Global Biodiversity Information Facility

FINAL NARRATIVE REPORT

Guidelines on how to complete the activity report are included in italics.

Use the information included in your CESP Full Proposal (reproduced in Annex 1 of your CESP contract) as a baseline from which to complete this report.

Remember that this report will be made available on your project page on the GBIF website and therefore should not include any contact information, unless you have permission from all mentioned in the report that their contact information can be published.

Contents

1. Project information

Project title	Georeferencing training: tackling the spatial challenge in the Southern Cone
Project ID	CESP2019-014

Project period	**Start date (dd/mm/yy):** 01/06/19	**End date (dd/mm/yy):** 31/01/21
Reporting period	**Start date (dd/mm/yy):** 01/06/19	**End date (dd/mm/yy):** 31/01/21

Project lead

Name of the main contact person	Anabela Plos
Name of institution	Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" MACN-CONICET
City and country	Ciudad Autónoma de Buenos Aires, Argentina
GBIF Participant represented	GBIF Argentina
Role(s) in this project	Main contact, activities coordination and trainer

Project partner(s)

Name and institution of the representative	GBIF Participant represented (if applicable)	Role(s) in the project
Anabela Plos, Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" MACN-CONICET, plos@macn.gov.ar // anabelaplos@gmail.com	GBIF Argentina	Co-organizer / Main contact / Trainer
Leisy Amaya Montano, Departamento de Conservación de Especies División de Recursos Naturales y Biodiversidad, Ministerio del Medio Ambiente, LAmaya@mma.gob.cl // lamaya@uc.cl	GBIF Chile	Co-organizer
Paula Zermoglio, VertNet, pzermoglio@vertnet.org	VertNet, Argentina	Co-organizer /Trainer
John Wieczorek, VertNet, tuco@berkeley.edu	VertNet, Argentina	Trainer / Participant

Renato Mazzanti, CENPAT, Argentina, renato@cenpat-conicet.gob.ar	GBIF Argentina	Trainer
Catalina Merino Yunnisi, MNHN, Chile, catalina.merino@mnhn.gob.cl	MNHN - Chile	Trainer
David Bloom, VertNet USA, dbloom@vertnet.org	VertNet, USA	Material development
Marie-Elise LeCoq*, Vertnet USA, melecoq@vertnet.org	VertNet, USA	Material development

*M.L LeCoq is not listed in the original contract, but due to her support and work with the project, she is included as a project partner.

2.   Executive summary

The objective of the project was to improve the geographic data quality of Southern South America records, and it was achieved through the completion of of four activities: 1) two workshops (Argentina and Chile) to increase local capacity and improve the quality of georeferenced data published in GBIF (result: 77 participants from 48 institutions were trained during one onsite and one online workshop); 2) georeference 5,000 localities from Argentina and Chile with most associated records (result: > 6,500 localities georeferenced); 3) identify future georeferencing priorities (result: priorities identified in four main areas of interest); and 4) develop a gazetteer of georeferences that can be openly available (result: a global gazetteer was built that allows querying all georeferences present in GBIF). During the course of the project a large set of training materials was developed, which are available for use by the community. A series of 3 webinars was included, open to the general public, available on-line (YouTube) and that to date have more than 1800 views. Although the implementation of the project was affected by the pandemic and some activities had to be adapted to a fully virtual format, goals were achieved and expectations from the project surpassed . Reorganization required much more work than originally expected for materials preparation and maximizing interaction opportunities with trainees. Efforts rendered very good results. The process was a great opportunity for us to rethink strategies and approaches to reach the community from a virtual environment. This experience, especially regarding dedication time needed, constitutes the main lesson learnt. As a sequel to this project, replicas of the workshops were carried out or are planned for the near future. Sustainability of the outcomes has been secured by integrating the global gazetteer into a broader, recently funded project.

3.   Progress against expected milestones

Expected milestones	Completed? Yes/No
Kick-off virtual meeting held and meeting report available. **(Mid-term report milestone)**	Yes
Onsite workshop materials developed and available, and trainers confirmed. **(Mid-term report milestone)**	Yes
Identification of local/national sources of localities and georeferences, to prioritize georeferencing during the workshops complete and local localities list available.	Yes

(Mid-term report milestone)	
Call and selection of Argentina workshop candidates complete and selection process documents available. **(Mid-term report milestone)**	Yes
Workshop in Argentina (onsite) held for 38 participants and workshop memoires available (text, slides, photographs, social media links). **(Final report milestone)**	Yes
Technical support for new incoming localities from regional participants provided. **(Final report milestone)**	Yes
Call and selection of Chile workshop candidates complete and selection process documents available. **(Final report milestone)**	Yes
Online workshop materials developed and available, and trainers confirmed. **(Final report milestone)**	Yes
Workshop in Chile (virtual) held for 39 participants and workshop memoires available (text, slides, videos, social media links). **(Final report milestone)**	Yes
Georeferencing priorities within the region identified for future workshops and projects, and available in report. **(Final report milestone)**	Yes
Global gazetteer with regional georeferenced localities available. **(Final report milestone)**	Yes
Completion of final capacity self-assessment. **(Final report milestone)**	Yes

4. **Activities**

Activity name	Status of activity: Completed? Yes / No (inc. % complete)	Explanatory notes, including new planned completion date if necessary	Source(s) of verification
Kick-off virtual meeting	Yes	Document (all the agendas of the coordination meetings). *Kick-off meeting was held among project participants to define administrative steps, define the trainers for the workshops and plan on steps ahead. After the kick-off meeting, several other remote meetings were held. Supporting document is in Spanish.*	Agenda (all the calls): https://drive.google.com/file/d/1sSeAvgqMckL-pz9V8eOSJzcVPZlhw177/view?usp=sharing
Development of onsite workshop materials (Argentina)	Yes	Workshop materials made available through the e-learning platform, Reports. *Material for the workshop (presentations, documents, exercises, etc.) were developed, reviewed and checked for consistency by all trainers. All supporting material is in Spanish.*	Workshop presentations: https://drive.google.com/drive/folders/1OxZCccp5z_snbdpXClwxC71f0NmN3ui5?usp=sharing Workshop exercises: https://drive.google.com/drive/folders/1OSDaEBXcD4Z4pApV9JZPnq1NLrzTFAmv Argentinian e-learning Workshop site: https://formacion.ssnn.mincyt.gob.ar/course/15/about Agenda (page 1-5): https://drive.google.com/file/d/1sSeAvgqMckL-pz9V8eOSJzcVPZlhw177/view?usp=sharing

Development of online workshop materials (Chile)	Yes	Workshop materials made available through the e-learning platform, Reports. *Material for the workshop (presentations, documents, exercises, etc.) were developed, reviewed and checked for consistency by all trainers. All supporting material is in Spanish.*	Workshop presentations: https://drive.google.com/drive/folders/1PgCN3IA-RXkUSdm0pvC7x0nro4azfpqT?usp=sharing Workshop exercises: https://drive.google.com/drive/folders/12gUt5dVERLh7HPfKZGMRixf55Lz9KScm?usp=sharing Argentinian e-learning Workshop site: https://formacion.ssnn.mincyt.gob.ar/courses/SNDB21BIS/index.php?id_session=0 Agenda (page 6-13): https://drive.google.com/file/d/1sSeAvgqMckL-pz9V8eOSJzcVPZlhw177/view?usp=sharing
Identification of local/national sources of localities and georeferences, to prioritize georeferencing during the workshops	Yes	Report.	See file attached as Annex 1
Call and selection of Argentina workshop candidates	Yes	Documents. *144 registration requests. 35 participants originally selected, 38 final attendees. All supporting documents are in Spanish.*	Call: https://drive.google.com/file/d/1L6mXUH-8I8ronXRDAMV-P5H5yW8vhllZ/view?usp=sharing Program, objectives and participant profile: https://drive.google.com/file/d/1CadGedd10638sk-eDibbH73ddf-oGw9w/view?usp=sharing Participants: https://drive.google.com/file/d/1enUHa-5XOfVxCAmjbKyR1HSG3xovooRW/view?usp=sharing
Georeferencing workshop in Argentina (onsite)	Yes	Workshop materials and report. Localities georeferenced	Program: https://drive.google.com/file/d/1HBYTTl6L9oWd-P08ID9wuljYrXxqd7yx/view?usp=sharing Workshop presentations: https://drive.google.com/drive/folders/1OxZCccp5z_snbdpXClwxC71f0NmN3ui5 Workshop exercises: https://drive.google.com/drive/folders/1OSDaEBXcD4Z4pApV9JZPnq1NLrzTFAmv Survey (on-site): https://drive.google.com/file/d/15CcKheA5S4G8SHPSAvAQjSXyRzJrM6uA/view?usp=sharing Photos: https://drive.google.com/drive/folders/1ZOguIGsTKPwZ7ZIG8yzEm6AomuIiVS_k?usp=sharing Report (Annex 2): https://drive.google.com/file/d/1ciO3B9QfSIiMd7kMfGLDUioVeRXs5uMv/view?usp=sharing

			Survey (after meeting): https://docs.google.com/spreadsheets/d/1oPgYUtQKxf9qJnfKafatiItQR_h35d4wFbWJLJKoo5A/edit#gid=767890349 Localities georeferenced by the participants: https://drive.google.com/drive/folders/1YTg7VC3JY0p-sz0ugZSOIAVNLIS79aQA?usp=sharing
Technical support for new incoming localities from regional participants	Yes	Localities georeferenced (Argentina) *Total >4000 Argentinian localities georeferenced during and after the workshop*	Localities georeferenced by the participants: https://drive.google.com/drive/folders/1YTg7VC3JY0p-sz0ugZSOIAVNLIS79aQA?usp=sharing Zoom calls (participants support): https://drive.google.com/drive/folders/1sfPuf7cfsPZNhS16AGXS58nDOiEWRhQl?usp=sharing
Call and selection of Chile workshop candidates	Yes	Documents. *238 registration requests. 40 participants selected. 39 final attendees* *All supporting documents are in Spanish.*	Call: https://drive.google.com/file/d/1l_vnPMdH2za-_1Vo2V5w8WLr3NNDQf_D/view?usp=sharing Program, objectives and participant profile: https://drive.google.com/file/d/1ERDfRxPp2_G2m-8ZNv_1KuQZW9rpQnxg/view?usp=sharing Participants: https://drive.google.com/file/d/1vCEXq_DgbvSrwlaiKu_RN0hK9r0b1USx/view?usp=sharing
Georeferencing Workshop in Chile (virtual)	Yes	Workshop materials and report. Webinars. Localities georeferenced	Workshop presentations: https://drive.google.com/drive/folders/1PgCN3IA-RXkUSdm0pvC7x0nro4azfpqT?usp=sharing Workshop exercises: https://drive.google.com/drive/folders/12gUt5dVERLh7HPfKZGMRixf55Lz9KScm?usp=sharing Zoom videos (4 calls + support calls): https://drive.google.com/drive/folders/1wsNXD5_171q_4n4Ibp5jDRNjK1LcTIEX?usp=sharing Pre-workshop survey: https://docs.google.com/forms/d/1Jn-ts6kSOb5PMf3v_vTMzKZUFXfvUkJpTNDQX-EOE_8/edit#responses Report (Annex 3): https://drive.google.com/file/d/1Weh22as6BzWphngOFGUYFaQXvTg8YJwz/view?usp=sharing Webinars promotion: https://drive.google.com/file/d/1LHqtajj45O4ptsmCTkTdzJyoLQqDliFz/view?usp=sharing Webinars registration: https://docs.google.com/spreadsheets/d/1GuH0Yleuvy_dN-bQmHzeQHLbOpo6BVwFYDHYkaMtOFU/edit?usp=sharing Webinars videos: ● Planning a georeferencing Project. 1.804 views https://www.youtube.com/watch?v=HI73CL4fuhU&t=50s ● Documentation and georeferencing tools. 951 views https://www.youtube.com/watch?v=nw6G3q_0c1E&t=84s ● Use of Google Maps and Google Earth. 866 views https://www.youtube.com/watch?v=ol6De-pBMHA&t=17s Webinars survey: https://docs.google.com/spreadsheets/d/1MXaXdtiFOfXH86ZtiNDaCAONbcm9FuDW5J3e_JhnA3c/edit?usp=sharing Workshop survey: https://docs.google.com/forms/d/1ExsbEEG-ZaO73YvtLz6rI6N_LNFOzJig4vJk2NGkgBA/edit#responses

			Localities georeferenced by the participants: https://drive.google.com/drive/folders/15f5N2etIblj9lCkFaevogbLQ6rtUWoln?usp=sharing
Technical support for new incoming localities from regional participants	Yes	Localities georeferenced (Chile) *Total >2500 Chilean localities georeferenced during and after the workshop*	Localities georeferenced by the participants: https://drive.google.com/drive/folders/15f5N2etIblj9lCkFaevogbLQ6rtUWoln?usp=sharing Zoom videos (4 calls + support calls): https://drive.google.com/drive/folders/1wsNXD5_171q_4n4Ibp5jDRNjK1LcTIEX?usp=sharing
Identify georeferencing priorities within the region	Yes	Report. *List of georeferencing priorities for future workshops and projects*	Report (Annex 4): https://docs.google.com/document/d/1_NRJdkRUajtHHhgS7h5w6LwzTZ6bfl3TDQjF8153Ffc/edit?usp=sharing
Self-assessment meetings	Yes	Self-assessment report	Argentina: https://drive.google.com/file/d/1KkdiKGpg5rd_5ugZD2DZgZMO8f6ma0jz/view?usp=sharing Chile:

5.   Deliverables

Deliverable name	Status of deliverable: Completed? Yes / No (inc. % complete)	Explanatory notes including new planned completion date if necessary	Source(s) of verification
Virtual meeting report. *Meeting summary (Kick-off virtual meeting)*	Yes		https://drive.google.com/file/d/1sSeAvgqMckL-pz9V8eOSJzcVPZlhw177/view?usp=sharing

Onsite Workshop materials (Argentina). *Workshop documents, slides, exercises, surveys (Development of onsite workshop materials)*	Yes		Argentinian e-learning Workshop site: https://formacion.ssnn.mincyt.gob.ar/course/15/about Program: https://drive.google.com/file/d/1HBYTTl6L9oWd-P08ID9wuljYrXxqd7yx/view?usp=sharing Workshop presentations: https://drive.google.com/drive/folders/1OxZCccp5z_snbdpXClwxC71f0NmN3ui5 Workshop exercises: https://drive.google.com/drive/folders/1OSDaEBXcD4Z4pApV9JZPnq1NLrzTFAmv Survey (on-site): https://drive.google.com/file/d/15CcKheA5S4G8SHPSAvAQjSXyRzJrM6uA/view?usp=sharing Photos: https://drive.google.com/drive/folders/1ZOguIGsTKPwZ7ZIG8yzEm6AomuliVS_k Survey (after meeting): https://docs.google.com/spreadsheets/d/1oPgYUtQKxf9qJnfKafatiltQR_h35d4wFbWJLJKoo5A/edit#gid=767890349
Online Workshop materials (Chile). *Workshop documents, slides, exercises, videos, surveys (Development of online workshop materials)*	Yes	The workshop was adapted to a fully virtual format, due the COVID pandemic. The workshop was totally developed on-line, over a longer period of time (4.5 months) and with the addition of a webinar series, open to the general public (Annex 3)	Argentinian e-learning Workshop site: https://formacion.ssnn.mincyt.gob.ar/courses/SNDB21BIS/index.php?id_session=0 Pre-workshop survey: https://docs.google.com/forms/d/1Jn-ts6kSOb5PMf3v_vTMzKZUFXfvUkJpTNDQX-EOE_8/edit#responses Workshop presentations: https://drive.google.com/drive/folders/1PgCN3IA-RXkUSdm0pvC7x0nro4azfpqT?usp=sharing Workshop exercises: https://drive.google.com/drive/folders/12gUt5dVERLh7HPfKZGMRixf55Lz9KScm?usp=sharing

			Zoom videos (4 calls + support calls): https://drive.google.com/drive/folders/1wsNXD5_171q_4n4Ibp5jDRNjK1LcTIEX?usp=sharing Photo: https://drive.google.com/file/d/1E_H1EwPXTnHykA7ABWAhnTsJzLMXGytp/view?usp=sharing Webinars promotion: https://drive.google.com/file/d/1LHqtajj45O4ptsmCTkTdzJyoLQqDliFz/view?usp=sharing Webinars registration: https://docs.google.com/spreadsheets/d/1GuH0YIeuvy_dN-bQmHzeQHLbOpo6BVwFYDHYkaMtOFU/edit?usp=sharing Webinars videos: ● Planning a georeferencing Project. 1.804 views https://www.youtube.com/watch?v=HI73CL4fuhU&t=50s ● Documentation and georeferencing tools. 951 views https://www.youtube.com/watch?v=nw6G3q_0c1E&t=84s ● Use of Google Maps and Google Earth. 866 views https://www.youtube.com/watch?v=ol6De-pBMHA&t=17s Webinars survey: https://docs.google.com/spreadsheets/d/1MXaXdtiFOfXH86ZtiNDaCAONbcm9FuDW5J3e_JhnA3c/edit?usp=sharing Workshop survey: https://docs.google.com/forms/d/1ExsbEEG-ZaO73YvtLz6rI6N_LNFOzJig4vJk2NGkgBA/edit#responses
Candidates selection process. *Documents associated with the candidate selection process. (Call and selection of Argentina and Chile workshop candidates)*	Yes	**Argentina:** Originally thought to be for 20-25 participants, due to high demand, the workshop was extended to 38 effective participants. **Chile:** Originally thought to be for 20-25 participants, due to high demand, the workshop was extended to 39 effective participants. Also, this workshop was adapted to a	**Argentina** Call: https://drive.google.com/file/d/1L6mXUH-8I8ronXRDAMV-P5H5yW8vhllZ/view?usp=sharing Program, objectives and participant profile: https://drive.google.com/file/d/1CadGedd10638sk-eDibbH73ddf-oGw9w/view?usp=sharing Participants: https://drive.google.com/file/d/1enUHa-5XOfVxCAmjbKyR1HSG3xovooRW/view?usp=sharing **Chile** Call: https://drive.google.com/file/d/1I_vnPMdH2za-_1Vo2V5w8WLr3NNDQf_D/view?usp=sharing

		virtual format due the COVID pandemic. This workshop was totally developed on-line, with the addition of a webinar series, open to the general public.	Program, objectives and participant profile: https://drive.google.com/file/d/1ERDfRxPp2_G2m-8ZNv_1KuQZW9rpQnxg/view?usp=sharing Participants: https://drive.google.com/file/d/1vCEXq_DgbvSrwlaiKu_RN0hK9r0b1USx/view?usp=sharing
Georeferencing Workshops Memoires. *Text, slides, photographs, social media links (Argentina onsite, Chile online).*	Yes		**Argentina:** Report (Annex 2): https://drive.google.com/file/d/1ciO3B9QfSliMd7kMfGLDUioVeRXs5uMv/view?usp=sharing Photos: https://drive.google.com/drive/folders/1ZOguIGsTKPwZ7ZIG8yzEm6AomuliVS_k Social media: https://twitter.com/AnabelaPlos/status/1204015292906643457, https://twitter.com/AnabelaPlos/status/1204104153460617218, https://twitter.com/AnabelaPlos/status/1205619388268916738, https://www.facebook.com/anabela.plos/posts/10158182568919305 **Chile** Report (Annex 3): https://drive.google.com/file/d/1Weh22as6BzWphngOFGUYFaQXvTg8YJwz/view?usp=sharing Photos: https://drive.google.com/file/d/1E_H1EwPXTnHykA7ABWAhnTsJzLMXGytp/view?usp=sharing Social media: https://twitter.com/AnabelaPlos/status/1328436068866281476, https://twitter.com/sibcolombia/status/1329445102146777089, https://twitter.com/GBIFChile/status/1329913632474488834, https://twitter.com/GBIFChile/status/1207336055478898689,

			https://www.facebook.com/anabela.plos/posts/101597770954593 05.
Local localities list. *Identification of local/national sources of localities and georeferences, to prioritize georeferencing during the workshops*	Yes	The prioritization was performed based on all data from the countries available through the GBIF network. As local sources of localities information are scarce and scattered, using the data already published through GBIF was deemed to yield results more readily applicable both for the countries involved and for other publishers.	Prioritization of localities: localities for the workshops and general gaps identified: see Annex 1 (https://docs.google.com/document/d/1_NRJdkRUajtHHhgS7h5w 6LwzTZ6bfl3TDQjF8153Ffc/edit?usp=sharing). Biodiversity Enhanced Location Services (BELS): - Annex 4: https://docs.google.com/document/d/1_NRJdkRUajtHHhgS7h5w 6LwzTZ6bfl3TDQjF8153Ffc/edit?usp=sharing - GitHub repository and code: https://github.com/VertNet/bels
Regional Georeferenced Localities. *Global gazetteer including georeferenced localities from Southern South America available through an API .*	Yes	The global gazetteer was developed as part of the Biodiversity Enhanced Location Services (BELS). Please see Annex 4 for details. Over 6500 localities georeferenced (>4000 Argentina, >2500 Chile).	Biodiversity Enhanced Location Services (BELS): - Annex 4: https://docs.google.com/document/d/1_NRJdkRUajtHHhgS7h5w 6LwzTZ6bfl3TDQjF8153Ffc/edit?usp=sharing - GitHub repository and code: https://github.com/VertNet/bels - Web interface temporarily at: https://localityservice.uc.r.appspot.com/
Prioritization of georeferencing regional needs. *List of georeferencing priorities for future workshops and projects*	Yes	The prioritization was performed based on all data from the countries available through the GBIF network.	Prioritization of georeferencing regional needs: see Annex 1: https://docs.google.com/document/d/10v4Isdb0wfxJySfKczpryqM 1AjQ0XVHLjTepC4h5AJs/edit?usp=sharing
Session reports. *Meeting Summary*	Yes		Argentina onsite workshop report (Annex 2): https://drive.google.com/file/d/1ciO3B9QfSliMd7kMfGLDUioVeR Xs5uMv/view?usp=sharing Chile online workshop report (Annex 3): https://drive.google.com/file/d/1Weh22as6BzWphngOFGUYFaQ XvTg8YJwz/view?usp=sharing

6. Events organized as part of the project

Event title	Organizing institution	Date held	Number of participants	Explanatory notes	Source(s) of verification
Taller: Georreferenciación de registros biológicos: teoría y práctica*	Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" MACN-CONICET. Argentina	December 09-13, 2019	38 participants (27 institutions)	Please see the Report for details (Annex 2). All supporting documents other than the *Report are in Spanish.*	Call: https://drive.google.com/file/d/1L6mXUH-8I8ronXRDAMV-P5H5yW8vhllZ/view?usp=sharing Program, objectives and participant profile: https://drive.google.com/file/d/1CadGedd10638sk-eDibbH73ddf-oGw9w/view?usp=sharing Participants: https://drive.google.com/file/d/1enUHa-5XOfVxCAmjbKyR1HSG3xovooRW/view?usp=sharing Workshop presentations: https://drive.google.com/drive/folders/1OxZCccp5z_snbdpXClwxC71f0NmN3ui5 Workshop exercises: https://drive.google.com/drive/folders/1OSDaEBXcD4Z4pApV9JZPnq1NLrzTFAmv Survey (on-site): https://drive.google.com/file/d/15CcKheA5S4G8SHPSAvAQjSXyRzJrM6uA/view?usp=sharing Report (Annex 2): https://drive.google.com/file/d/1ciO3B9QfSIiMd7kMfGLDUioVeRXs5uMv/view?usp=sharing
Taller: Georreferenciación de registros biológicos: teoría y práctica*	GBIF Chile, GBIF Argentina, VertNet	August 3 – December 13, 2020	39 participants (21 institutions)	Please see the Report for details (Annex 3). All supporting documents other than the *Report are in Spanish.*	Call: https://drive.google.com/file/d/1I_vnPMdH2za-_1Vo2V5w8WLr3NNDQf_D/view?usp=sharing Program, objectives and participant profile: https://drive.google.com/file/d/1ERDfRxPp2_G2m-8ZNv_1KuQZW9rpQnxg/view?usp=sharing Participants: https://drive.google.com/file/d/1vCEXq_DgbvSrwlaiKu_RN0hK9r0b1USx/view?usp=sharing Workshop presentations: https://drive.google.com/drive/folders/1PgCN3IA-RXkUSdm0pvC7x0nro4azfpqT?usp=sharing Workshop exercises: https://drive.google.com/drive/folders/12gUt5dVERLh7HPfKZGMRixf55Lz9KScm?usp=sharing Zoom videos (4 calls + support calls): https://drive.google.com/drive/folders/1wsNXD5_171q_4n4Ibp5jDRNjK1LcTIEX?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-ZaO73YvtLz6rI6N_LNFOzJig4vJk2NGkgBA/edit#responses
					Report (Annex 3):: https://drive.google.com/file/d/1Weh22as6BzWphngOFGUYFaQXvTg8YJwz/view?usp=sharing
Online Georeferencing Webinar Series	GBIF Argentina, VertNet	23, 25, and 27 December 2020	> 1800 (see details in the sources of verification)	This webinar series was planned as part of the online Chile workshop. However, as the series was open to all the community, we report it here also as a separate event.	Webinars promotion: https://drive.google.com/file/d/1LHqtajj45O4ptsmCTkTdzJyoLQqDliFz/view?usp=sharing Webinars videos: •Planning a georeferencing Project. 1.804 views https://www.youtube.com/watch?v=HI73CL4fuhU&t=50s •Documentation and georeferencing tools. 951 views https://www.youtube.com/watch?v=nw6G3q_0c1E&t=84s •Use of Google Maps and Google Earth. 866 views https://www.youtube.com/watch?v=ol6De-pBMHA&t=17s Webinars survey: https://docs.google.com/spreadsheets/d/1MXaXdtiFOfXH86ZtiNDaCAONbcm9FuDW5J3e_JhnA3c/edit?usp=sharing

*EN: Workshop: Georeferencing biological records: theory and practice.

Other activities: an extra workshop was funded by the Fundación Miguel Lillo - FML (Tucumán, Argentina) and coordinated by Anabela Plos (GBIF Argentina) for the technical personnel of the natural history collections of the FML. This workshop was developed on site in San Miguel de Tucumán (Argentina), March 02 to 06, 2020, reusing the documents developed for Argentina's workshop.   A total of 20 participants, from 11 natural history collections of FML, participated in this short edition of the workshop. http://www.lillo.org.ar/2020/03/curso-georreferenciacion-datos-biologicos

7. Calendar of activities

Activity	2019							2020											2021	Notes
	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	
Activity: Kick-off virtual meeting **Lead partner:** All partners	X																				
Activity: Development of onsite workshop materials + confirm the undefined trainer **Lead partner**: VertNet	X	X	X	X	X	X		X	X												Materials were already developed and used, as planned, but went through a new review process before the workshop in Chile to adjust to local needs (**X**).
Activity: Development of online workshop materials **Lead partner:** VertNet										X	X	X	X	X	X						
Activity: Identification of local/national sources of localities and georeferences, to prioritize georeferencing during the workshops **Lead partner:** All partners	X	X	X	X	X	X								X							Although the localities were selected for both workshops during the initial period, as another GBIF snapshot became available in April 2020, we redid the prioritization for the workshop in Chile to account for more recently published data (**X**).
Activity: Call and selection of Argentina workshop candidates **Lead partner:** GBIF Argentina					X	X															

Activity	Timeline	Comments
Deadline for mid-term reporting and milestones	X	Mid-term report was delayed (originally Nov 2019). The reason for the delay was to be able to include the results from the workshop in Argentina in the report.
Activity: Workshop in Argentina (onsite) **Lead partner**: GBIF Argentina, VertNet	X	
Activity: Technical support for new incoming localities from regional participants **Lead partner**: VertNet	X X X X X X	As the workshop was adapted to a virtual format and developed over a longer period of time, technical support was also provided during the last month (X).
Activity: Call and selection of Chile workshop candidates **Lead partner:** GBIF Chile	X -	The call and selection, thought for being developed in January and February, was completed in January.
Activity: Workshop in Chile (online) **Lead partner:** All partners	X X X X X	The workshop, originally planned for March 2020 was postponed to August. Also, because of the COVID pandemic, the workshop was adapted to a fully virtual format (from August to December 2020).
Activity: Identify georeferencing priorities within the region **Lead partner**: All partners	X X	
Deadline for final reporting and completion of all activities and deliverables. **Completion of final capacity self-assessment.**	X X	

7.1.   **General comments on project implementation**

Although the first workshop was developed normally (Buenos Aires, Argentina, December 2020), the second workshop that had been planned to take place in Santiago, Chile, March 2020, was affected by the COVID pandemic. This workshop was adapted to a totally virtual format, through the SNDB-MinCyT e-Learning platform. In addition to modifying the form of realization, it was decided to dedicate four months to its development, add an extra trainer (A. Plos) and also include a series of webinars (mandatory for participants, but open to the general public) that dealt with complementary topics. It should be noted that due to a change in GBIF Chile's priorities, the time allocated to the project by its staff was less than expected and this required greater dedication from the VertNet and GBIF Argentina nodes to be able to achieve all the goals and deliverables proposed in this CESP Project.

8. Project communications and visibility

The results from the project have been and continue to be shared with the participants via email, and with the broader community through the institutional webpages, including the project page on the GBIF website, and through social media and other online platforms (see verification sources above). In particular, regarding the georeferencing webinar series, much emphasis was put in opening it up to all the Spanish-speaking community. We distributed invitations among the relevant GBIF Nodes, which in turn promoted the activities within their communities of practice. For one of the webinars we invited a guest speaker from SiB Colombia, which made the discussion broader, richer, and contributed to disseminating both the series and the CESP project objectives and outcomes. Videos from the webinar series, as well as other videos produced as training materials for the workshops (e.g., use of certain software and mobile applications) are available on a YouTube channel (see https://www.youtube.com/channel/UCIuArY_LJaDt0dANRcwCm3A) and continue to accumulate new views every day.

Although the Global Gazetteer of Georeferences is currently functional, we will announce it through a social media campaign as soon as the service is migrated to the georeferencing.org domain and basic user documentation is ready (we estimate this to happen within the next couple of months). In the meantime, to those who directly participated in the workshops, we will send email notifications alerting them about the service being already functional. As explained in other sections of the report, the gazetteer is also part of a broader project, and it will also get further promotion through it.

9. Monitoring, evaluation and lessons learned

The project was completed satisfactorily, goals and deliverables were achieved.

Regarding the capacity self-assessments, there are no changes to report, except that GBIF Chile was underfunded.

Primary outcomes and their impacts:

-       Capacity enhancement: 77 participants from 48 institutions trained. Participants were selected considering their capacity to disseminate knowledge acquired within their institutions. Over the next couple of years there should be a measurable increase in the quality of data shared from our countries, particularly regarding georeferencing.

-       Georeferencing >6500 localities: improved quality of associated records, increasing their fitness-for-use. Georeferences available through the global gazetteer.

-       Global gazetteer of georeferences: all georeferences in GBIF records can be queried and retrieved. We expect that this resource will have a broad impact throughout the community, improving the quality of records and rendering them fit for more purposes. The gazetteer will integrate into a broader service (Annex 4), incrementing its impact.

Outcomes are well aligned with GBIF's Capacity Enhancement Framework[1] goal and guiding principles.

Evaluation:

Project success will continue to be reinforced by disseminating materials created and broadly promoting the global gazetteer service (see Sustainability section). The GBIF Secretariat may consider providing a single-entry point to

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[1] Raymond & González-Talaván. 2015. GBIF Capacity Enhancement Framework.

an index of training materials available from the community (see BITC[2] model). Such resource could augment visibility and reusability of materials produced by GBIF-funded projects and help avoid future effort duplication.

10. Sustainability plans

Project sustainability plans build on three components:

Capacity enhancement: continue to encourage replication of the workshops within our countries. A replica of the virtual workshop has been approved as an official course by the National University of Tucumán, Argentina, with participation of part of the project team (see Annex 5). We will also foster and support replicas in other countries within the region.

Training materials: continue to promote materials produced and improve some for future workshops (e.g., adding audio to presentations). The webinar videos continue to have new watchers every day, reaching a broader audience across the Spanish-speaking community.

Global Gazetteer of Georeferences: as the deliverable we expect to have broadest impact, we focused on securing its sustainability. As part of the BELS service (Annex 4), the cost for data storage and processing is supported by the Field Museum of Natural History. This service is also part of the broader project "DigiLeap" recently funded by the US National Science Foundation, starting January 2021, that includes Notes from Nature, Simbiota, GEOLocate and the BELS developer team. Through this collaboration, sustainability is granted at least for the next four years. We hope that BELS can be integrated in the future with the GBIF infrastructure.

11. Additional sources of verification

The following Annexes are attached to this report, and also available at the given URLs:

● **Annex 1 - Georeferencing priorities within the region**

https://docs.google.com/document/d/10v4Isdb0wfxJySfKczpryqM1AjQ0XVHLjTepC4h5AJs/edit?usp=sharing

● **Annex 2 - Workshop Memories - Argentina**

https://drive.google.com/file/d/1ciO3B9QfSIiMd7kMfGLDUioVeRXs5uMv/view?usp=sharing

● **Annex 3 - Workshop Memories - Chile**

https://drive.google.com/file/d/1Weh22as6BzWphngOFGUYFaQXvTg8YJwz/view?usp=sharing

● **Annex 4 - Biodiversity Enhanced Location Services**

https://docs.google.com/document/d/1_NRJdkRUajtHHhgS7h5w6LwzTZ6bfl3TDQjF8153Ffc/edit?usp=sharing

● **Annex 5 - Document relating to a workshop replica at the National University of Tucumán, Argentina**

https://drive.google.com/file/d/1H0KDV0vlR0-vN-Du8NLS59UIpkwakYy6/view?usp=sharing

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[2] http://biodiversity-informatics-training.org/