



Project acronym: **VOLCANOES NIGHT III**

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The objectives of WP3 and this Deliverable are to assess the impact of the work performed throughout 2015 (12 months), during the awareness raising campaign (WP1) as well as related to the activities carried out at the Night (WP2) itself, in quantitative and qualitative terms. Success was evaluated against the expectations (organisers, EU, public) with the overall long-term purpose of identifying the types of promotional methods and actions that proved to be the most effective towards the achievements of the project objectives.

Targeted audience of the event

Volcanoes' Night III in 2014 became the Researchers' Night of the Canary Islands, under which events were run in parallel in the whole archipelago, in 2015, the experience gained was further transmitted to the Spanish mainland where small-scale events were organised in five different locations to promote the work of geoscientists. At these newly involved locations where Researchers' Night were organised for the very first time, the widest possible participation of people of all ages was encouraged. The agendas of the island venues, however, were designed in a way that was expected to facilitate the participation of certain groups (such as families with kids, employees working late-hours etc.). For this reason, fun activities targeting children and/or families were organised as part of the preparatory actions (e.g. in schools) and/or during the early afternoon, while the later part of the evening (starting from 21:00) mainly focussed on adults, allowing the participation of late-workers (on the Canary Islands many people work until 20:00 on weekday afternoons).

Primary audience: the focus group included the local Spanish-speaking citizens of the seven targeted municipalities (one on each island) and the population of their close vicinity (towns in approx. 30 minutes trip reach from the selected venues). These were namely: Los Canarios, Los Quemados, Las Indias, Mazo, Las Manchas, Puerto Naos, Los Llanos and Santa Cruz in La Palma; Puerto de la Cruz, La Orotava, San Cristobal de la Laguna in Tenerife; La Frontera and Villa de Valverde in El Hierro; Yaiza, Playa Blanca and Puerto del Carmen in Lanzarote, Hermigua, Santa Catalina and San Sebastian en La Gomera, Ingenio, Agüimes and Telde in Gran Canaria, Morro Jable, Jandia, Costa Calma and Pájara in Fuerteventura and for the first time the inhabitants of Olot (in Girona province) and four villages (Almargo, Argamasilla de Calatrava, Piedrabuena and Valverde) in Ciudad Real.

Secondary audience: tourists (mainly Spanish and English speakers) and foreign residents of the islands.

Tertiary audience: population of mainland Spain and the Spanish speaking community of the world; generally people with special interest towards the topic. This group was targeted on an "informative level" during the awareness campaign.

Tasks undertaken under WP3

- Identification of indicators and parameters for assessing the achievement of the objectives;
- Setting up questionnaires and guidelines for interviews conducted prior (online), during (paper) and after the event (by phone);
- Organisation of the collection of answers, on site and in some cases (e.g. teenagers, phone interviews) before and after the event;

- Data processing and drafting conclusions;

The evaluation methods used for collecting data on the impact of the event were focused on assessing the following:

1. “Lessons learnt”: knowledge gained through organising Researcher’ Night in consecutive years 2012-2015;
2. Changes in people’s understanding of the work of (geo) scientists and the impact of their work on Society, via an on-site survey and phone interviews (extra questions after the event).

Based on previous experiences¹, and in an attempt to reach the highest number of responses as possible, the evaluation of the night was planned to be based on a short questionnaire (only 2 pages, 10 scale questions) conducted during the event itself. In order to achieve the best results and to enable to perform comparison with an overall purpose of identifying possible trends, the same questionnaire developed in 2014 was used².

Similarly to last year, in order to boost participation, towards the end of the NIGHT (after showing “Volcanologist around the World”) a lottery was organised at each site³. Furthermore to help the qualitative analysis, the most enthusiastic participants, who had taken part in at least three core activities and also provided their contact details, were contacted by phone after the event.

- At each island, visitors were asked to take part in a 10-point questionnaire. As the agendas (the core programme elements) of the venues were almost identical (only the number and type of side and/or extra activities were different), the same survey was conducted at all sites, and thus the results were evaluated on a common basis (except for cases when examining differences had importance). Collection of answers at every location started around 20:00 (after “My Day” presentations of researchers ended) and continued towards the Science Cafés until the end of the programme. In total, 377 visitors filled in the in-situ survey, which represents 3, 03 % of the total estimated participation (Table 1)⁴;
- Those attendees, who participated at least three core activities (out of Excursions, Experiments, “My Day” presentations, Ask a geoscientist, Documentaries, “Science Cafés” “Volcanoes’ around the World” and Exhibitions) and provided phone numbers were contacted via phone after the event, to assess how much their knowledge and interest in geology and science have improved, what they have learned about the work of geosciences. Altogether 58 people (15, 38 % of the survey responders) were interviewed this way.

The survey taken during the event focussed on collecting information to assess:

- Typology of visitors (age, gender, educational background and place of residence);

¹ In 2013, the number of collected answers remained lower than had been anticipated. This was partially caused by long interview times for extra questions. In 2013, 129 questionnaires were collected, which corresponded to app. 3, 25% of the total attendants (app. 4000).

² Only minor changes were initiated to make questions as clear as possible.

³ Winners (the first 3-5 persons) received gadgets such as INVOLCAN Volcano Calendar 2015/2016.

⁴ Results were compared to 2014 when, in total, 362 questionnaires were collected (representing 5,57 % of the participation).

- Initial awareness of people on popular science events, including previous Researchers' Nights;
- Most successful awareness raising methods and motivation for participation;
- Identifying the most interesting programme elements and general satisfaction of visitors (principally with the agenda and the selected locations);
- Attendees' satisfaction with researchers' behaviour (communication, encouragement etc.);⁵
- The initial and possible alteration of participants' opinion, in particular, regarding the public perception of the work of (geo)scientists;
- To measure any development in interest in geosciences;
- To collect suggestions and ideas for improvement in the future.

Furthermore, the posterior phone interviews left more room for individual expressions and thus served as a tool for collecting qualitative data on the impact of the night, as well as for gathering general comments and suggestions.

Description of the current situation

To the knowledge of the project team, prior to 2012, no investigation had been carried out on the public perception of the work geoscientists (at least not in the framework of Researchers Nights, and consequently no statistical information is available for comparison at European level). From this perspective, Volcanoes' Night 2012 (Fuencaliente, La Palma) was a pilot episode in Europe. In 2013, organizers carried out a short pre-event survey (only 5 questions) in order to have an accurate picture on the situation at that time. In total, 479 questionnaires were collected.⁶

Results showed that on the Canary Islands, there is already an existing interest towards the topic of geology and volcanology. Almost two-third (63, 05%) of the repliers scored much (4) or very much (5) on a 1-5 scale on the statement *'to what extent would you say you are interested in geology & volcanology?'* Similarly, the public perception of geoscientists is high, the absolute majority, three quarters of the responders stated that their work is useful for Society (76, 03%). Moreover, in addition to their professional work, 44, 2% of responders believed that geoscientists play important role in contributing to sustainable development or, through the governing ethical standards, their work reflect the importance of social values (32, 99 %). Interestingly, most people (73, 9% of the responders) assumed that key motivation why scientists dedicate themselves to carry out geological research is the urge for exploration of new knowledge, whilst only 11, 27% think that most important driver is the push for helping solve social problems.

In addition to this rather broad survey, in 2015 a special effort of last year⁷ was repeated to assess the attitude of teenagers towards science and in particular geosciences. Two weeks prior to the event, just right after schools opened after the summer, a short online survey of 5 questions (the same set as in 2014) was conducted among secondary school students and high-school graduates, ages of 13 – 19. In total, 480 answers were collected.

⁵ Evaluation of researchers' performance was based on the answers of the „Core Group“, altogether 90 people (representing 23, 87 % of the responders).

⁶ The majority of the people, who filled in this pre-questionnaire (females and males in almost equivalent numbers) belonged to the age groups 35-44 (29, 23%), 45-59 (27, 35%) or 25-34 (20, 88 %).

⁷ In 2014, the survey was conducted in June, with the participation of 221 students.

Similarly to last year, the majority (47, 92 % in 2014: 50, 68 %) of the responders was an inhabitant of Tenerife living in a small (2-10.000 people: 27, 71%) or medium-sized town (10-50.000 persons: 36,88%). Girls were slightly overrepresented (59, 58%).

Results show that, in this age group, over three-quarter (77, 08%) of the respondents were not familiar with the initiative of Researchers' Night, and only every third of them (32, 29%) stated that they had heard about Volcanoes' Night before having taken part in the survey.

Alike last year, the vast majority, 88, 75 % (in 2014: 80, 54 %) of the students believed that sciences are important or very important for the development of society (marked four or five on 1-5 scale). At the same time, only 59, 43 % considered that the work of scientists useful for society, while every third of them (32, 5%) deemed that their job is fascinating. Only 5, 03 % (in 2014: 11, 76%) had a negative attitude towards their work, positioned it as boring or stated not to be interested in the topic.

Almost a third (29, 17 %) of the teens marked that (s)he possessed no (1 on 1-5 scale) or little (2 on 1-5 scale) information and stimulation in his/her background to apply for a scientific career at university. While merely 15, 63% of the scholars found geosciences attractive enough (scored four or five on 1-5 scale) to consider choosing a profession from this field.

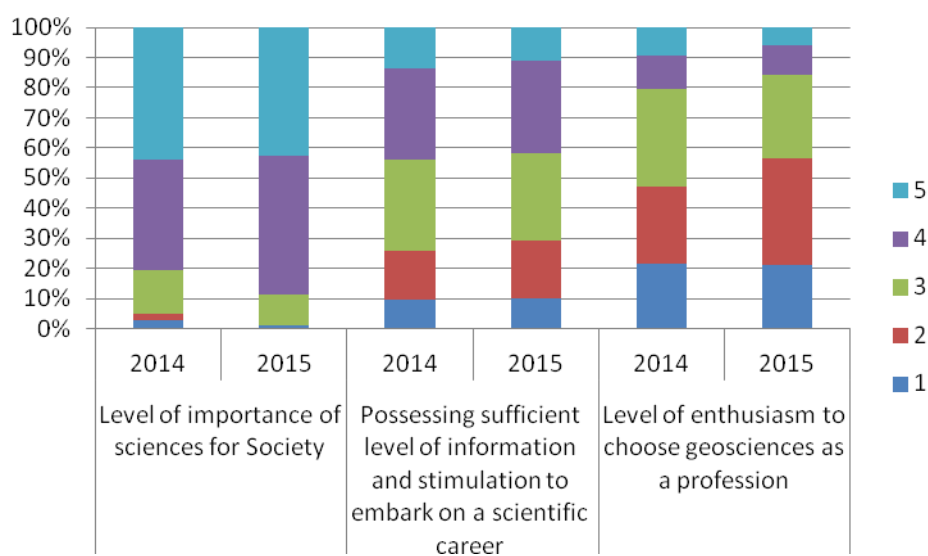


Diagram 1: Results of the pre-event surveys of 2014-2015 (Where 1 = not at all, 5 = very much)

SUM = 221 (2014) and 480 (2015)

In order to see the situation as clearly as possible, and to maximise the understanding of the kind of problems teenagers may face when deciding to apply for a scientific career at university, a short survey was conducted⁸ among secondary and high school teachers to know their opinion on this matter. In total 50 teachers answered (26 women and 24 men, ages of 31 – 60, teaching geography, biology, natural sciences, physics, mathematics, chemistry and technology). Half of them (24) had never heard about Researchers' Night, while 8 of them were familiar with Volcanoes' Night before participating in the survey. 41

⁸ The survey was conducted online, in September, together with the student questionnaire.

teachers considered that the current curricula of secondary and high schools only little or moderately (marked two or three on a 1-5 scale) encourage students to opt for a research career. At the same time, only 18 of them (36%) stated the current social and economic situation has a great (4) or very much (5) influence on students when making a scientific career choice.

Almost half (24 persons) of the teachers believed that adolescents are moderately (scale 3) interested in science & research, all while a very similar ratio (23 persons) stated that students sufficiently or fully (scale 4 and 5) understand that importance of sciences in our everyday life.

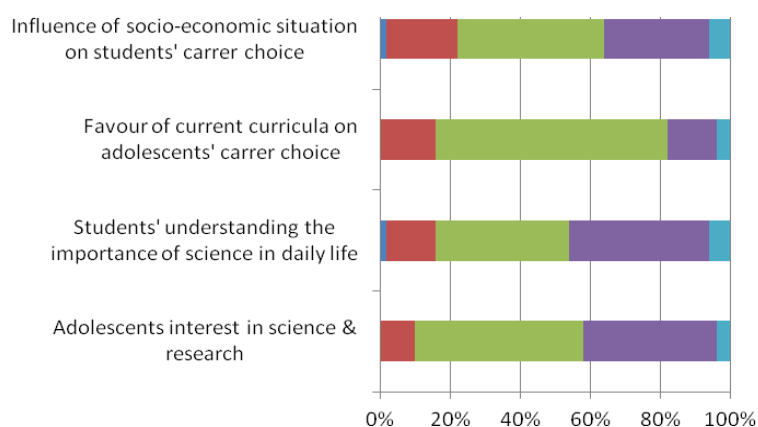


Diagram 2: Total = 50 secondary school teachers

Evaluation of facts & figures

Media evaluation

In 2015, Volcanoes' Night was organised for the fourth time in La Palma, for the third time in Tenerife, El Hierro and Lanzarote and for the second time on the island of La Gomera, Gran Canaria and Fuerteventura. It was the very first event of its kind (an event focussing on promoting the work of geoscientists) on the Spanish mainland. Consequently, efforts were used to raise the awareness of the regional media in the archipelago, whereas in case of Ciudad Real and Olot focus was rather on the local level. Short project notices indicating the date, locations and the main programme elements were placed in regional online and offline magazines and on *Planeta Vivo Radio* already starting from middle of June. Undoubtedly, the highest media attention was reached in September (during the last three weeks before, and a week right after the event), when a series of press releases, articles, radio and TV interviews (pre-event and follow-up) were published and broadcasted. In total:

- approximately 100 notices in regional and local online and offline magazines;
- 27 banners published on collaborators website;
- 9793 unique visitors initiating 12 456 sessions on the project website during the period 1 May - 30 September 2015;
- 70.604 visits to INVOLCAN's Facebook during September 2015; out of which 823 likes and 247 shares of Volcanoes Night related news;
- 24 tweets;

- During the month of September up to 4 radio announcements/day on Radio Nacional de España (Canary Islands) and app. 90 notices broadcasted on local channels such as Radio Hola FM Fuerteventura, Radio San Borondón Norte in Tenerife, Radio Mulagua in La Gomera etc.;
- 6 interviews/talks about the projects with project organisers & participating scientists on Cadena SER La Palma, Radio Murion, Cadena SER Lanzarote, Radio Onda Puerto de la Cruz, Radio Ecca Puerto de la Cruz and on Radio Televisión Canaria (RTVC) + a Special Program dedicated to "La Noche de los Volcanes" on Radio Nacional de España;
- 21 major printed articles in local and regional newspapers such as: El Día, La Opinión, El Apurón, Diario de Avisos etc.;
- 14 announcements/feedback on national/regional TV before and after the event;
- 12 big road banners;
- 1000 posters and 16 000 flyers, and 15 500 detailed agenda were distributed.

This awareness campaign estimated to have reached virtually the entire population of the archipelago (2 million people) and around 150.000 people in Ciudad Real and Olot.



Image 1: Examples of promotional material and media appearance.

For more details on the awareness raising campaign and means of promotion used, please see D1.

Collaborations and sponsorship

In order to facilitate project implementation, and also to be as cost efficient as possible, project partners took all potential efforts to gain sponsorship (including in-kind contributions) for the event, and at the same time, raise awareness about the project. Work under this domain started in early April 2015. Among others, organisers got in touch with the Canary Islands Government, the governing bodies of all islands (Cabildos), research and professional associations, and, last but not least, local players such as shops and restaurants etc. Series of emails summarising the project objectives were sent out, and as a consequence, several local meetings were held in each island (with different Cabildos, Municipalities, bars and restaurants among others). In total, 73 different entities contributed directly or indirectly (e.g. by providing free or discounted service) to the implementation of the project. Detailed list of collaborators are available on the project website.⁹

Web statistics

During the awareness campaign, the project website constantly served as a reference point and thus was always referred to in all promotional actions. As a result, during the "core" period of 1 May - 30 September 2015, 9.793 unique visitors looked at the webpage, and people opened 32.368 pages. Geographical and language data show well-balanced results in reaching the different target groups. Around 90 % of the visits were realised from Spain, though the site also attracted visitors from other European states, so as well from different countries of South-America and the U.S, for a total number of 89 countries.

Social Media

In order to maximise the visibility of the project, similarly to past years, the popular Facebook site of INVOLCAN/ITER (over 20.000 followers from all over the world) was used to promote the event. From the end of the summer, with increasing frequency regular entries and event related news were published (these were then shared by local hosts and other collaborators such as Restaurante Jardín de la Sal, Club Nautico del Burrero etc.). As a result, news on the projects created over 50 000 interactions, received 1418 likes and 51 tweets. In addition, 58.300 search results were realised in Google for: *"la+noche+de+los+volcanes"*.

Number of participants and competition entries

Qualitatively, in total (together with side-events and exhibitions), approximately 14.500 people were estimated to participate at the night at 12 locations, distributed as follows:

1. Fuencaliente, La Palma: 850 visitors;
2. Puerto de la Cruz, Tenerife: 5.200 visitors;
3. La Frontera, El Hierro: 800 visitors;
4. Yaiza, Lanzarote: 1.000 visitors;
5. Hermigua, La Gomera: 400 visitors;
6. Ingenio, Gran Canaria: 3.000 visitors;
7. Pájara, Fuerteventura: 1.200 visitors;

⁹ This number does not include individual (mainly foreign) researchers taking part in the "Scientific Poster sessions".

8-12. Ciudad Real province (Almagro, Argamasilla, Piedrabuena, Ciudad Real) and Olot: 2.000 visitors.

Drawing competitions: 739 drawings from 29 schools;

Writing competitions: 37 entries from 11 schools.

For more details on the number of participants/activities please see D 2.

Material exhibited

Besides the scientific poster sessions (in total 46 different posters were put on display printed in 147 copies), at venues located in the archipelago (an outermost region of the Europe), materials providing information about research and educational possibilities & programmes offered by the EU (including national and H2020 projects supported from European sources) had a special importance. In total, 20 different types of European publications were displayed in Spanish (some copies in German and in English as well), each of them, depending on the location, in dozens or hundreds of copies.

Detailed statistical analysis of the on-site survey

Typology of visitors

The analysis is based on 377 questionnaires (3, 03 % of the total estimated participation¹⁰) collected in the seven Canary Islands (in-situ) as follows:

Venue	Number of responders	% of local attendees
La Palma	44	5,18
Tenerife	119	2,29
El Hierro	34	4,25
Lanzarote	22	2,2
La Gomera	22	5,5
Gran Canaria	95	3,17
Fuerteventura	41	3,42
Total	377	3,03

Table 1: Number of collected questionnaires by sites.

Results of the on-site survey show that, similarly to past years, men and women were equally interested and took part in the event (as an overall figure: males 43, 58 %, females 56, 42 % of the responders¹¹). There was, however, slight surplus in favour of women in Gran Canaria (63, 33%), La Palma (59, 09%).

The age distribution of attendees was, however, more diverse and results show¹² significant differences among the different locations. Similarly to last year, the participation of the youngest (< 14 ages – primary school students) was again the highest in La Gomera (27, 27 %; in 2014: 15, 63 %), all while teenagers represented the majority of the participants again in Tenerife (32, 38 %, in 2014: 26, 67 % of the local responders). On the other hand, alike 2014, the participation ratio of the younger generation in the other islands remained low, and the majority of the participants were over 35 years old (64, 52% in Gran Canaria to 87, 80% in Fuerteventura).

¹⁰ Total estimated number of attendees for the Canary Islands = 12 450 (overall sum for the seven islands).

¹¹ Figures based on 358 responses, representing 94, 96% of the total responders.

¹² Evaluation is based on 358 answers, representing 94, 96 % of the total responders.

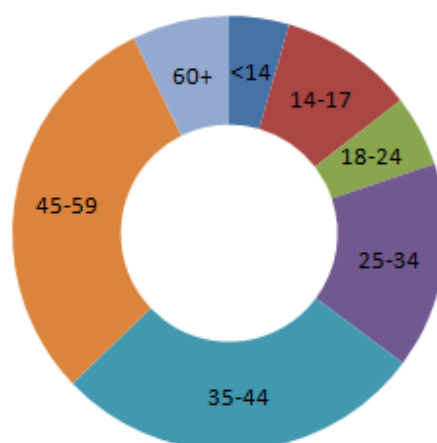


Diagram 3: Typology of visitors by age in 2015 (accumulative figure for the seven islands). Similarly to past years, the educational background (highest educational attainment) of the participants was rather diverse. Although, the night itself was primarily promoted the involvement of locals of all age groups, regardless their scientific background (and this message was stated several times throughout the awareness raising campaign), on all islands the majority of the responders (46, 37 % as an overall figure - all survey responders¹³) had a university degree.

By taking into consideration the age of the survey responders, this figure is even higher. In total, 55% of the attendees over 25¹⁴ had a university degree.

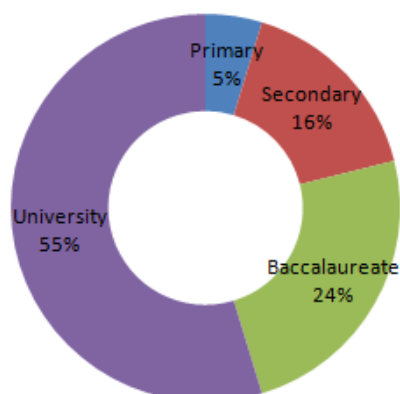


Diagram 4: Highest educational attainment of attendees over age 25 (Total = 256 responders).

Again, there were considerable disparities among the different venue locations. The ratio of participants with university degree were the highest in Lanzarote (73,68%), Gran Canaria and La Palma (54, 25 % and 53, 85 % of the local responders - all age groups), all while in the island of La Gomera and Tenerife, subsequent to the age of the attendees (43,86 % and 27,27% below 25 years old) around two thirds of the responders (65,88% and 60%) marked as primary, secondary or baccalaureate as the highest educational attainment. Alike in 2014, the division of the attendees' educational background were the best balanced in Fuerteventura.

¹³ Results based on 317 answers, representing 84,08% of the responders.

¹⁴ 80,17% of the total responders.

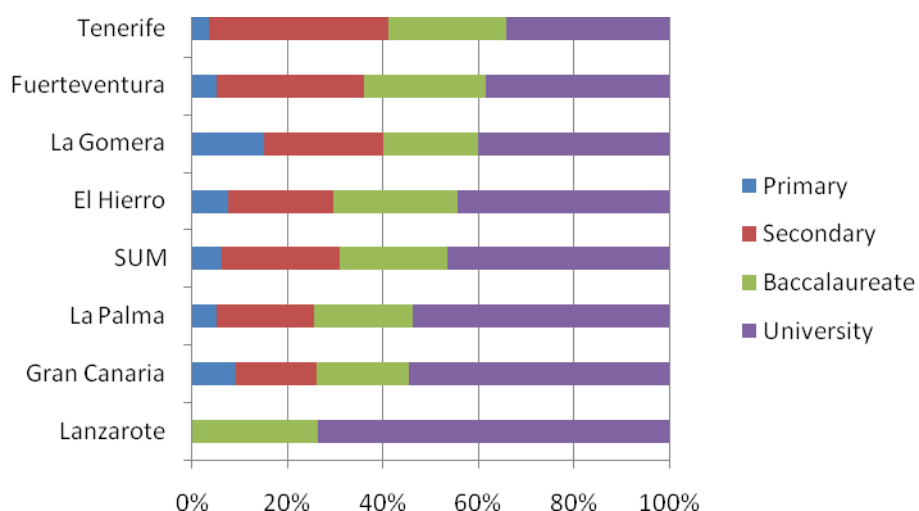


Diagram 5: Highest educational attainment of responders, all age groups by venues (SUM total = 317 responses)

As for the nature of the event, similarly to 2014, the night was characterised as a family programme. Every second participant attended with family members (54, 03 % of the responses, as an overall figure¹⁵). The ratio of family "nighters" were especially high in the islands of Lanzarote and La Gomera, where over two-third of the responders spent the night with their family (65% and 63, 64% -Diagram 6).

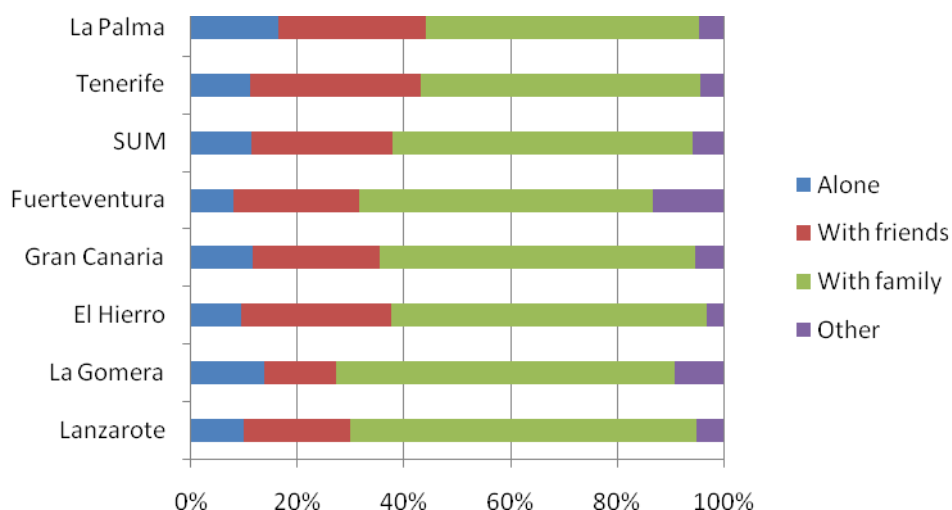


Diagram 6: "I came..." (SUM total = 216 responses)

Alike in 2014, in line with the settlement structure of the islands¹⁶ and the size of the venues, the majority of the attendees were residents of small (≤ 10 thousand people, 50, 77 % of the total responders) or medium sized (10-50 thousands, 33, 75 %) towns¹⁷. The

¹⁵ Evaluation is based on 369 answers, representing 95,84 % of the total responders.

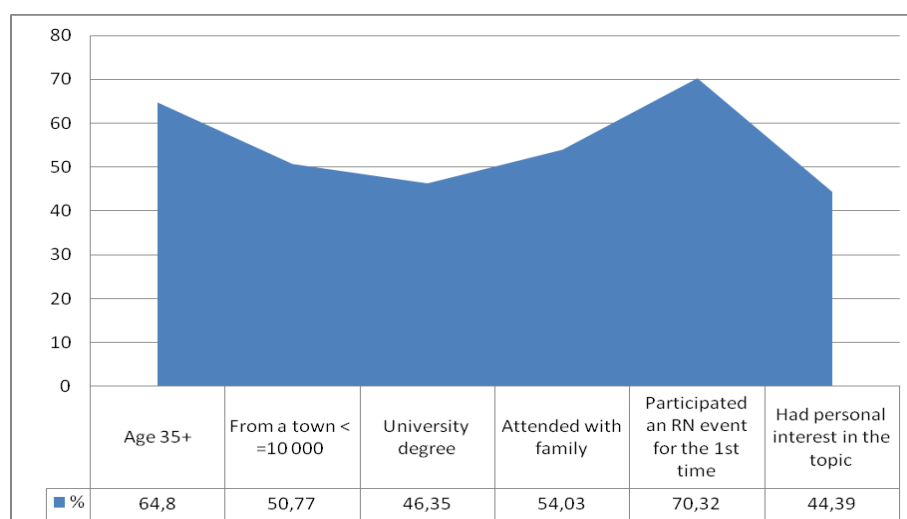
¹⁶ In the region, the population of all municipalities but the two capitals (Las Palmas de Gran Canaria and Santa Cruz de Tenerife) and San Cristobal de la Laguna is below 100 thousands inhabitants.

¹⁷ Results based on 323 answers, representing 85,68% of the responders.

participation ratio of locals was exceptionally high in the two smallest rural venues of El Hierro and La Gomera where over 95% of the visitors were inhabitants of the venue town or its close vicinity. “Outsiders” (visitors from exterior the venue towns) mainly came from neighbouring settlements such as Telde and Las Palmas in case of Gran Canaria, Los Llanos, Mazo and Santa Cruz in case of La Palma, and Los Realejos and La Orotava in case of Tenerife.

A typical visitor of Volcanoes Night in 2015 was very much alike the one in 2014 and can be described as follows:

- over 35 years old (64, 68%, in 2014: 61,08 %);
- who lives in a small (less than or equal to 10 thousands of inhabitants: 50,77%, in 2014: 49, 4 %) or medium sized (10-50 thousand residents: 33,75%, in 2014: 34,34 %) town;
- has a university degree (46,37%, in 2014: 46,47 %);
- attended with family (54,03%);
- having had an initial personal interest towards the topic before participating 44,39 %¹⁸ (in 2014 it was: 48, 03 %);
- and attended a Researcher’s Night event for the very first time (84,21 %, in 2014: 82, 78% of the total responders¹⁹).



○

Diagram 7: Characteristics of a "typical" Volcanoes' night visitor in 2015.

Reasons for participation and most successful awareness raising methods

Similarly to last year, with a somewhat lower ratio though, responders claimed “*personal interest in geosciences*” 44, 39% (in 2014: 48, 03 %) and the novel feature of the event 21, 17 % (in 2014: 22, 57 %) as the key motivation factors for their participation. The rest of the visitors attended “*to increase his/her knowledge*” in order to help with future studies/work 11,22%²⁰ or were especially interested in one of the programme elements such as

¹⁸Total 2015= 392 answers Total 2014 = 381 answers.

¹⁹ Evaluation is based on 374 responds (99,2%); in 2014:360 answers, representing 99, 45 % of the total responders.

²⁰ in 2014: 12,34%.

activities organised for kids, telescopic observation, excursions or one of the talks: 10,2 %²¹. Among those, who marked "Other reason" as a rationale for participation: 12, 24 %²² the main reason for attending was to accompany their family members (children, grandchildren, nieces etc).

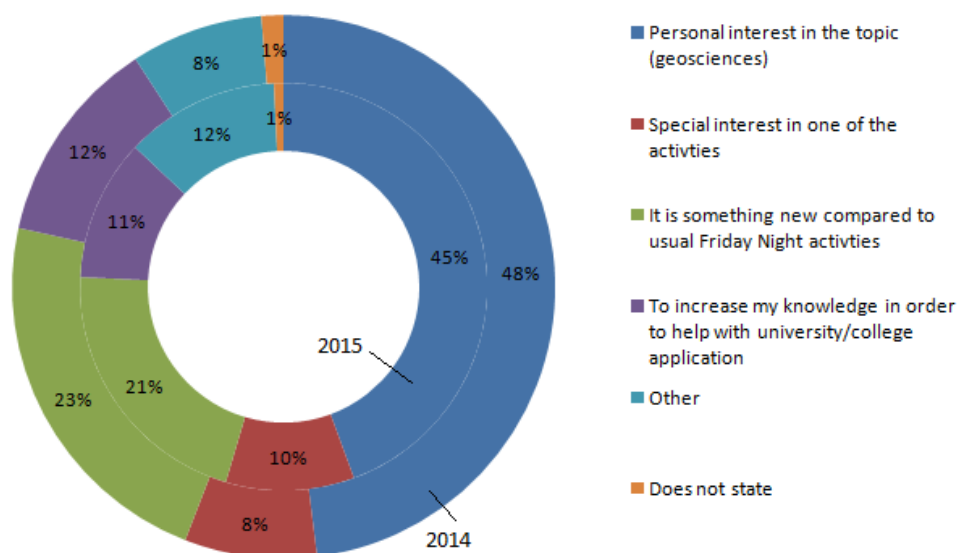


Diagram 10: Motivation of attendees 2014-2015 (Question 3: "Why did you decide to attend?")

The interest towards the topic was the strongest in La Palma and El Hierro, where over two-third of the responders marked personal interest in geosciences as the main motivation for the attendance. The novelty of the event was especially considerable in the island of La Gomera and Gran Canaria (43, 48 % and 30 %), while in Lanzarote 25, 93 % of the local responders considered their participation as a good opportunity to increase his/her knowledge of the field (Diagram 11).

²¹ 7,87% in 2014.

²² 7,87% in 2014.

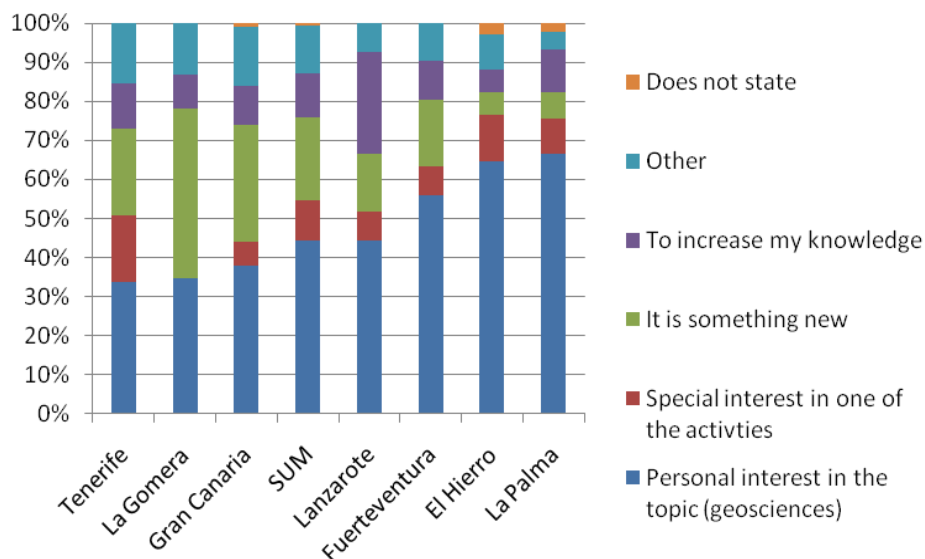


Diagram 11: Reasons for participation

Concerning the awareness raising methods, results²³ repeatedly confirmed that the common way of local advertising²⁴ played the most important role in reaching the audience. As an average (overall figure for all venues), almost every third of the responders received information about the event for the first time via posters and leaflets distributed in public places such as libraries, bus stations, bars and restaurants, tourist offices etc. (31, 04% of the responses). This figure is somewhat higher than in the past years 21, 53 % of the total responses (2014), 18, 57 % (2013). Spreading the word through personal contacts (“chitchatting”) also raised a great awareness towards the upcoming event and increased the number of attendees on all islands, as an average figure 19, 96 % of the responders heard about the night from friends and/or family members. Similarly to past years this mean scored a second importance (in 2014: 17, 46 %; 2013 – 23, 57 %). As third, Facebook was the most useful mean under this regard (11, 09% of the responses).

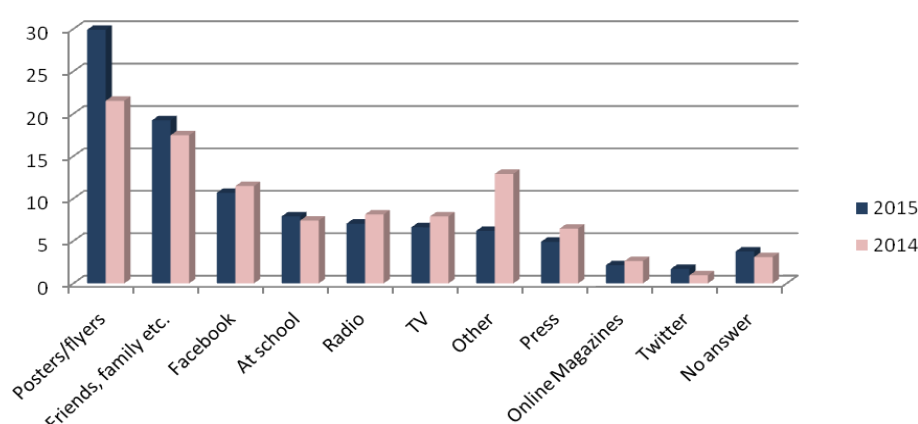


Diagram 12: How did you first hear about Volcanoes' Night III (2014-2015)?

²³ Total = 451 responses.

²⁴ Fiestas and other events are normally and principally advertised via posters and leaflets, especially in rather rural locations such as Fuenaliente, La Frontera and Hermigua.

Naturally, besides Posters & flyers and Families & friends playing the most significant role in all venues, the importance of other promotional methods varied from venue to venue. Interviews and ads broadcasted through the radio (national, regional and local channels) proved to be a very useful mainly in Tenerife and Gran Canaria this time. Furthermore, in Tenerife, almost fifth (19,74%) of the responders marked that they heard about the event at schools for the first time, while in La Gomera the role of television was high in reaching the public (10, 71 % of the local responders). Table 2 summarises the most useful means of promotion at a venue level.

	I.	II.	III.
La Palma	Posters/flyers	Family/Friends	Other
Tenerife	Posters/flyers	Other	At School
El Hierro	Posters/flyers	Facebook	Family/friends
Lanzarote	Posters/flyers	Family/friends	Facebook
La Gomera	Posters/flyers	Family/friends & TV	At school & Facebook
Gran Canaria	Posters/flyers & Family/friends	Facebook	Radio
Fuerteventura	Posters/flyers	Family/friends	TV & Facebook & Other
SUM	Posters/flyers	Family/friends	Other & Facebook

Table 2: Most successful means of promotion at the different locations (normal text = position is same as in 2014; text in green = decreasing, text in red = increasing importance in 2015).

Most popular programme elements and satisfaction of visitors

Unlike past years, when around a third of the responders (28, 68 %²⁵) participated in five or more programme elements, in 2015²⁶, similarly to 2014, the majority of the visitors only attended few activities. As an overall figure 55, 71 % (in 2014: 57, 35 %) of the total responders only took part in one or two programme elements, and only 10, 86 % in six or more. People were the most "active" in El Hierro, in La Palma and in Lanzarote, where around every fifth person (26, 67 %; 18, 6 and 18, 18%) of the responders were presented at more than six actions.

Out of the core activities²⁷, the mostly visited actions were (overall figure for all venues):

	2013	%	2014	%	2015	%
I.	Documentaries	46,51	Documentaries	48,24	Science Café	52,92
II.	Exhibitions	44,96	Ask a geoscientist	26,76	Documentaries	30,08

²⁵ 2013 figure are based on 129 responses, representing 3, 65 % of the total attendees (approx. 3500 – 3800 people).

²⁶ Evaluation is based on 359 answers, representing 95, 23 % of the total responders.

²⁷ Excursions, Experiments, „My Day“ presentations, Ask a geoscientist, Documentaries, „Science Café“, Volcanoes' around the World and Exhibitions.

III.	Ask a geoscientist	35,66	Exhibitions	28,88	Ask a geoscientist	23,68
IV.	My day presentations	22,36	Volcanoes' around the World	22,65	Volcanoes' around the World	17,55

Table 3: Most visited activities 2013-2015 (% of the responders).

Certainly, there were slight differences among the different locations. The table below lists the three most visited core activities for each island. In both tables, the text marked as "normal" when the activity scored the same position as last year, while text in red corresponds to increasing, text in green decreasing interest compared to 2014.

	I.	II.	III.
La Palma	Science Café	Documentaries	Ask a geoscientist
Tenerife	Science Café	Exhibitions	Documentaries
El Hierro	Science Café	Ask a geoscientist	Documentaries
Lanzarote	Science Café	Documentaries	Ask a geoscientist
La Gomera	Science Café	Documentaries	Ask a geoscientist
Gran Canaria	Science Café	Documentaries	Ask a geoscientist
Fuerteventura	Science Café	Ask a geoscientist	"My Day" presentations
SUM	Science Café	Ask a geoscientist	Exhibitions

Table 4: Most visited activities (venue level, 2014).

Besides the core programme, Live Concert and various cultural actions were organised to maintain the interest of the audience. Similarly to last year, every third (30, 36%) person took part in these leisure activities. Games and workshops organised for children were also highly visited, around every fifth (22, 01%) of the responders attended such programme elements (in the island of La Gomera 59, 09%, in Gran Canaria 31, 18%).

Among the various side activities, again the most visited were: Telescopic Observation in the island of Lanzarote (81, 82 % of the local responders attended) and the Wine Tasting

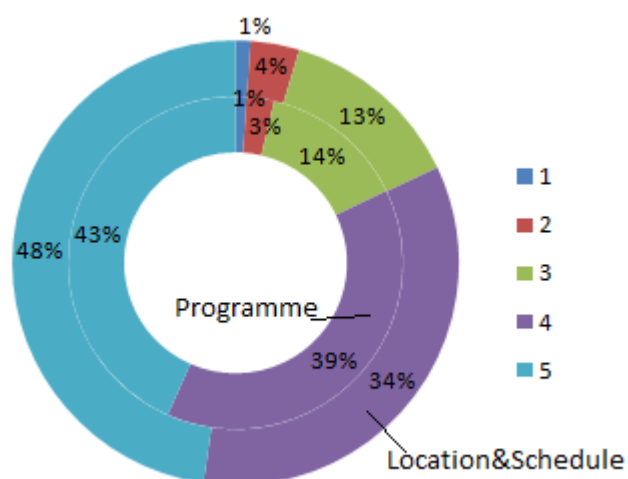
organised in El Hierro, La Gomera and Gran Canaria (30%, 27, 27% and 26, 88% of the survey repliers participated).

To the open question *"Which activity you liked the most?"*, most people answered²⁸: one of the scientific talks, Live concert, Documentaries, Excursions, Kids workshops, Star observation and Wine tasting.

To the open question *"What new type of activity would you include in the programme...?"* many of the responders²⁹ indicated that the agenda should include more activities for kids. Moreover, without being exhaustive, the following suggestions were made:

- Volcano-making contest;
- Laboratory experiments;
- Activities related to cooking;
- More live experiments;
- Meteorological observation;
- Inviting more modern music bands;

The majority of the participants found the offered programme satisfactory. The overall contentment with the activities³⁰ was fairly high at all locations. Very similarly to last year³¹ 82, 09% of the survey responders declared his/her opinion as completely satisfactory or satisfactory: 5 or 4 on a 1-5 scale. In general, visitors were also rather satisfied with the selected locations and the schedule of the activities (4-5 = 82, 02 of the responses)³², however, personal interaction with participants and several comments show that the schedule of the event - Friday is a working day - made it difficult to attend for some people. The extension of the overall timeframe of the event (e.g. organising some preparatory activities throughout the week before the event and/or prolong the night for Saturday/Sunday after the night) should be carefully considered in the future.



²⁸ Altogether 206 persons gave answer to this question.

²⁹ 93 people left answer to this question.

³⁰ Evaluation is based on 374 answers, representing 99,2% of the total responders.

³¹ in 2014: 81,44%

³² Evaluation is based on 367 answers, representing 97,35% of the total responders.

Diagram 13: Overall satisfaction of responders (in %) with the offered programme elements (Question 4a - inner circle) and the location & schedule (Question 4b. - outer circle), where 1= not at all 5= completely)

According to survey results, in 2015, participants found the programme as well as the location and schedule of the activities the most satisfactory (marked 4-5) in the island of Lanzarote (100 % and 95, 24 % of the local responses)³³.

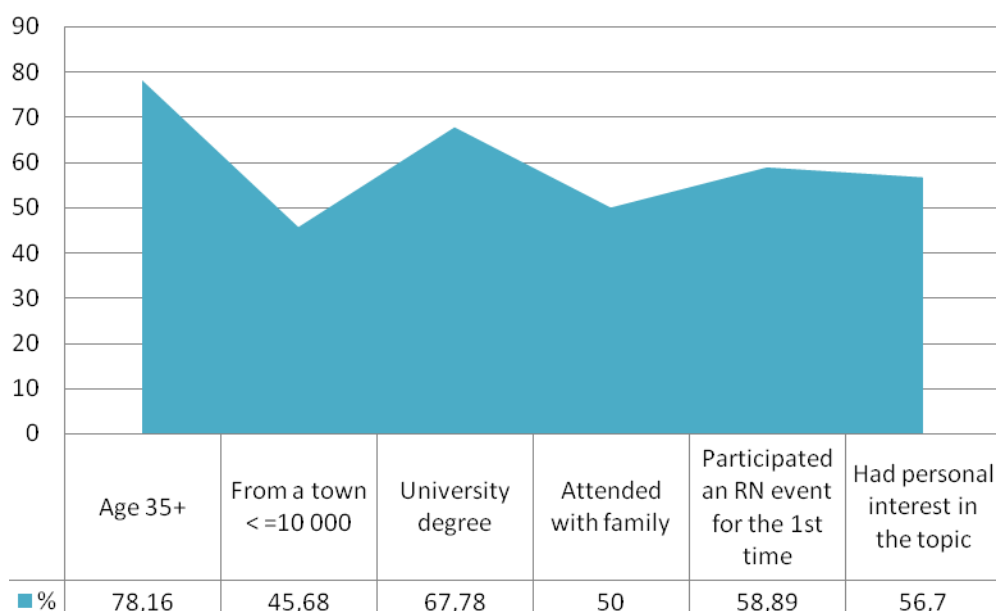
The level of satisfaction with researchers' performance (question number 7 of the on-site survey), similarly to past years, was measured based on the feedback of those repliers, who participated in at least 3 core activities (out of *Excursions, Experiments, "My Day" presentations, Ask a geoscientist, Documentaries, "Science Café", Volcanoes' around the World and Exhibitions*), in total 90 people, 23,87 % of the total responses)³⁴.

A typical "core group" visitor in 2015 can be described as follows:

- Over 35 years old (78,16 %);
- Who lives in a small (less than or equal to 10 thousands of inhabitants): 45,68% town;
- has a university degree (67,78 %);
- Attended with family (50%);
- Having had an initial personal interest towards the topic before participating (56,7 %);
- And attended a Researcher's Night event for the very first time (58, 89 %).

Compared to an "average" attendee, a "core group" member in 2015 was:

1. Possibly somewhat older than 35 years;
2. More likely to have a university degree and initial interest towards the topic before participating;
3. And less probable attended a Researcher's Night event for the very first time.



³³ Based on 21 answers, 95,45 % of the local questionnaires.

³⁴ This is a significantly higher number compared to 2014 when evaluation was based on 39 replies (representing 10,77% of the attendees).

Diagram 14: Profile of a "core group" visitor (where Total = 90 persons).

Alike in 2014, around a three-quarter 79% (in 2014: 76, 32 %) of this "core group" were very satisfied (scale 5) or satisfied (scale 4) with how scientists animated the participants during their performance.

A similar proportion (76% of the group) considered that the proposed activities helped them a great scale (4-5) to understand geological science better.

84 % (in 2014: 81, 58 %) found the way how scientists communicated (using a simple but comprehensible language) very satisfactory (5) or satisfactory (4).

These figures are very similar to 2014 results, and somewhat lower than the ones related for the same topic in 2013, when 92, 31 % of the "core group"³⁵ marked 4 or 5 on the way how scientists communicated (which was a significant evolution, 28, 02 % increment compared to the first year event, 2012). Similarly, in 2013, 83, 08% of the mentioned group scored 4 or 5 on the question "how much the researchers encouraged the participation of the audience" (which was considerable improvement compared to 2012, when only 57,14 % of a similar group voted for 4 or 5).

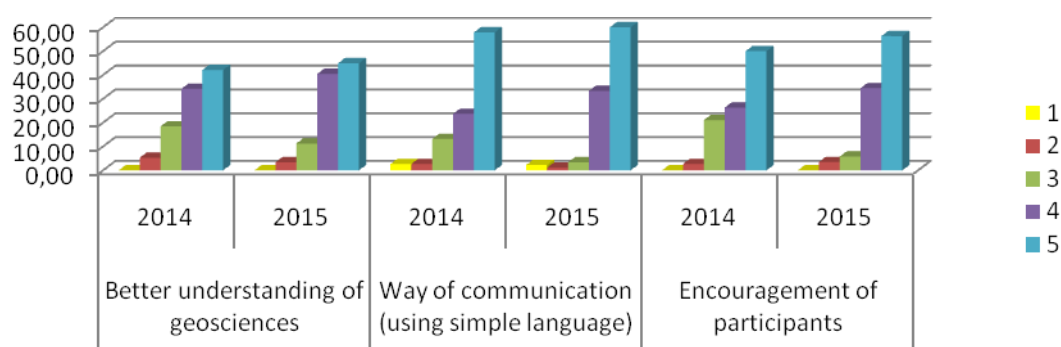


Diagram 15: Level of satisfaction with researchers' performance Volcanoes' Night III 2014-2015 in % of the responders where 1 = not at all and 5 = completely (question number 7 of the on-site survey).

Impact of the NIGHT on public's opinion regarding the topic and the perception of geoscientists

More than two-third (78, 51 %)³⁶ of the survey responders (and 75,92% of those who attended RN for the first time) declared that his/her initial belief about the work of scientists has improved. This is a significant improvement compared to last year, when "only" 61, 85 % of the responders stated the same. A very similar proportion, 6, 59 % (in 2014: 6, 15%) of the repliers thought that his or her opinion has changed after participating at the event.³⁷ These people consider that their opinion is different because:

³⁵ Core group 2013 = 65 persons.

³⁶ Evaluation is based on 349 answers, representing 92, 57 % of the total responders.

³⁷ This figures for 2013 were: 56, 59 % and 6, 2 %.

- They are better informed about the work of scientists;
- They think that scientist are less serious;
- They feel that more should be invested in science in general;
- Or have less fear towards science.

Most of the responders whose opinion remained unchanged (14, 9%) stated that they had known and or had had a positive opinion about the work scientists already before the event.

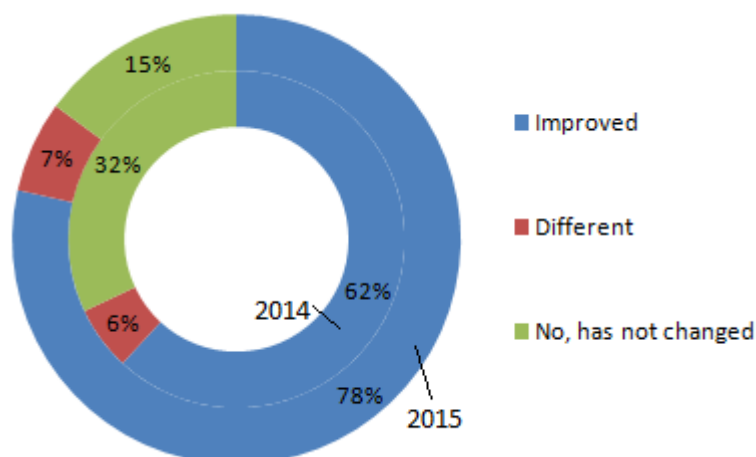


Diagram 16: "Has your opinion changed about the work of scientists after participating... (in % of the responders)?" Question number 8 of the on-site survey - Volcanoes Night III 2014 (inner circle) & 2015 (Outer circle).

In this regard, in 2015, the impact of the night was the least visible in Gran Canaria were "only" two-third of the responders declared to have improved their opinion about scientists. In all the other venues over 75% of the responders marked that his/her opinion have improved (Diagram 17).

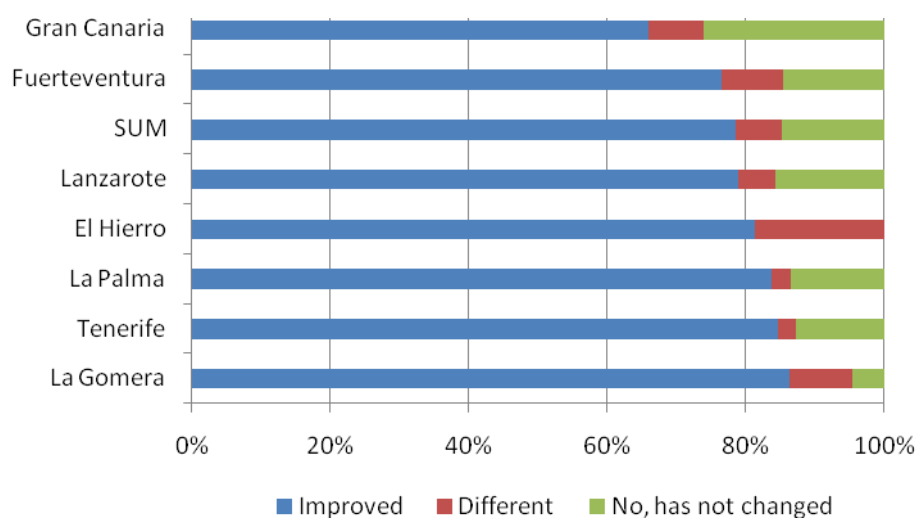


Diagram 17: "Has your opinion on the work of scientists changed after participating at the event?" (Question number 8 - in % of the responders, 2015)

To the question (number 6 of the on-site survey) *“To what extent would you say that your participation at Volcanoes Night III has developed your interest in geosciences and volcanology?”*, around two-third of the survey responders (70, 72 %) and 68, 48 % of the first time participants much (4) or very much (5).³⁸ This is a considerable improvement compared to last year when 61, 47% of responders answered positively to such question..

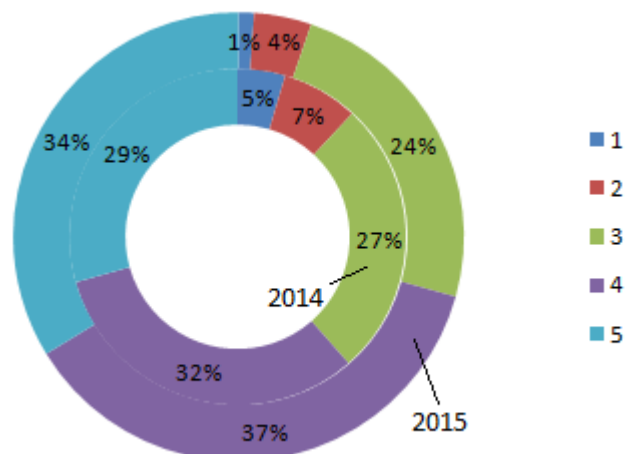


Diagram 18: *“To what extent would you say that your participation at Volcanoes Night has developed your interest in geosciences and volcanology...”* Question number 6, in % of the responders where 1= not at all and 5 = completely. Volcanoes Night III 2014 (inner circle) - 2015 (outer circle).

The impact of the event under this regard was exceptional on the island of La Gomera, where, 80, 95 % of the responders has developed his/her interest in the topic with a great scale (4-5).

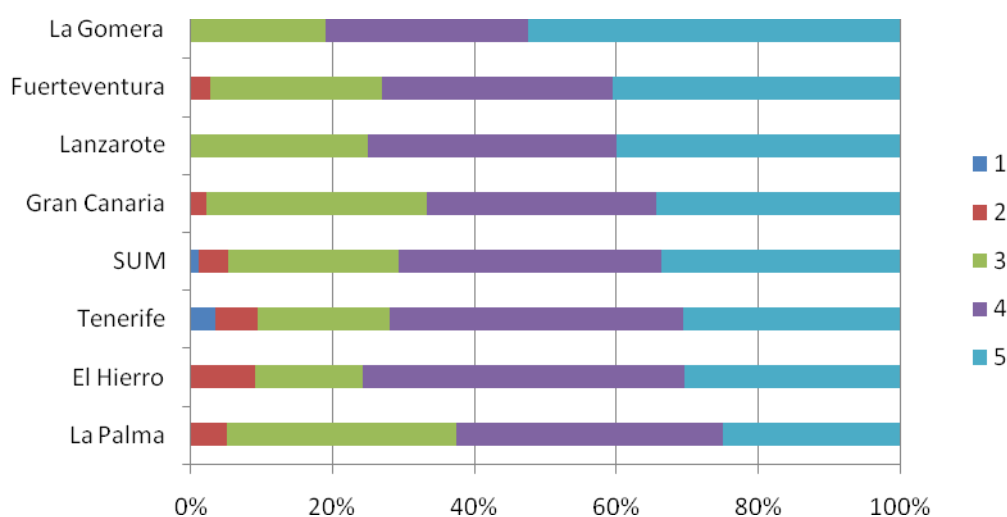


Diagram 19: *“To what extent would you say that your participation at Volcanoes Night III has developed your interest in geosciences and volcanology”* (question number 6 - in % of the responders, 2015)

³⁸ 362 answers (representing 96, 02 % of the total responses) and 257 answers (first time participated).

Public support of such popular science events in the future

As part of the in-situ survey, organisers asked whether the responders had ever participated or had heard about this initiative before attending the event. Results show that similarly to last year, for 84, 21% (in 2014: 82, 78 %) of the total survey participants³⁹, attending Volcanoes' Night III were attending for the first time in 2015, even though almost half of this group (44,01 %) already heard about the initiative before. The ratio of attendees who had not heard about Researchers' Night before the event, however, considerably decreased compared to 2014 in several islands such as Gran Canaria, Fuerteventura, Lanzarote, La Gomera and El Hierro.

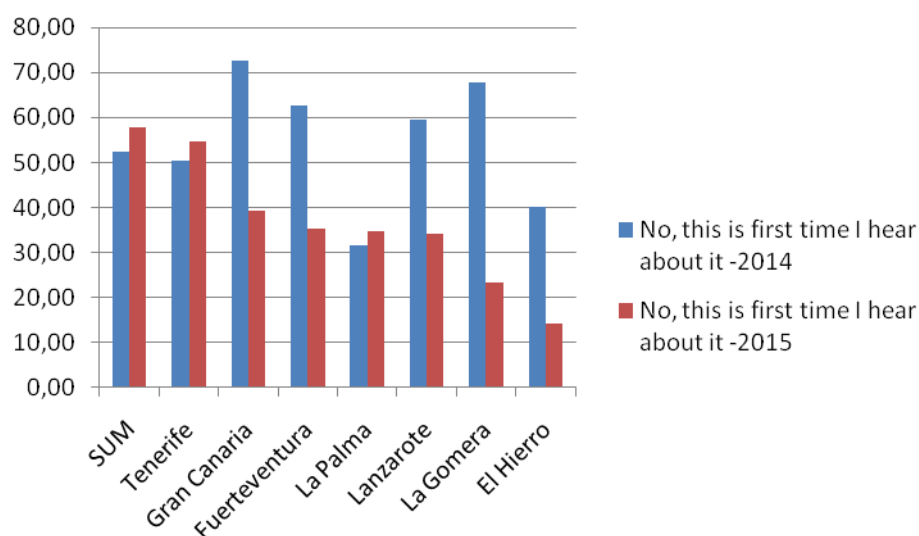


Diagram 20: "Have you heard about Researchers Night before?" (Question number 1 of the on-site survey)

ratio of responders who had not heard about the initiative before the event (in %, Volcanoes Night III. 2014-2015)

Very similar ratio, 86, 98 % of the total responders⁴⁰ and 85, 6% of those, who for the first time participated in a Researchers' Night event⁴¹ found the concept of Volcanoes' Night a useful or very useful scheme to bridge the gap between scientists and the public (marked 4 or 5 on 1-5 scale).⁴² Finally yet importantly, five but one person would recommend to other people to attend a similar event in the future.

³⁹ Figures are based on 374 responses, which represents 99, 2 % of the survey participants.

⁴⁰ in 2014: 83, 84 %, in 2013: 84, 5 %.

⁴¹ Opinion of "first nighters", marked 4-5 to Question 9: 83, 39 % in 2014, and 86, 44% in 2013.

⁴² Evaluation is based on 361 answers, which represents 95,76 % of the survey responses.

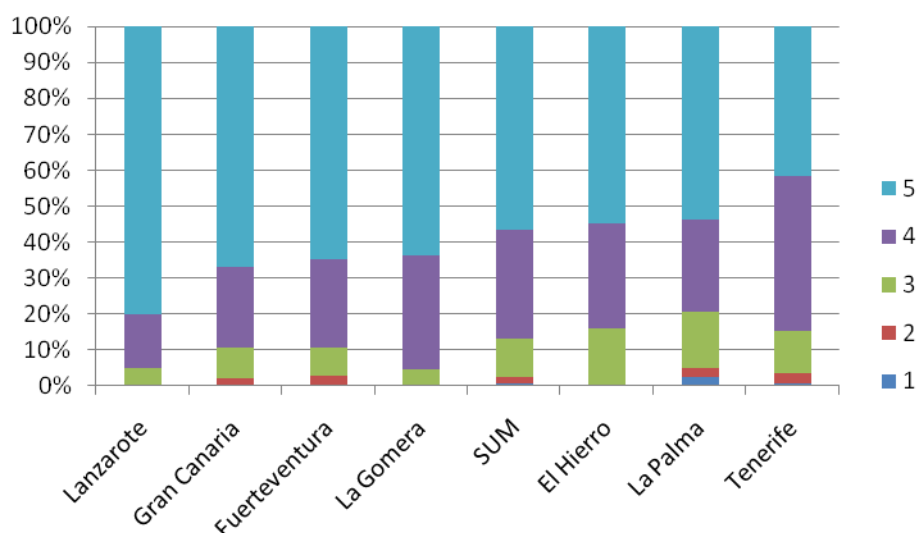


Diagram 21: “Do you find the concept of Volcanoes’ Night useful?” - Question 9 of the on-site survey (in % of the responders, where 5 = ‘completely’ and 1 = ‘not at all’)

Nevertheless, the following major type of suggestions and comments were made for the future⁴³:

- Better and wider promotion;
- Including more practical and entertaining programme elements (e.g. workshops for adults);
- More programmes held/translated into English and other languages;
- Reinforced involvement of schools.

Evaluation of phone interviews

Further efforts were taken to measure the qualitative impact of the event, especially in relation to the public’s understanding and acceptance of the work of geoscientists as well as to collect ideas and suggestions for improvements. The most enthusiastic participants (those who had taken part in at least 3 of the core activities and had also provided their contact details (with the willingness to be contacted) were interviewed via phone calls after the event. This corresponded to 58 persons who were contacted, out of which 48 people were successfully reached/interviewed by phone. Diagram 22 describes the profile of this group.

⁴³ In total 82 persons left suggestions.

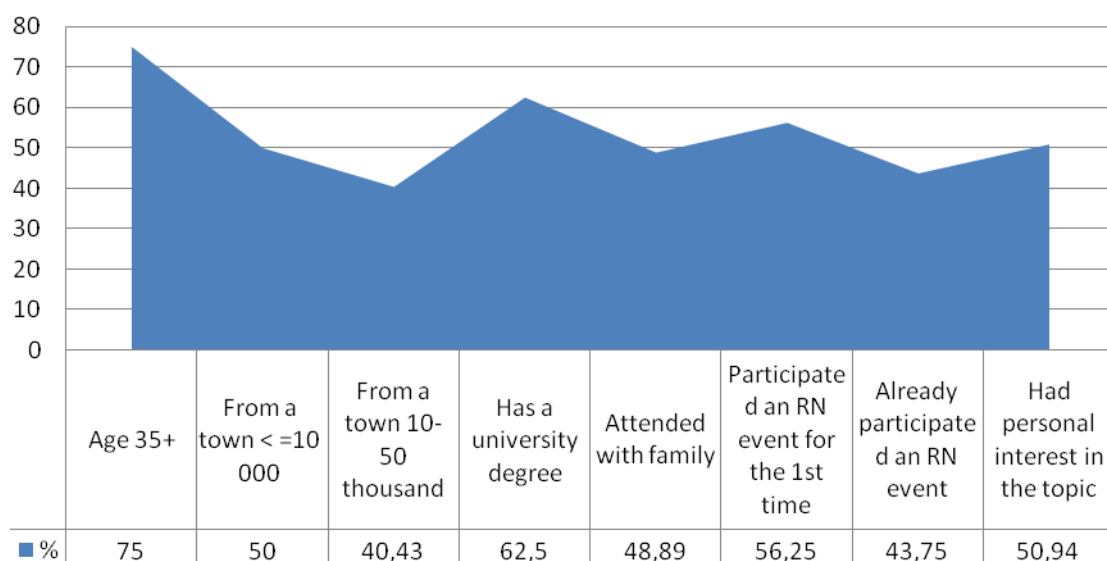


Diagram 22: Profile of interviewees (100% = 48 persons)

To the first question *"What did you like the most and the least?"* answers can be summarised as follows:

- The most: talks, activities organised for kids, excursions, telescopic observation;
- The least: the timetable, lack of promotion, boring talks.

To the closed ended question 2/a. *"Did 'Noche de Volcanes' help you better understand the work of geoscientists?"*: All interviewees answered "yes", except three persons who stated *"No, I already knew it"*.

However, to the second part of the question 2/b *"Has your opinion or view on the work of scientists changed? If yes, how?"*, only 20 persons claimed yes. The further questioning of those (28) whose opinion has not changed, disclosed they said so because they were scientists themselves or were already familiar with scientists' work. Some quotes:

- *"Yes, I never knew before. Now I have a better impression of what such works entail."* Gerda Eger, Fuencaliente;
- *"Yes, because now I know what they do in practice."* Desiree Armas Garcia, Morro Jable;
- *"Yes. Now I can imagine what they do."* Jaime Hernandez Jimenez, Fuencaliente;
- *"Yes. I learnt about measuring the dioxide level in a volcano."* Victor Diez de Vizurrun, Fuencaliente.
- *"Yes. Now I understand better what they do."* Marco Matias Fernandez;
- *"No because, I have an uncle who is a scientist and I like to talk with him."* Jose Heriberto Lorenzo Lopez, Fuencaliente;
- *"No, I studied sciences."* Isaac Suarez Peña, Ingenio.

Question 3. *"Can you think of any ways geosciences & volcanology can make our lives better (here on the Canaries)? How?"*

All participants expressed their confidence in the ability of geosciences and volcanology to improve the lives of the Canary Islands' residents. The most commented arguments were

related to safety issues like earthquakes and volcanic eruptions predictions and how to prepare in case they happen.

- *"They can improve our lives by preparing us to act in case of eruption or earthquake"* Juan Domingo Galvan Vega, Ingenio;
- *"Yes, for prevention and also to attract tourism with more widespread knowledge of geosciences"* Elias Cruz, Yaiza;
- *"Their work is very important because they can find out about our past and our future and prepare us for accidents"* Fatima Hernandez, Ingenio;
- *"Yes, because it can attract tourists"* David Baez, Morro Jable;
- *"Yes, because we live in a volcano and we should be prepared in case of eruptions"* Marta Silvia, Morro Jable;
- *"It is important to know in advance if something geological is about to happen"* Isaac Suarez Peña, Ingenio;
- *"It is possible to get energy from the ground"* Monica Gonzalez Vega, Ingenio;
- *"Yes volcanology is very important in Canarias, it can attract tourists and be the focus of scientific events"* Federico Garcia, Puerto de la Cruz.

Question 4. *"Do you have any suggestions about how we could make such an Event even more successful?"*

Almost all interviewed persons were generally positive about the night, yet they made several comments and suggestions on possible future improvements.. These were mainly related to: incorporating more interactive activities and workshops especially for children and improving event promotion. Some typical suggestions:

- *"It would be great if there were more practical experiments related to the theory given on the conferences and talks."* Desiree Armas Garcia, Morro Jable;
- *"More documentaries and interactive activities."* Roberto Mendez Perdomo, Ingenio;
- *"More participation, more experiments and workshops."* Carmen Gloria Rodriguez, Puerto de la Cruz;
- *"More children activities, more explanations just for children, more didactic and everything should happen in the same place"* Marco Matias Fernandez, Fuencaliente;
- *"More promotion and more children activities"* A.P., Yaiza;
- *"More planning, better organisation, more supervision and perfect execution"* Gerda Eger, Fuencaliente;
- *"Better coordination between what is on the webpage and what happens in reality."* Juan Carlos Murillo Vitoria, Fuencaliente;
- *"More promotion so more people can get to know it."* Fatima Hernandez, Ingenio;
- *"More promotion, more music, more food"* Maria Isabel Gutierrez Hernandez, Morro Jable.

Question 5. *"Would you like to see a broader scope of activities that covers other popular scientific areas?"*

All but one respondent⁴⁴ expressed their desire to involve other scientific disciplines in the agenda of a future event. Most people mentioned topics related to Astronomy (20 persons)

⁴⁴ Based on 45 replies (3 persons did not explicitly answer the question.

and Oceanography (11). Other answers with declining incidence were: Robotics, Agriculture, DNA engineering and Cybernetics. Some quotes:

- *“What really interests me is Astronomy and the search for extraterrestrial life on other planets” Jose Luis Martin Gonzalez, Yaiza;*
- *“Ocean life is fundamental for the Canary Islands. An event covering this aspect of science would be phenomenal.” Fatima Hernandez Guedes, Ingenio;*
- *“We desperately need to learn agricultural methods and strategies to produce food without petrol derivatives, we need to learn about organic agriculture and permacultural design strategies. Oil-based agriculture is taking us down a dead-end road.” Marina Rodriguez Hernandez, Fuencaliente;*
- *“I would love an event about biotechnology and its nano-robots.” Gerda Eger, Fuencaliente;*
- *“The science of cheese and wine” Maria Isabel, Morro Jable;*
- *“I would like to see an event about nootropics and its use to improve human potential.” Sole Santana Batista, Fuencaliente;*
- *“Something related to agriculture” Antonio Cortes Santana, Ingenio;*