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by 10/12/2022

**\*NOTE: MAXIMUM LENGTH OF THE TEXT REPORT IS 5 (FIVE) PAGES (starting from question 1)**

**List of Meetings (Section 3.2); Publications (Section 3.6); Financial Statement (Section 8) should be added as an Annex (See form IV-meeting report and form III-financial statement).**

**\*REMINDER: if this is the final year of the project, please submit a review article about the project to the IUGS journal 'EPISODES'.**

The scientific information in this report will further be used for publications by UNESCO (*please feel free to attach any additional information you may consider relevant to the assessment of the project*).

**IGCP project short title:** OLLIN-Fault2SHA in Latin America (IGCP 669)

**Duration:** *Project was approved in 2020, but this 2022 is the first year we receive financial support*

**Please tick this box if the report is for a Project on Extended Term (OET):**

**Project leader(s):**

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**Date of submission of report: 11<sup>th</sup> December 2022**

**Signature of project leader(s):**

## Guidelines for Annual Report

Please use the following headlines to report the present status and scientific achievements of your project (write N/A where not applicable) and explain abbreviations used in the report.

### 1. Website address(es) related to the project

<https://geollin.org/>

You tube channel: <https://www.youtube.com/@IGCP696>

### 2. Summary of major past achievements of the project (maximum 250 words excluding 2022 achievements, not applicable for the 1<sup>st</sup> year of the project). Meetings are not considered as scientific achievements; they should be listed under heading 3.2 and as an annex file.

This is the first year that the project receives financial support

### 3. Achievements of the project for 2022 only

#### 3.1. General scientific and societal achievements (maximum 500 words)

*(Meetings are not considered as scientific achievements, they should be listed under heading 3.2.)*

- *Please describe what tangible improvements has your project obtained?*

*We have devoted our efforts this year to consolidate the network (we are now 114 members and 8 more petitions after the first online meeting). We have been meeting periodically and decided by consensus to work organized in geographical regions through the role of local coordinators. These regions are These are: TMVB-Mexico (Coord. P. Lacan, UNAM); NSAPB-Ecuador-Colombia-Venezuela (Coord. M.C.López, Servicio Geológico Colombiano, L. Audin, IS-Terre France) and Central-South Andes (Coord: S. Moreiras, CONICET-Argentina and C. Benavente IGMym, Perú). In Europe, participants are coordinated by M. Ortuño (Univ. Barcelona) and J. García Mayordomo (IGME-Spain). After the last annual meeting, three thematic working groups have been proposed; one focused on the organization of a training school (next July or august) to learn on fault2sha tools and the acquisition on paleoseismic parameters; another focus on the elaboration of a glossary on fault2sha terms; a third working group conformed exclusively on young researchers devoted to organize learning lectures online. The main scientific contributions since the beginning of the project has been the organization of specific IGCP 669 sessions in different meetings (fault2SHA online meeting 2020; EGU Mexican meeting 2021; 2022 INQUA-PATA days meeting- six contributions were on the thematic of the project; LAQS-Quito 2022). The next special session has been already accepted in INQUA-Rome 2023. The need to apply tools to integrate geological data into Seismic Hazard assessments is clear, some good examples of the applications were provided on these meetings and are the core of several publications.*

- *Please describe how this project specifically benefited female scientists, young scientists and scientists from developing countries.*

*The budget of the project has been mainly used to support the attendance of young researchers from developing countries to meetings focused on seismic assessment (or with special sessions on this subject). Only two of the 10 beneficiaries were senior and were coming from Mexico and Venezuela. Among the beneficiaries (see financial statement) 4<sup>th</sup> of tens were woman. At last minute, one of the woman researchers (Ana maria Tobón) could not attend the meeting and was replaced by Nicolás Pinzón (Colombia). We would like to increase the number of female participants within the network but still think it is quite good (40%, the list can be checked here <https://geollin.org/>) compared to the low representation (near 30%) of women in STEM fields. With respect to the annual meeting, 36% of the participants were woman (check the list of participants in the annex).*

## Form V

- Please describe project contribution to the UN2030 agenda, Sustainable Development Goals (SDGs) and global initiatives: Please indicate how the project contributes to the stated UN SDG and other UN Major Initiatives (eg. Sendai Framework 2030, Ocean Decade for Sustainable Development, Paris Climate Agreement etc)

*The project aims to increase the preparedness to face and anticipate seismic hazard. Accordingly it is aligned with many of the SDGs (1, 2, 3, 8, 9) since the economic impact of large earthquakes often hits all these objectives of development. At the same time, we encourage participation and visibility of women in science (SDG 5) and specially, the support to developing countries which are majority within the network members (SDG 10).*

### 3.2. List of IGCP project meetings/symposia in 2022 (please provide Form IV as attachment file).

We have been present in the following meetings. Meetings 1, 2 and 4 have acknowledge in their webpages the support of UNESCO-IUSG as specified below.

- 1) **INQUA- PATA-days**. The PATA-days Paleoseismology, Active Tectonics, Archaeoseismology will be held during 25-30th September 22 in Aix-en-Provence (France) <https://patadays-2022.sciencesconf.org/> <https://patadays-2022.sciencesconf.org/resource/sponsors>  
Six participants presented their work in the frame of the IGCP-669. The extended abstract are still being processed. Five members were granted.
- 2) **Congreso de Geomorfología y Cuaternario de Argentina** (<https://cacyg2022sj.com.ar/>). It will be held in San Juan (Argentina) during 19-23rd September 2022. [Acknowledges here](#)  
Frank Audemar was part of the conference invited speakers, partially sponsored by IGCP 669
- 3) **LACSC** -<http://www.lacsc2022quito.com/>. It will be held during 3-5th October 2022 in Quito (Ecuador).  
A special session LAQS-10 was offered in the frame of the project (<http://www.lacsc2022quito.com/the-assembly/scientific-sessions>) with Pierre Lacan, Laurence Audin, Ramón Zúñiga and Alexandra Alvarado as conveners.
- 4) **ONLINE 1st Annual Online Meeting of the IGCP-669**: Active Faults and Seismic Hazard in Latinamerica: Perspectives and Envision. [Link](#). Invited talks available here

### 3.3. What kinds of activities in respect to society and science outreach has the project undertaken?

*We have been visible in social media (specially twitter) ensuring the dissemination of the activities of the network and of the scientific papers related to the project. Unfortunately, the scientific production with the focus of the project is still low. This- year, we count with two indexed articles directly related to the project (see annex) and 12 communications to international meetings (4 of them are extended abstract being processed from the INQUA-Pata days meeting in last September). A [shortfilm](#) on earthquake geology produced by the RISKMAT-group has been disseminated with English subtitles (IGCP-696 acknowledge in the video description).*

### 3.4. List of countries involved in project delivery.

*The project is focused in Latin America megacities, the countries that are currently active in the activities are Mexico, Colombia, Ecuador, Venezuela, Perú, Argentina, Chile, Spain, France and Italy.*

### 3.5. Participation of international scientists to project meetings

The following numbers are extracted from the list of participants of the annual meeting (see attached excel file).

	Total number of scientists	Number of male scientists	Number of female scientists
Number of participating scientists	49	23	26
Number of young scientists/students (<35 years old)	34	18	16
Number of scientists from developing countries	30	10	20

*These numbers (53% of female participation) present a very good gender balance with respect to our expectations reported in the application form, based on the agreement to participate in the network. The % are also much higher than the general participation of female in STEM sciences, which according to the reports are 30% (at least in Spain). For the next year, we would like to devote some special sections to highly the contributions of women within our group (for instance, during the next 11<sup>th</sup> February commemorations of the international Day of Women and Girls in Science).*

### 3.6. Provide a list of this year's publications (including maps)

*Publication of the participants related to the project aims are periodically updated in our web page (<https://geollin.org/>). At this moment, a new version of the web is under construction and the updated version of the publications can be accessed [here](#).*

*a. could not have been published if not for this project and acknowledged as an IGCP project*

*All the communications and posters (a total of 11) presented in the above-mentioned meetings acknowledged the sponsorship or support of UNESCO-IUGS. The extended abstract of the INQUA-PATA-days 2022 meeting are still being processed. Posters will be available in our web page.*

*b. related to this project*

*Check the annexed file of Publications*

*c. did you publish in Episodes during the project's duration or plan to do so? If not, why?*

*We are planning to publish the results of the working session hold during the first annual meeting last November as an outreach contribution in Episodes*

### 3.7. Activities involving other IGCP projects, UNESCO programmes, IUGS Commissions or Task Groups or others

We have been collaborating with the **IGPC 639 Sea Level Change from Minutes to Millennia**, the main leader of which collaborated with IGCP 669 with a key lecture in our annual meeting. <http://cyclosismico.cl/2022/11/26/director-de-cyclo-participa-en-reunion-anual-del-proyecto-ollin-2022/>.

3.8. **Scientific Legacy:** Is there a need for storage of publications, field data, and other results of the project? Do you have a clear vision concerning where the data would be stored and who will be the custodian?

So far, we have no generated a sufficient amount of data. We have the reference of publications listed in our website and the links to the two key-note lectures of the annual meeting in the you tube channel (<https://www.youtube.com/@IGCP696>), with permission of the invited speakers.

3.9. What kind of public information (media reports, social media, etc.) has the project generated? And how is their impact evaluated?

We have recently opened a You tube channel: <https://www.youtube.com/@IGCP696>

Since it is very new, we do not have representative data of the audience, which is expected to be a good indicator during the next year.

Social Media:

@OllinIGCP669 (twitter) with 75 followers and continuous activity

Ollin\_igcp669 (Instagram) with 34 followers

3.10. Project highlight:

This 2022 has been a year of consolidation of the Ollin network, devoted to improve the tools for the integration of geological data into seismic hazard assessments in megacities of Latin America and supported by the IGCP 669. The network members have raised to 122 by the end of the year. Among them, 49 (26 women) participated in the annual meeting discussion session during which four working groups were proposed. These are not restricted to the 3 interest regions (Mexico, North Andes and Central-South Andes) but are thematic and will allow better interactions among the network members: Commission for the Training School 2023; Commission for the Development of a Common Glossary on Fault2SHA; Young Scientists Group; Commission for the development of Post-seismic response protocols (field data collection). During this year, we are grateful for having been able to interact in person. This was possible in three on-site meetings with field trips related, where 40 members of the network met. Among them, 10 members were granted with registration and travel grants from UNESCO-IUSG funds. These were the *Congreso de Geomorfología y Cuaternario de Argentina* in San Juan (September 19-23), where Frank Audemar was invited as conference speaker with the talk "The assessment of the seismic parameters of an earthquake at the transition from historical to instrumental seismicity"; The *INQUA-PATA-days* in France (September 25-30) and in the *Latin American and Caribbean Seismological Congress LAQS* in Quito (October 3-5), where a special session on the IGCP project was offered. After them, the online annual meeting (with up to 52 people in the audience) during 23 and 24 November, turned to put us together and generated fruitful discussions that followed two invited key-lectures, which are available in the recently created you tube channel ([youtube.com/@IGCP696](https://www.youtube.com/@IGCP696)). They were given by Julián García Mayordomo (IGME-CSIC, Spain) and Daniel Melnick (UAC, Chile). Also, English subtitles for the shortfilm on Earthquake geology "*Earthquake land*" were edited and now the document, aimed to increase social awareness of seismic hazard, could reach a wider audience ([www.youtube.com/watch?v=4ZrmgHA6y1g](https://www.youtube.com/watch?v=4ZrmgHA6y1g)). Our social media accounts were launched this year, with a constant increase of activity and followers (twitter: @OllinIGCP669, Instagram: Ollin\_igcp669). We hope to continue active and progress during next year, safe on pandemics and with a lot to learn and share on fault2sha tools.

**4. Project response:** *Please indicate if the project was provisionally accepted for one year in 2022. Explain how IGCP Council 2022 recommendations were addressed by the project (if applicable).*

The project was funded for one year (letter from UNESCO and IUGS 8<sup>th</sup> April 2022) to be able to use 2021 funds. We have spent all the amount approved, giving the details in the annexed III form.

**5. Deviations/changes from initial project proposal:** *Please indicate any changes from initial proposal and reasons for these changes.*

Because of the pandemia, activities planned for 2020 and 2021 were cancelled. We planned a training school in Bogotá for this 2022, in the initial proposal. This training school has been delayed to 2023. Instead, this year we were able to meet in the PATA-days (as planned for 2020) and other meetings. Funds were mainly dedicated to pay travel grants and registrations to this and other 2 meetings of interest. We also payed for the web-page creation and maintaining services, and the support with edition of videos available in youtube.

## 6. Activities planned for 2023

### 6.1. General goals

During 2023, our main goal is to work organized in the four commissions mentioned in the highlight text. One of them is the one that will require a large effort, the organization of the **training school** on fault2SHA (to be held in July or August). The most plausible location for it is in Colombia but the final plan would be concluded within the first weeks of January 2023. We'll need further support of other institutions and we already have the commitment of the geological services of Colombia and Spain. Perú and Argentina are alternative candidates.

### 6.2. Tentative list of specific meetings and field trips (please list expected participating countries)

A field trip is planned during the fault2SHA training school (Colombia?) that will take place by the end of July/ early August. A special session on the IGCP-669 would take place during the 2023 international meeting of INQUA in Rome (session 184: <https://inquaroma2023.org/conference-sessions/>)

### 7. Financial statement (\$ USD only): Please indicate total funding received from UNESCO/IUGS since the start of the project (i.e. 2019: \$5k; 2020: \$0k; 2021: \$7k; 2022: \$10k)

2022: 10,000 USD

See document attached Form III

### 9. What additional funding besides the IGCP seed funding has the project obtained due to the IGCP label? Please estimate the budget received for meetings, research or other activities and identify the source. Indicate total additional funding has been obtained since the start of the project.

We have been partially funded by INQUA grants (900 €/person), to complete the expenses of the Early Career Researchers attending the PATA-days in France and supported by Unesco grants (Oswaldo Guzman, Carolina Cornejo, Belén Benites, Fabien Ramel, Nicolás Pinzón). Also, Frank Audemar was partially covered (1200 USD) by three national institutions and public agencies from Argentina (SECITI, CONICET and CONCYT). The travel expenses of Pierre Lacan to attend the LAQS meeting in Quito Ecuador allowed to him to participate in a field campaign that took place after the meeting in the frame of the laboratory [LMI SVAN](#) (Ecuador-France: *Laboratoire Mixte International-Séismes et Volcans dans les Andes du nord*) which covered some of his expenses.

### 10. Did all project leaders and participants inform their respective IGCP/IUGS National Committees?

*We were only in touch with the Spanish, Mexican and French representatives. We will ensure to contact other committees during the next days, especially those in the countries where we have met in special meetings and not contacted yet (Argentina and Ecuador).*

### 11. Attach any information you may consider relevant

#### Attachments (check the box if document is attached or included)

Financial statement-Form III	<input checked="" type="checkbox"/>
Meeting report(s)-Form IV	<input checked="" type="checkbox"/>
Publications	<input checked="" type="checkbox"/>
Documents of the Annual meeting Announcement, Updates and Open Discussion Summary	<input checked="" type="checkbox"/>

Annual IGCP report-2022