

Tender Document for Development of Dynamic Mapping Products for the NBN Atlas

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1. Introduction

The National Biodiversity Network Trust (NBN Trust) invites qualified vendors to submit proposals for the development of enhanced mapping products. The goal is to create high-quality, dynamic, and easy-to-interpret maps that improve data presentation and user experience. The selected vendor will be tasked with requirement gathering in partnership with the NBN Trust, and possibly partner organisations, and proposing the best solutions to generate map updates, that utilise open-source tools, that can integrate with the NBN Atlas and build innovative mapping solutions for our internal and external users.

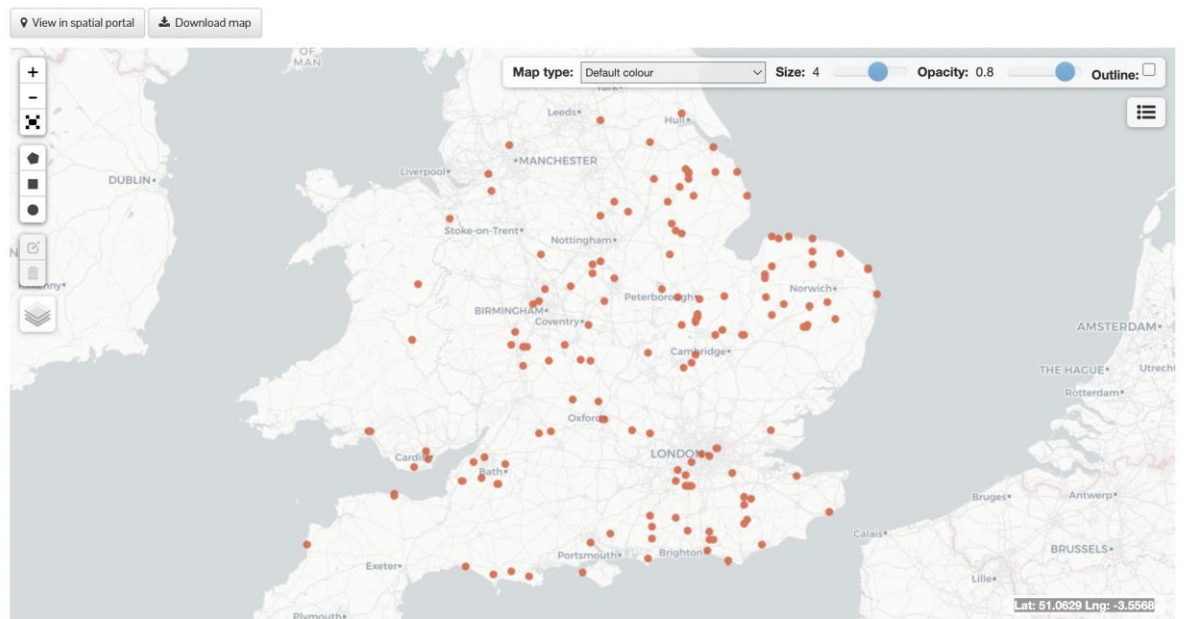
This document outlines the requirements, submission process, and terms for the tender.

1.1 Existing Mapping Capabilities

The NBN Atlas is built upon the Atlas of Living Australia (ALA) open-source [Living Atlas Platform](#). The supportable tech stack is MVC Java based but there is a move to React for the front end. It implements an OGC WMS with added support for OSGrid and GeoJSON. Layer management utilises GeoServer.

We have four types of maps on the NBN Atlas:

1. Embeddable maps which are either static PNGs or Leaflet based. Less technical users are provided with an iframe which provides a wrapper around the implementation.
2. A powerful spatial portal that has incomplete documentation and poor uptake by users: spatial.nbnatlas.org. Potential opportunities to phase upgrading this service include having two modes of use and hiding advanced functionality in a simpler mode.
3. A county based exploratory portal: <https://regions.nbnatlas.org/20>
4. Species distribution maps integrated within the NBN Atlas which are powered by Leaflet and backend webservice that provides the faceting options etc. See <https://records.nbnatlas.org> and <https://species.nbnatlas.org>



2. Objectives

The primary objectives of this tender are to:

- Enhance our understanding of open-source mapping trends and knowledge of current products to create modern and interactive maps extendable by ourselves and partner organisations.
- Be in a position to **build dynamic, user-friendly maps** that integrate various data layers and are easy to interpret by users, regardless of their technical expertise.
- Have clear recommendations, based on best practice mapping implementations from within the environment sector and user requirements.
- Whilst **ensuring compatibility** with existing systems and platforms.

3. Scope of Work

The selected vendor will be responsible for the following:

3.1. Existing Code and API Utilisation Review

- Review and analyse the current mapping system of the NBN Atlas and other example best practice in the sector, identifying areas for improvement.
- By utilising the existing WMS and Atlas data API (or extending them), propose and if applicable develop prototyped enhanced mapping capabilities.
- Ensure the solutions can handle dynamic data where applicable.

3.2. Map Features

- **Clean and Intuitive Design:** The solutions should create maps that are visually appealing, clean, and easy to interpret for various audiences.
- **Interactive and Dynamic Elements:** Enable users to interact with the map, such as zooming, panning, and toggling map layers.
- **Data Layer Integration:** Incorporate multiple data layers (e.g., location-based data, geospatial data, points of interest) and allow for easy customisation of these layers.
- **API Access:** If applicable, provide an API for internal and third-party developers to access and integrate map data.
- **Embeddable:** Ideally any map services solutions will be embeddable for third parties.

3.3. Documentation and Support

- Provide a report of the findings, including requirements and recommendations together with any relevant developer guides e.g. for future integrations.
- Offer support for developers on the best options to take this work forward.
- On completion of any prototype development, hand over code into designated repository and walk through configurability.

4. Deliverables

The successful bidder will be expected to deliver:

- A future road map and recommendations for building the mapping services in the NBN Atlas.
- A working prototype of an updated mapping product or a new map service based on the agreed-upon scope, and the code.
- A full demonstration and any necessary hand-over.
- We anticipate that any software developed would be transferred, with the licence to be agreed upon.

5. Technical Requirements

- **Platform Compatibility:** The map solution should be compatible with modern browsers (Chrome, Firefox, Safari, Edge).
- **API Integration:** Capability to integrate with existing APIs or develop new APIs as required. Third parties API integration

- **Data Security:** Implement appropriate security measures to safeguard any data, especially sensitive geospatial or user data.
- **Performance:** The system should load maps and data quickly, with minimal latency.
- **Scalability:** The solution should be scalable to accommodate future growth, including additional data layers, features, and user traffic.

6. Eligibility Criteria

To be eligible to submit a proposal, the vendor must:

- Demonstrate a proven track record in developing mapping solutions.
- Provide examples of similar projects completed, including case studies or references.
- Show expertise in the integration of APIs, dynamic map development, and/or geospatial data processing.
- Have a team capable of delivering the solution within the required timeline and meeting the specified quality standards.

7. Proposal Submission Requirements

Vendors are requested to submit the following:

1. Technical Proposal:

- Overview of your proposed approach and methodology.
- Detailed plan for an audit of existing capabilities and options for prototype design, development, and deployment.
- An indication of the proposed timeline for completing the project.
- Overview of the team and their qualifications.

2. Financial Proposal:

- A breakdown of the cost, including all fees for development, testing, deployment, and post-delivery support.
- Payment schedule.

3. Previous Work / Case Studies:

- Examples of relevant mapping products or applications developed in the past.
- References from previous clients, if available.

8. Evaluation Criteria

Proposals will be evaluated based on the following criteria:

- **Technical Capability:** The quality and feasibility of the proposed approach.

- **Experience:** The vendor's relevant experience and track record in delivering mapping solutions.
- **Cost-effectiveness:** Value for money and clarity of the financial proposal.
- **Timeline:** The proposed timeline for delivery and milestones.

9. Submission Deadline and Instructions

All proposals must be submitted by 14 January 2025 to the following address:

- m.hardie@nbn.org.uk

Late submissions will not be considered.

10. Terms and Conditions

- The NBN Trust reserves the right to reject any proposal without providing reasons.
- The successful vendor will be required to enter into a formal contract with the NBN Trust.
- The NBN Trust may request clarification or additional details from bidders before making a final decision.

11. Further Project Information

The NBN Trust is a charity with a mission to 'Make data work for nature' and we host and manage the largest national biodiversity data repository, the [NBN Atlas](#). Maps of UK nature are embedded throughout the application but have not been optimised for the volumes of data we now hold. We also have a number of [web APIs](#) for querying the data, however these do not integrate well with proprietary mapping software on the market.

There are good practices and mapping solutions that our larger data sharing partners have developed that we could learn from. There are also organisations that we support with a [mapping service](#) to embed species maps into their own websites that is now out-dated and in need of updating.

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