new underwater volcano which began its growth on October 10th, 2011 to the south of El Hierro Island (Canary Is., Spain). The map scale is 1:25,000 and covers 21090 Ha. In July 2011, the seismic monitoring network of National Geographic Institute (IGN), began to detect an increase of low-intensity earthquakes in El Hierro Island along with ground deformation. This seismic crisis culminated on October 10th with a submarine eruption 2 km south of the small port of La Restinga, and lasted until March 2012 when IGN determined the end of the eruption process. After eight surveys monitoring the morphological and bathymetric evolution during the eruptive phase that ended in March 2012, Spanish Oceanographic Institute and the Hydrographic Institute of the Navy, carried out a survey from the 6th to the 8th of December 2012 to map the bathymetric and morphologic situation after the 2011-2012 eruptive period.

Location & Ages:



Cruises & Surveys:

Survey End	Research Vessel	LEG	AREA (Ha)	DEM
98-00	Hespérides	ZEE	---	IHM98
-----	Malasпина	N. Charts	---	IHM98
25/10/11	R. Margalef	BM-Leg01	12816	S1025
27/10/11	R. Margalef	BM-Leg02	14104	N1027
28/10/11	R. Margalef	BM-Leg02	4262	E1028
29/10/11	R. Margalef	BM-Leg02	2838	S1029
31/10/11	R. Margalef	BM-Leg02	982	S1031
12/11/11	R. Margalef	BM-Leg04	10465	N1112
13/11/11	R. Margalef	BM-Leg04	16547	S1113
02/12/11	R. Margalef	BM-Leg06	23169	S1202
10/01/12	R. Margalef	BM-Leg07	9383	S0110
08/02/12	R. Margalef	BM-Leg09	5683	S0802
24/02/12	R. Margalef	BM-Leg11	10671	S0224
08/12/12	A. Alvarinho	HIERR012	20398	S1212

Boundary of Digital Elevation Models:

- S1025 (Green)
- N1027 (Yellow)
- E1028 (Purple)
- S1029 (Red)
- S1031 (Orange)
- N1112 (Pink)
- S1113 (Light Blue)
- S1202 (Light Green)
- S0110 (Light Purple)
- S0802 (Dark Green)
- S0224 (Dark Red)
- S1212 (Dark Blue)

LEGEND

- Depth in meters (Blue circle)
- Depth of new volcano (Red circle)
- Isobaths of the study area (Blue line)
- Isobaths of the ZEE study area (Orange line)
- Area of bathymetric changes (Orange shaded area)

Project ZEE (IHM-IEO 1997-2001)

- High : 10 m
- Low : 3000 m

BIMBACHE Survey

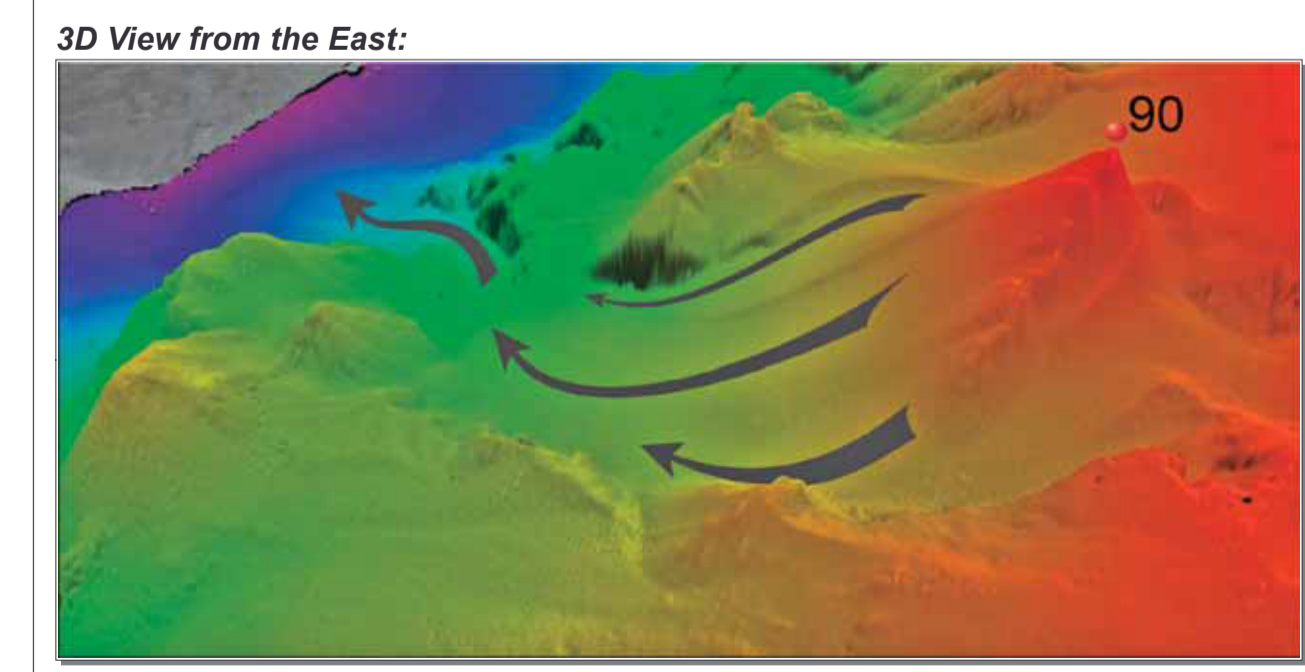
- High : 8 m
- Low : 2000 m

Accuracy & Projection:

Vertical accuracy: 1% of the depth
Horizontal accuracy: 2% of the depth

Units: Meter
Cell size of raster data = 12 m
Isobaths equidistance = 100 m

Projection: Mercator
Datum: WGS 1984
False Easting: 0.0000
False Northing: 0.0000
Central Meridian: 0.0000
Standard Parallel: 27° 36'



Scale: 1:25,000

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