

**CALL FOR SCHOLARSHIP APPLICATIONS**

**INTERNATIONAL COURSE**

**VOLCANOLOGY: PROCESSES, THREAT AND MITIGATION IN THE CONTEXT OF CRISIS**

**2nd ONLINE EDITION – 2025**

**04 – 29 August, 2025**

Call for Applications available at: <https://www.agcid.gob.cl>

Chilean International Cooperation Agency for Development | AGCID



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**BACKGROUND**

According to the United Nations Office for the Coordination of Humanitarian Affairs (2020), Latin America and the Caribbean is the second-most disaster-prone region in the world. Their occurrence not only threatens lives and property but can also reverse the progress of nations in terms of their development, eroding resilience and increasing vulnerability.

The Government of Chile, through the Chilean International Cooperation Agency for Development (AGCID) and in collaboration with the Japan International Cooperation Agency (JICA), seeks to contribute to developing and strengthening the capacities of professionals and technicians in the region. To this end, and inspired by the Sustainable Development Goals of the 2030 Agenda as well as the Sendai Framework for Disaster Risk Reduction, they have formed an alliance for the **Project for Building Disaster-Resilient and Sustainable Societies in Latin America (Kizuna II)**. The initiative is part of the second phase of the successful Kizuna Programme, which trained more than 5,000 participants between 2015 and 2020.

This course, “Volcanology: Processes, Threat and Mitigation in the Context of Crisis”, is an international cooperation action that contributes to developing professional, institutional and public policy capacities in order to move toward communities that are better prepared and more resilient to natural disasters.

The initiative will be carried out over a two-year period beginning in Japanese Fiscal Year 2024. It is divided into two (2) online editions, one in each Japanese Fiscal Year until 2025. It is part of the Kizuna II Project and falls within the framework of the Japan – Chile Partnership Programme (JCPP2030) and the Technical Cooperation Agreement signed between the governments of Japan and Chile.

The second edition of the course will take place in 2025.

**OVERVIEW**

1. **OVERRIDING OBJECTIVE**

To promote policies, strategies, programmes and collaborative actions with Latin American and Caribbean (LAC) countries, in accordance with the action priorities of the Sendai Framework for Disaster Risk Reduction 2015 – 2030 and the Sustainable Development Goals (SDG 2030).

1. **COURSE OBJECTIVES**
2. To provide the tools necessary to understand and analyse volcanic activity, through the lens of a natural process that strongly affects society that can generate hazards and cause damage to life and infrastructure.
3. To train participants to handle crises involving volcanoes so they can play an active and informed role in assessing public policies and programmes, applying real data and cases that allow for the identification of best practices, while recognising the relevance and limitations of each technique.
4. **EXPECTED OUTCOMES**

Upon completion of the Diploma, participants will:

1. Understand and be able to apply fundamental concepts of physical volcanology to analyse the relationships between volcanic parameters, types of eruptions and associated hazards.
2. Understand and apply the key concepts of volcanic monitoring techniques and applying them in crisis situations to anticipate hazards and assist in decision making.
3. Know how to make basic use of different computational tools for volcanic hazard zoning.
4. Apply and synthesise the knowledge acquired to analyse case studies of past volcanic eruptions. It is expected that following the course, participants will be able to actively contribute in their capacity during volcanic crises, together with experts and civil authorities.
5. **IMPLEMENTING INSTITUTIONS**

The mission of the Faculty of Physical Sciences and Mathematics of the Universidad de Chile is to generate, develop, integrate and communicate knowledge of basic sciences, engineering, Earth sciences, and economics and management. This mission is fulfilled through teaching, research and outreach activities, undertaken at the highest levels of complexity and according to international standards of excellence.

1. **DURATION OF THE COURSE**

The course will take place between 04 August and 29 August 2025, and will taught in an online format. It is a 4-week course, which include 31.5 hours of lectures, workshops and synchronous group activities (2 sessions per week, 3 hours each session) and 3 hours for voluntary weekly tutorials (1 session per week for the first 2 weeks, 1.5 hours each session).

The course will be delivered in a 100% online format (via streaming) taught via Zoom, and each of the classes taught by the experts/lecturers will be streamed live. To complement these sessions, participants will also have access to the U-Cursos digital learning platform.

1. **LANGUAGE**

The course will be taught entirely in Spanish, with simultaneous translation into English available for students from English-speaking countries who require such service.

1. **SCHOLARSHIP BENEFITS**

The programme will finance[[1]](#footnote-1):

* The tuition and programme fees.
* Certificate of completion.
1. **INVITED COUNTRIES AND/OR ORGANISATIONS**

The governments of the following countries will be invited to nominate applicants to the course: Argentina, Bolivia, Brazil, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Panama, Paraguay, Peru, Dominican Republic, Uruguay, and the following CARICOM member states: Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

1. **TOTAL NUMBER OF PARTICIPANTS**

The number of participants from the invited countries shall not exceed 20 in total[[2]](#footnote-2) and there are no pre-established quotas per country.

1. **APPLICATION REQUIREMENTS**

This international course is aimed at individuals who meet the following requirements:

Applicant requirements:

1. Must be a citizen of one of the countries invited to the course and reside in one of the invited countries. Should the applicant be residing temporarily in a country other than the country of citizenship, the application must be made via the Focal Point of the country of which they are a citizen.
2. Must be nominated by their government in accordance with the process indicated in Section XI.
3. Must not be a member of the Armed Forces and/or National Defence;
4. Must hold a university degree related to engineering or Earth sciences.
5. Must have work experience in the public or private sector, in the field of Earth sciences, geological hazards assessment, engineering or disaster risk reduction. Or, alternatively, must have basic knowledge of Earth sciences, ideally from a geology or engineering background.
6. Must be a professional working in a relevant institution in the field of Earth sciences or disaster risk management.
7. Must have access to the internet for at least 8 hours per week to attend the online classes.

**Important:**

Selection priority will be given to candidates who are currently involved in projects related to the national development of their country.

1. **APPLICATION PROCESS**

Candidates interested in participating in the course must submit their application containing all of the required information (a full copy of their application including all respective signatures and stamps) in digital format via email to the Focal Point in their respective country (see Annex VI) for it to be officially registered. The following documents must be presented:

1. Application form (Annex I), duly completed and signed by the applicant and his/her direct supervisor;
2. Proposal for an Action Plan (Annex II);
3. Letter of Intent (Annex III);
4. Labour Certificate (Annex IV);
5. Letter of Institutional Commitment (Annex V);
6. Degree certificate;

Candidates must submit their application to the Focal Point in their respective country (see Focal Points, Annex VI) for it to be officially registered. **Applications sent directly without being officially registered via the corresponding Focal Point will not be considered for selection.**

**Each Focal Point will set a date for the application submission deadline. It is therefore the responsibility of each applicant to directly consult with the Focal Point in their respective country (Annex VI) regarding the closing date for the Call for Applications. Closing dates may vary from one country to another.**

The stages and relevant dates of the Call for Scholarship Applications for this international course are as follows:

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| **Stage** | **Dates** |
| Closing date for applications *(applicants must confirm the closing date with the Focal Point in their respective country)* | 04 July 2025 |
| Pre-selection of candidates and submission of applications to the AGCID Scholarship Platform *(for Focal Point)* | 11 July 2025 |
| Selection Committee | 14 – 17 July 2025 |
| Publication of results and notification of selected applicants | 18 July 2025 |

The final deadline for the receipt of applications is **11 July 2025, without exception. However, the AGCID Focal Points in each country may close the Call for Applications earlier than specified.** Applicants must therefore confirm the closing date for applications with the Focal Point in their country of origin. The contact details for the Focal Points can be found in Annex VI.

**PLEASE NOTE:**

* No incomplete, illegible, or late applications will be considered.
* Only applications officially submitted via the Focal Points will be considered. No application submitted directly by the applicant will be considered, even when accompanied by a letter of acceptance from the country of origin.
* It is the responsibility of applicants to read the Call for Applications carefully, along with all of its requirements, the application process, and the attached documents. Applicants must ensure their application meets the professional requirements specified in the call.
* The information provided in the application form and its respective annexes will be considered a sworn declaration and, therefore, in the event falsified, adulterated, inaccurate or misleading information is presented for the purpose of receiving a scholarship, the applicant shall assume the respective administrative, civil and criminal sanctions, in accordance with the regulations of their country of origin. Moreover, the applicant will be indefinitely disqualified from applying to future Calls for Applications, and such circumstance will be reported to the scholarship committee.
1. **SELECTION**

The selection will be made by a technical committee composed of members of JICA, AGCID, and the university. This same committee may also evaluate the appropriateness of including additional experts in the field of natural disasters and/or public investment in the process.

**The results of the selection will be published on 18 July 2025, on the AGCID website, www.agcid.gob.cl, for the information of all interested parties.**

The course administrators will contact each selected applicant via email, using the contact information provided in the application form, to notify them of their selection and will directly coordinate all arrangements for their participation.

Important: Only those applicants selected for the scholarship will be notified. Once they have confirmed acceptance of the scholarship, they will be sent a guide with the corresponding instructions and procedures that will need to be followed.

**The final results with respect to those who are awarded scholarships is the sole decision of the Selection Committee, and the decision cannot be appealed.**

1. **RULES**

Participants shall respect the following rules:

* Applicants are responsible for submitting their current contact information (Annex I: Application Form) and regularly checking their email accounts in case of requests and official notices from the coordinating team pursuant to the dates described in Section XI.
* Participants shall strictly adhere to the course programme. Requests for changes or alterations to the initially established course programme will not be accepted.
* Participants shall respect the instructions given during the course and foster an atmosphere of cooperation among their fellow scholarship recipients.
* This edition of the course will be taught in an online format. The minimum participation required to pass is 85%.
* Applicants must complete all of the paperwork necessary to participate in the programme, including obtaining authorization from their supervisor.
* Participation in the course shall only be interrupted if duly authorized and only in qualified cases that prevent a participant from continuing the training.
1. **PRELIMINARY COURSE PROGRAM OVERVIEW**

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| **COURSE NAME** | Volcanology: Processes, Threat and Mitigation in the Context of Crisis |
| **NUMBER OF PARTICIPANTS** | Maximum of 20 participants per edition.  |
| **DURATION** | * Maximum duration in hours: 31.5.
* Number of synchronous hours: 31.5.
* Maximum duration in weeks: 4 weeks.
* Online course with synchronous classes.
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| **Module** | **Learning objectives****(List main objective at minimum)** | **Units** | **General description** | **Format, activities****(synchronous/asynchronous)** | **Duration (hours)** |
| 1. Fundamentals of Physical Volcanology | **Objective:** To acquire or complement knowledge of the origin and occurrence of volcanism on Earth, its main manifestations, and factors controlling the type and scope of eruptions.  | Unit 1: Fundamentals of Physical Volcanology | Main concepts of Physical Volcanology, such as the generation, rise and storage of magma, the role of volatiles, eruptive styles and volcanic processes. Participants will be able to understand and analyse the most important factors controlling volcanic activity and be able to identify the main products emitted by volcanic eruptions. | Format: Synchronous classes | 8 |
| 2. Hazards associated with volcanic eruptions and their zoning. | **Objective:** Recognize the main hazards associated with volcanic activity. Analyse the main factors that control their scopes and effects in terms of lethality and damage to infrastructure. Achieve advanced user level in the use of volcanic hazard simulation software and apply it to hazard zoning in a given area. | Unit 1: Hazards associated with volcanic eruptions and their zoning. | * The second module will continue the discussion and analysis of the hazards associated with volcanic activity, including: Eruption columns and pyroclastic falls, pyroclastic flows, lava, lahars, volcanic avalanches, gases, tsunamis and volcanic earthquakes.
* Participants will learn to associate different hazards with particular volcanoes based on the volcano type and the composition of the products it emits, the pre-existing topography and climatic conditions.
* Geological maps and hazard maps for volcanic areas will be presented in order to identify the areas most susceptible to impacts from the different processes and their relationships with urban settlements, infrastructure and cultural aspects of society.
* Existing models will be used for the zoning of different volcanic hazards, including LAHARZ, ASH3D, LAHARFLOW and the energy cone approach. Different case studies of volcanoes in Latin America and the Caribbean will be discussed.
 | Format: Synchronous classes | 8 |
| 3. Volcano monitoring techniques. | **Objective:** Learn the theoretical foundations of the main geological and geophysical techniques for monitoring active volcanoes. Use different techniques to recognise the main signs that indicate a volcanic system is reactivating. Incorporate the analysis of different techniques to become capable of interpreting real cases of volcanic eruptions in the world.  | Unit 1:Volcano monitoring techniques. | * The third module will present different techniques for monitoring volcanic activity, such as seismicity, deformation, gravity analyses and gas sampling. The importance of geological mapping and identification of past eruptions as a key to understanding the future behaviour of a volcano will be emphasised.
* Case studies will be reviewed, with a special emphasis on different methods, the importance of integrating different sources of information and how these relate to decision-making during a volcanic crisis.
* Practical activities will be carried out in which participants will be required to evaluate the use of information, assess the situation presented to them, and take decisions as to whether or not a volcanic eruption is imminent.
 | Format: Synchronous classes | 11 |
| 4. Case studies in the Caribbean, South America and Japan. | **Objective:** Incorporate the knowledge acquired in the previous units to analyse past eruptions in the Latin America and Caribbean region. By the end of this unit, participants will be capable of understanding and analysing the relationships between the type of eruption, the environment and surrounding community, and the resulting effects of an eruption.  | Unit 1:Case studies in the Caribbean, South America and Japan. | * In this final module, different examples from the volcanic history of Latin America and the Caribbean will be presented and analysed. Eruptions will include: Santa María (1902), Mount Pelée (1902), La Soufrière Saint Vincent (1902, 1979 and 2021), Nevado del Ruíz (1985), Soufrière Hills Monserrat (1995–2010), Paricutín (1943–1952), Chichón (1982), Cordón Caulle (2011), and Calbuco (2015), among others.
* The chronology of these eruptive events will be discussed, along with the precursor signals, decision-making and crisis management, human losses and infrastructure.
 | Format: Synchronous classes  | 4.5 |
| Total  |  |  |  |  | Up to 31.5 hours |

1. **CONTACT INFORMATION**

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1. No items additional to those mentioned above will be financed. Personal expenses must be covered by each participant. [↑](#footnote-ref-1)
2. This academic programme requires a minimum number of participants in order to be held and, for reasons of force majeure, may undergo changes in its programme, teaching staff, and/or method of delivery. Any change will be informed by the course coordinator. [↑](#footnote-ref-2)