

Atlas of Living Australia - Living Atlases Technical Workshop



Narrative report

Atlas of Living Australia - Living Atlases Technical Workshop Madrid, March 2025

Institutional Affiliation of Participants

Atlas of Living Australia Consejo Nacional de Áreas Protegidas (CONAP) - Guatemala GBIF Asia Regional Support

GBIF France

GBIF Portugal

GBIF Secretariat

GBIF Spain

Institute for Environment and Nature - Croatia

Institute of Ecology and Biodiversity - Chile

National Biodiversity Network (NBN Trust) - United Kingdom

Research Institute for Nature and Forest (INBO) - Flanders, Belgium

Sistema de Informação sobre a Biodiversidade Brasileira (SiBBr) - Brazil

Swedish Biodiversity Data Infrastructure (SBDI) - Sweden



Workshop organisers







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NARRATIVE REPORT Living Atlases Technical Workshop

1. Executive Summary

The Atlas of Living Australia and Living Atlases Technical Workshop (<u>ALA-LAs Technical Workshop</u>) was held in Madrid, Spain, from 11 to 14 March 2025, gathering over 31 technical experts from 19 organizations across the GBIF network. The aim of the event was to strengthen collaboration and technical efficiency across the <u>Atlas of Living Australia</u> (ALA) platform and its international <u>Living Atlases</u> (LAs) community.

Hosted at the Real Jardín Botánico – CSIC and jointly organized by GBIF France, GBIF Spain, the Research Institute for Nature and Forest (INBO), and the Swedish Biodiversity Data Infrastructure (SBDI), the workshop was funded by SBDI through the Naturhistoriska Riksmuseet (Sweden). The workshop was the first in-person meeting of the ALA-LAs technical community since 2020. It was convened to revive the technical exchange and collaboration between developers and managers within the Living Atlases (LAs) community.

The event produced actionable outputs in key thematic areas, including governance, eDNA workflows, spatial portal sustainability, sensitive data handling, and internationalization. More information is available on the <u>ALA-LAs</u> Technical Workshop website.

2. Workshop objectives

- Reinforce collaboration among technical teams that use the ALA developed platform.
- Identify shared challenges and opportunities for collective technical development.
- Improve coordination with the ALA central team and clarify governance roles.
- Discuss sustainability strategies for local and shared components.

3. Participants

The workshop gathered over 30 participants from 19 organizations across 14 countries, representing both ALA-based initiatives and GBIF national nodes. Participants included software developers, data managers, and biodiversity informatics specialists. The complete list of participants can be consulted here ALA-LAs Technical Workshop attendees.

4. Workshop Structure and Content

The workshop was structured in two parallel tracks, developers and managers, with joint plenary sessions. Topics were organized into thematic sessions (see Table 1), each addressing a core challenge and outlining practical next steps.

Demonstrations and discussions featured tools such as the Occurrence Data Publisher, the Spatial Portal, the Metadata Explorer, and the new Collector module. All presentations and materials are available for download in the workshop's Attached Documents. Collaborative documentation was captured in Notion, with technical follow-ups continuing through GitHub and regular online meetings.

Table 1. Topics of the agenda

Developers	Managers	
Strategies for common LA installation procedures	Long term vision (Consortium, Community of practice)	
Spatial portal & spatial interfaces	GBIF collaboration	
Reuse of the GBIF infrastructure as in: Registry, GRSciColl, Collectory	Regional focus needs (such as for EU and Annex II, Natura 2000 uniformization,	
Managing sensitive data	invasive EU species), region-specific taxonomy	
Code documentation, issue management	Adaptation to CARE principles, new tracking systems for local community	
Identifiers sharing between ALA and GBIF	data, new extensions for socio-biodiversity data, and new ways for integration with GenBank in BIE	
Pipelines adoption and thresholds		
Reuse of the GBIF infrastructure as in: occurrence processing	Branding & internationalization	
Species list handling & management	eDNA datasets index in LA platforms	
Species pages	LAs community governance	
Event base data handling		
Taxon oriented: checklistbank, use of different taxonomies and Catalogue of Life		
Internationalization		
Final discussion and conclusions		

5. Outcomes and achievements

The workshop spanned three days and combined presentations, demos, hands-on sessions, and group discussions. The following sections summarize the main topics discussed and the agreed next steps and outcomes. A full list of follow-up actions is documented in the Action Plan.

5.1 Vision, Communication, and Collaboration

Topics discussed

- Communication breakdown since COVID and lack of dedicated coordination.
- Need to redefine community identity and governance structure.
- Fragmentation of the ALA codebase due to independent development.
- Limited engagement and transparency from ALA (Australia).

Next steps and outcomes

- Re-establish regular online meetings with rotating coordination.
- Clarify community membership and governance.
- Improve communication with ALA; prepare a joint letter (<u>Document</u>).
- Compile historical governance documents (<u>Link</u>) and reactivate Kilkenny Accord principles.
- Organize LAs gobernance meeting in Colombia (October).
- Explore technical collaboration models (shared repositories, fork scenarios).

5.2 Regional Reporting and EU Biodiversity Needs

Topics discussed

- Alignment of LAs outputs with EU directives (Habitats, Birds, Natura 2000).
- Potential of using species lists and spatial tools for national agency reports.
- Examples from GBIF Ireland and CESP-BIREME project.
- Integration challenges with existing governmental tools.

Next steps and outcomes

- Identify exact reporting needs per country.
- Explore development of LA-compatible workflows and shared repositories.
- Disseminate CESP-BIREME findings.
- Organize a virtual session on spatial analysis for EU reporting.

5.3 CARE Principles and Sensitive Data

Topics discussed

- Application of CARE Principles in biodiversity data (e.g., Indigenous governance).
- Technical solutions for managing sensitive data: role-based access, denaturing.
- Shared examples: UK, ALA, Flanders.
- GBIF's Indigenous Data Governance Task Group.

Next steps and outcomes

- Clarify roles and licenses for data ownership and restrictions.
- Follow developments from GBIF's governance task group.
- Share node level solutions and document best practices.
- Documenting implementations on sensitive data access.
- Explore encryption and metadata-based access models.

5.4 Branding and Internationalization

Topics discussed

- Branding reflects governance and community identity.
- i18n challenges: translation, encoding, local context.
- Membership criteria and inclusion of non-GBIF members.

Next steps and outcomes

- Develop and test an internationalization branch for the 'Area' report.
- Maintain and review the page "How to be a contributor to the community".
- Support multilingual user interfaces and local branding through modular approaches.

5.5 eDNA and Metabarcoding

Topics discussed

- Nature of eDNA as "live" and evolving data.
- MBDT as a toolkit for publishing metabarcoding data.
- SBDI's independent platform and potential LA integration.
- GBIF's vision for sequence-based data discovery.

Next steps and outcomes

- Build capacity within LA nodes for metabarcoding.
- Monitor development of GBIF sequence tools.

- Start a webinar series and initiate a survey on metabarcoding needs.
- Discuss possible integration of SBDI tools into LA workflow.

5.6 Spatial Portal - Usage and Sustainability

Topics discussed

- High potential across user groups (educators, land managers, agencies).
- Technical issues: export, import, stability, prediction tools.
- ALA deprioritization of the portal and need for shared maintenance.

Next steps and outcomes

- Establish an international <u>working group</u> on spatial portals and services to sustain and improve the portal.
- Focus on stabilizing core functionalities and simplifying the interface.
- Improve documentation and installation processes.
- Gather user feedback via national workshops.
- Implement spatial portal tools updates.

5.7 Shared Development

Topics discussed

- Lack of visibility and coordination of contributions across LA instances.
- Fragmentation of repositories and duplication of efforts.
- Need for metrics and recognition of contributions to ALA.

Next steps and outcomes

- Publish and maintain metrics of LA code contributions to ALA (metrics.l-a.site).
- Remove outdated communication channels (remove X/Twitter account).
- Document sensitive data implementations.
- Treat pipeline indexing pain points collectively.
- Establish a shared GitHub organization and contribution guidelines.
- Coordinate responses with ALA for community concerns.

6. Lessons Learned and Challenges

- What worked well: in-person format fostered rich discussions and hands-on collaboration. The diversity of participants allowed for broad perspectives and solution-sharing.
- **Challenges:** Time constraints limited deeper dives into specific technical topics. The need for more structured onboarding and documentation was highlighted.
- Recommendations: Future workshops should allow more time for co-development and include preparatory virtual sessions to align expectations and technical baselines.

7. Results

Following the workshop, the participants committed to:

- Reviving a shared governance process (Kilkenny Accord principles revived).
- Producing concrete outputs: metrics dashboard, contributor guidelines, sensitive data wiki, and spatial portal working groups.
- Implementing clear next steps: October governance meeting, follow-up webinar series, repository organization, and stronger communication structures (Slack, mailing list).

8. Closing Remarks

The Madrid 2025 workshop marked a turning point for the Living Atlases community. Beyond discussions, the community committed to tangible follow-up actions, many of which have already been completed. These include the delivery of key messages to ALA, the establishment of new working groups, publication of sensitive data practices, and the creation of contributor guidelines.

Pending actions, including governance discussions in Colombia, technical improvements in pipelines and the Spatial Portal, and community-wide webinars, reflect a shared determination to consolidate the Living Atlases as a self-sustaining, collaborative, and innovative network.

The workshop outcomes demonstrate that the LA community is moving from fragmented efforts toward a coordinated ecosystem, one capable of piloting biodiversity data solutions that benefit both national priorities and the global GBIF infrastructure.

9. References and Key Links

- Workshop webpage: ALA-LAs Technical Workshop, Madrid 2025
- List of participants and affiliations: <u>ALA-LAs Technical Workshop attendees</u>
- Workshop presentations and materials: <u>Direct download folder</u>.
- Collaborative notes and documentation:
 - o <u>Living Atlases GitHub</u>.
 - Living Atlases Slack workspace