



Annex 3 - Workshop Memories

“Georeferencing biological records: theory and practice” - Chile 2020

The workshop entitled "Georreferenciación de registros biológicos: teoría y práctica" (Georeferencing biological records: theory and practice), Chilean version, was held between 3 August and 13 December 2020. Due to the COVID pandemic, this workshop was an adaptation of the Argentina workshop (see Annex 3) to a fully virtual format. Originally thought to be for 20-25 students, due to high demand, the workshop was extended to 39 effective participants.

National and thematic representation: The workshop involved 39 participants from nine regions of the country, from 21 institutions, in addition to one Argentinian participant. Most of the participants came from the country's main biological collections, with a considerable number of collection managers, but there were also representatives from public services, research institutes, private sector companies and non-governmental organizations. For details of the participants, please see:

<https://drive.google.com/file/d/1lq8wi57GOQbxOEINHOaCffW6xWE6kKBP/view?usp=sharing>.

Despite the fact that the workshop was held in a virtual format, the interaction between participants and trainers was enriching, generating instances of discussion and learning both in the forum of the e-learning platform, as well as in the mandatory and support meetings held throughout the workshop.

Trainers: Paula Zermoglio, Catalina Merino, Anabela Plos, John Wiczorek and Renato Mazzanti. The coordination for the Chile workshop was supported by Paula Zermoglio, Anabela Plos, Catalina Merino and Leisy Amaya.

Workshop development: the workshop was scheduled in four stages, all of which were carried out remotely through the e-learning platform of the National Systems of the Ministry of Science, Technology and Productive Innovation (SNDB-MinCyT) of Argentina (<https://formacion.ssn.mincyt.gob.ar/>):

- 1) Pre-workshop, with an expected dedication of 8 hours
- 2) Workshop with a duration of 11 weeks, and estimated weekly dedication of 8 hours
- 3) Webinars: 3 webinars, of 2 hours each
- 4) Post-workshop: georeferencing of locations by participants, with a duration of 24 hours.

The four stages were mandatory for all participants.

Pre-workshop phase: The pre-workshop consisted of reading materials related to data quality, the Darwin Core standard, geographic and georeferencing concepts, among others, as well as introductory exercises, with timely and formal delivery through the e-learning platform. One of the activities that allowed for interaction between trainers and participants was the platform's Forum, where a required activity was the presentation of each participant, indicating name, institution, occupation and expectations.

A survey was carried out to evaluate the pre-course phase, which allowed participants to express their opinions and suggestions about the pre-course, to indicate which topics they found most useful, and how the pre-course

could be improved for future editions of the course. The survey included questions about the content (both theoretical and practical), the time allocated to it, as well as the use of the platform and the usefulness of the forum. 15 participants responded to the pre-workshop survey, and all of them expressed that it was useful to have a pre-workshop, and found the material provided to be adequate. Please see: https://docs.google.com/spreadsheets/d/1xJxk_4aMrfi2oilt7MDLEkc6iEN7RZpt9op5PL5nlvE/edit?usp=sharing

For a full evaluation of the pre-workshop by the participants, please see:

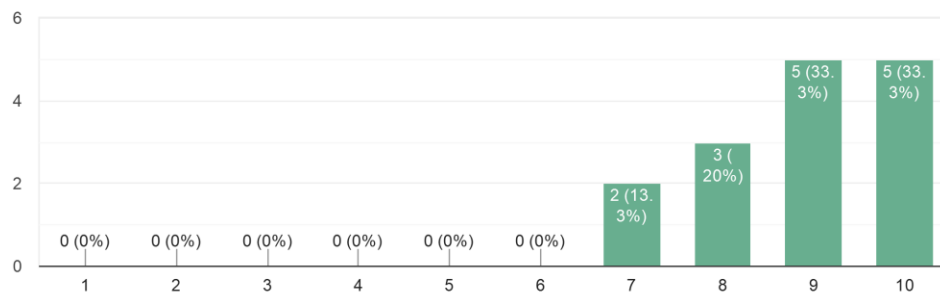
https://docs.google.com/spreadsheets/d/1xJxk_4aMrfi2oilt7MDLEkc6iEN7RZpt9op5PL5nlvE/edit?usp=sharing

Some relevant survey responses

General appreciation of the pre-workshop

Del 1 al 10, ¿cuál es su apreciación general del pre-curso?

15 responses

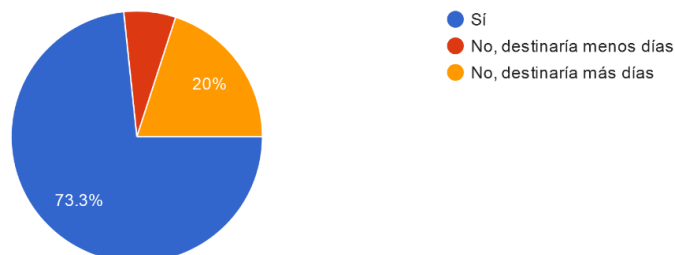


Amount of time allocated to the pre-workshop

73,3% indicate that the amount of time was adequate, 20% indicate that they would have wanted more time and just 16,7% mention they would have spent less time in the pre-workshop.

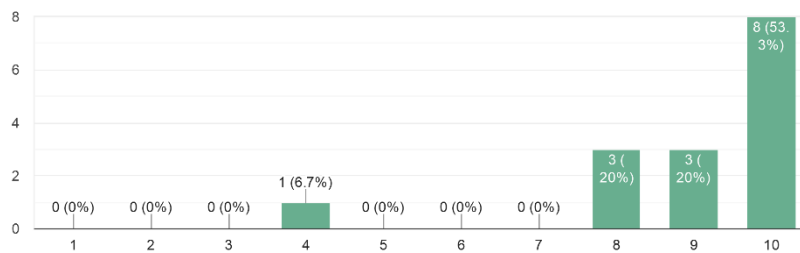
¿El tiempo destinado al precurso fue adecuado? (por favor no base su respuesta en circunstancias personales)

15 responses



How easy was it to use the e-Learning platform?

Del 1 al 10, ¿cuán fácil le resultó utilizar la plataforma de formación?
15 responses



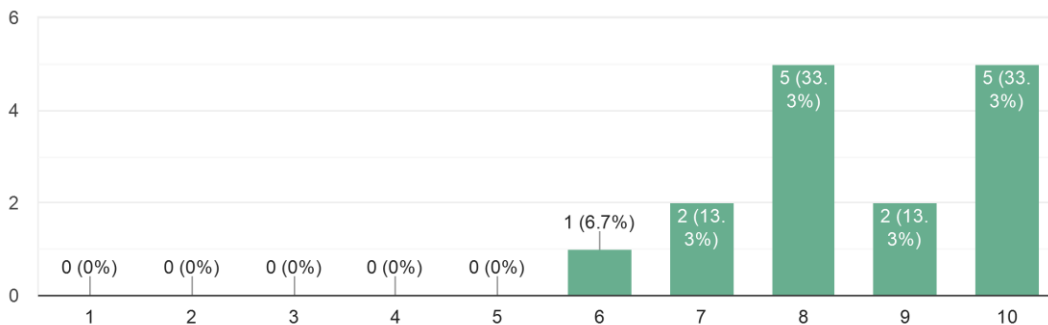
How useful was it to use the Forum for the communication among participants and with the trainers? 13 of 15 participants indicated some use of the Forum (for introductions, consulting of particular topics, questions and interactions with other participants).

Teaching materials (text, presentations, videos)

Relevance: 100% of the participants indicated that all the Reading material was relevant to the topics.

How clear was the material?

Del 1 al 10, ¿las explicaciones teóricas (texto, presentaciones, videos) le resultaron claras?
15 responses



Which format of the teaching material was your favorite?

- Videos: 14/15 responses
- Presentations: 12/15 responses
- Text, links to external sources: 5/15

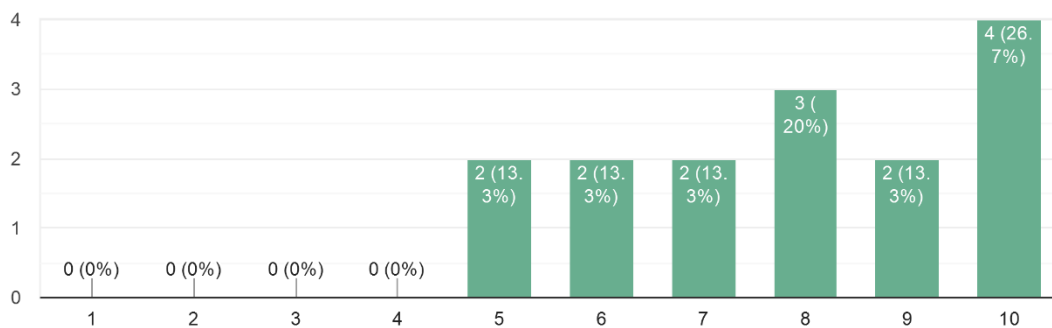
What was the level of difficulty for understanding the teaching materials?

- Adequate: 10/15
- Difficult: 3/15
- Basic: 2/15

How clear were the instructions for the exercise?

¿La consigna del ejercicio fue clara?

15 responses



How difficult was the exercise?

- Adequate 10/15
- Difficult 4/15
- Basic: 1/15

Workshop phase: This phase was structured in 5 modules, which covered theory concepts and practical activities, as well as support from demonstration and explanatory videos on the topics of the course. The practical activities were carried out either directly on the platform or through Google forms and/or spreadsheets. The progress of the participants was documented on the e-learning platform. For details of the learning modules, please see:

https://drive.google.com/file/d/1ERDFrXpP2_G2m-8ZNV_1KuQZW9rpQnxg/view?usp=sharing.

During this phase 4 scheduled meetings were held using the Zoom platform. All meetings were recorded for future consultation, with the previous verbal authorization of those present. The first meeting (2020-08-24) was introductory and provided general background information on GBIF, GBIF Chile, the CESP programme and details of the CESP project in progress, as well as a presentation of the general methodology of the course and the conditions of approval, and the use of the e-learning platform. . This meeting had a 97% attendance, only one participant was absent. The meeting had a 97% turnout. For details of the meeting, please see: https://drive.google.com/file/d/1bFwOn1u0WeGOvqcDP8QJcck_KsgJ-gER/view.

The second meeting (2020-09-21) consisted of a presentation of the following topics: 1) Review of key concepts on GPS Use and Location Descriptions, 2) Presentation of general results of the activities on GPS Use and



Location Descriptions, 3) Time for questions, and 4) Reminders on course structure and important dates. This meeting was attended by 87% of the participants. For details of the meeting, please see:

https://drive.google.com/file/d/1_WZSH6zSFXx4c-OvYu1s-IBcsICffif0/view.

The third meeting (2020-10-12) was a demonstration session of the use of the Georeferencing Calculator. This meeting had 64% turnout. For details of the meeting, please see:

https://drive.google.com/file/d/1dHb-rqH_TljprVhmZft9I2DaFRR1QcG3/view.

The fourth and last meeting (2020-11-02) was an instance for course recapitulation and an opportunity for the students to ask questions regarding any theoretical or practical topic addressed during the whole workshop. This meeting was attended by 74% of the participants. Recording available at: <https://drive.google.com/file/d/1Mnl7E0VgyudX2TXGXCKV9oKeAThoJRNv/view>.

A total of 14 weekly support meetings were held, with duration of two hours each, with the aim of providing participants with a space to make consultations, resolve doubts, and interact with the training team. Attendance to the support meetings was not mandatory and had an average of 13 participants per meeting. For details of the support meeting, please see: https://drive.google.com/drive/folders/1wsNXD5_171q_4n4lbp5jDRNjK1LcTlEX?usp=sharing.

Documentation used during the workshop: documentation refinement: the workshop materials included the Georeferencing Best Practices (Chapman & Wieczorek, 2020), the Georeferencing Quick Reference Guide (Zermoglio et al., 2020) and the Georeferencing Calculator Manual (Bloom et al., 2020). For the workshop, all authors contributed to building draft versions (properly identified as such) that could be momentarily released and used by the students. From the interaction with the students and the use of these three documents by them, we took the opportunity to further refine the documents prior to their final release by the GBIF Secretariat, based on the questions and doubts that arose during the workshops.

Post-workshop phase: Was developed between 30 November and 13 December 2020. This phase involved the process of georeferencing a set of locations by participants, a practice that was supported by trainers through the platform's forum, support meetings and email. The set of locations was previously assigned according to the participant's place of residence or work. For criteria for obtaining locations and prioritization, see Annex 1. The participants had access to the set of localities during the course phase in order to familiarize themselves with the data. Approximately 110 records were assigned per person. These georeferences were corrected by the trainers and incorporated into a global georeference gazetteer openly available to the whole community (see Annex 4).

For details of the locations assigned to each participant please see:

<https://drive.google.com/drive/folders/15f5N2etlbi9lCkFaevogbLQ6rtUWoln?usp=sharing>.

The progress made by the participants was tracked and summarized in a spreadsheet. Of the 39 participants selected, 4 requested to be removed from the course, and 6 requested to continue as listeners. 28 participants are subject to certification.

Finally, 24 participants received a certificate of approval, for fulfilling the conditions of approval specified in the program and 4 other participants received a certificate of attendance. For details of the summary of participant certificate approval status please see:

<https://drive.google.com/file/d/1AGkWEbdgnjBU486PD1nmxtKGdwPvlvKm/view?usp=sharing>.

For details of the conditions of approval, please see:

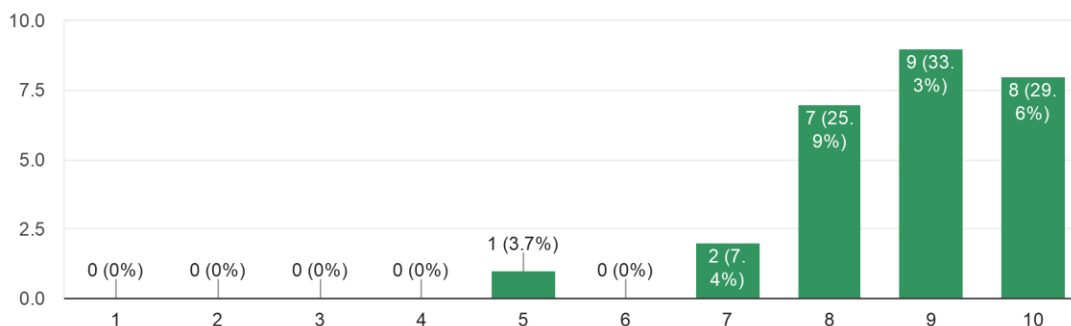
https://drive.google.com/file/d/1ERDfRxPp2_G2m-8ZNv_1KuQZW9rpQnxg/view?usp=sharing.

Final survey: was responded by 27 of the 28 participants who finished the workshop.

General appreciation of the workshop (1: bad, 10: excellent)

Del 1 al 10, ¿cuál es su apreciación general del curso? Siendo 1 malo y 10 excelente.

27 responses



Amount of time allocated to the workshop: 85,2% indicate that the amount of time was adequate

Were the theoretical contents appropriate? 96,3% indicate that the theoretical contents were appropriate.

What was the level of difficulty for understanding the theoretical contents? Was adequate for the 70,4 % of the participants, and difficult for the 29.6 %

What topics were the most difficult for you to understand?

- Marine localities, interpretation, minimum and maximum depth
- All the terminology related with the georeferenced
- The huge amount of Darwin Core terms
- Point-radius method
- The criteria for choosing which georeferencing method to use
- Georeferences best practiques

- How to identify the different types of localities and how to indicate them in the georeferencing calculator

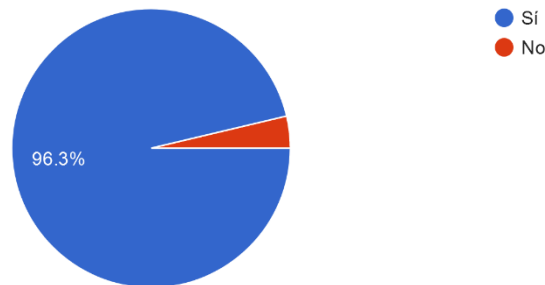
Were the practical exercises appropriate / helpful to you? Were the instructions for the exercises clear?
For both questions, was 92,5 % of positive responses.

How was the level of difficulty of the practical exercises?

- Adequate: 18/27
- Difficult: 8/27
- Very difficult: 1/27

Were the webinars helpful? Yes: 96,3%

¿Le resultaron útiles los seminarios?
27 responses



Would you find it useful to replicate this course at your institution? 100% of positive responses.

What other topics are of interest to address in future training?

- Darwin Core
- Data use for decision making
- GIS, GPS
- Publication of biodiversity data
- Tools to identify conservation priorities
- Management of work groups and data quality
- Management of biological collections, an exclusive course to create and publish databases

Webinars: three webinars were held, 23, 25 and 27 November 2020, coordinated by GBIF Argentina and VertNet. Attending the webinars was required from workshop participants. The webinars were complementary to the topics taught during the workshop and open to the entire GBIF Spanish-speaking community. The webinars covered the topics: 1) Planning a georeferencing project, presentations by Paula Zermoglio (VertNet) and Ricardo Ortiz Gallego (invited guest speaker from SiB Colombia); 2) Documentation and georeferencing



tools, presentation by P. Zermoglio (VertNet) and 3) Use of Google Maps and Google Earth, presentation by Catalina Merino (Museo Nacional de Historia Natural de Chile). The webinars were attended through the Zoom platform by workshop participants and live streamed on YouTube for the general public.

Promotional material:

<https://drive.google.com/file/d/1LHqtajj45O4ptsmCTkTdzJyoLQqDliFz/view?usp=sharing>.

To watch the webinars videos, please see:

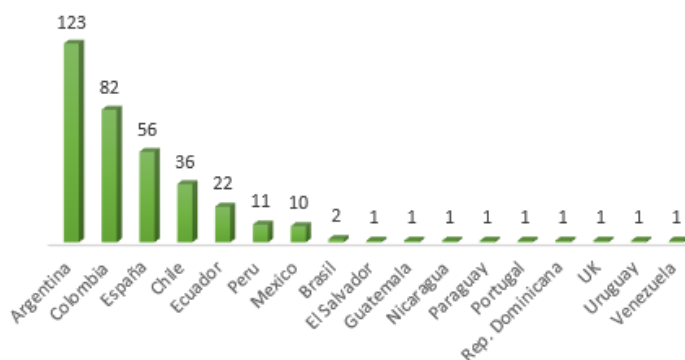
https://www.youtube.com/channel/UCluArY_LJaDt0dANRcwCm3A.

The three webinars had over 1.000 people registered (pre-registration required through a Google Form). For details of those registered, please see: https://docs.google.com/spreadsheets/d/1GuH0Yleuvy_dN-bQmHzeQHLbOpo6BVwFYDHYkaMtOFU/edit?usp=sharing.

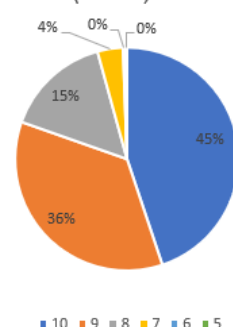
After the webinars, attendees were asked to complete a survey. A total of 352 responses were collected. For details of the results of the survey, please see:

https://docs.google.com/spreadsheets/d/1MXaXdtiFOfXH86ZtiNDaCAONbcm9FuDW5J3e_JhnA3c/edit?usp=sharing.

Participants by country



Valoration (1: bad, 10: excellent)



Would you recommend the videos (available on YouTube) to your colleagues? Yes: 98%, Maybe: 2%

(Some) Comments:

I appreciate your initiative. Don't stop being there.

The contents were very interesting and the presentation was very clear and well exemplified. Excellent work!

Very grateful for the space and for the sharing of knowledge. It would be very interesting to go deeper into data standardization and cleaning issues, since there are many databases with erroneous information.

Many colleagues were able to approach these concepts in a more friendly way.



The webinars were very helpful in terms of content and references available. The willingness of the speakers to future consultations is excellent.

Keep up these seminars so needed in this age. Excellent

Please keep bringing these very useful contents. I would like them to do workshops to apply this knowledge. Thank you!!

Excellent webinar. Thank you for the invitation and we hope there will be more at the regional level and where other issues can be discussed.

I congratulate you for this initiative, which enriches, helps and collaborates with those of us who work in the field of natural sciences. I suggest that you continue these types of webinars, virtually, and in Spanish. Thank you very much!!

It was very useful to me ... what stands out the most is that they were presented in Spanish, which is much more enriching for me, than just starting (it limits me a lot to understand concepts in English for example). Thank you very much

I am grateful that they have opened this space to the entire community and I hope that these valuable sessions of knowledge transmission will continue to be repeated. Greetings from Medellín, Colombia

I found the talks very interesting and I appreciate that they have been saved on YouTube. I would like more webinars of this style.

Good webinars and good planning

I found the webinars great, especially the second one on documentation and georeferencing tools, I did not know that there were easily accessible geographic thesauri, my total appreciation and respect for Paula Zermoglio, an excellent professional.

Congratulations and thanks for sharing content and experiences for the Spanish-speaking community

Very good, it helped me in my current research

I shared them with my teammates. They removed many doubts, and taught us things that we didn't even know about applications that we already use on a daily basis

This webinar series should continue with other topics of interest to the GBIF community.

They should continue in this line, I learned a lot

How nice that there are people who share their extensive non-profit knowledge, thank you



A request for certification of attendance was available pending the response of this Google Form (https://docs.google.com/spreadsheets/d/1cQWelRoVILw4V8GKT8yHB8N1i06xvIP_zpm1EZ-f_pc/edit#gid=1894333295). This certification option is still available for later watchers and all dispatched certificates are available in this Google folder: <https://drive.google.com/drive/folders/1nHzqVJyXhcyqpv2UZM2TgyfwgPWkMGNf?usp=sharing>

Other opportunities: the workshops represented a great opportunity to reinforce the regional community links and to engage participants in other biodiversity data initiatives. During the development of the workshop in Chile we encouraged the participation of the students in the Biodiversity Information Standards (TDWG) Annual Conference, introducing them to the broader standards community.

Relevant resources and references

Call: https://drive.google.com/file/d/1_vnPMdH2za-1Vo2V5w8WLR3NNDQf_D/view?usp=sharing

Program, objectives and participant profile: https://drive.google.com/file/d/1ERDfRxPp2_G2m-8ZNv_1KuQZW9rpQnxq/view?usp=sharing

Participants: https://drive.google.com/file/d/1vCEXq_DgbvSrwlaiKu_RN0hK9r0b1USx/view?usp=sharing

Workshop presentations: <https://drive.google.com/drive/folders/1PqCN3IA-RXkUSdm0pvC7x0nro4azfpqT?usp=sharing>

Workshop exercises:

<https://drive.google.com/drive/folders/12gUf5dVERLh7HPfKZGMRixf55Lz9KScm?usp=sharing>

Zoom videos (4 calls + support calls):

https://drive.google.com/drive/folders/1wsNXD5_171q_4n4lbp5jDRNjK1LcTIEX?usp=sharing

Pre-workshop survey: https://docs.google.com/forms/d/1Jn-ts6kSOB5PMf3v_vTMzKZUFxfvUkJpTNDQX-EOE_8/edit#responses

Final survey: https://docs.google.com/forms/d/1ExsbEEG-ZaO73YvtLz6rl6N_LNFOzJig4vJk2NGkgBA/edit#responses

Documentation

Bloom DA, Wiecezorek JR & Zermoglio PF (2020) Georeferencing Calculator Manual. Copenhagen: GBIF Secretariat. <https://doi.org/10.35035/gdwg-3v93>



Chapman AD & Wieczorek JR (2020) Georeferencing Best Practices. Copenhagen: GBIF Secretariat. <https://doi.org/10.15468/doc-gg7h-s853>

Zermoglio PF, Chapman AD, Wieczorek JR, Luna MC & Bloom DA (2020) Georeferencing Quick Reference Guide. Copenhagen: GBIF Secretariat. <https://doi.org/10.35035/e09p-h128>