United Nations GEGN.2/2025/8

Economic and Social Council

Distr.: General
10 February 2025

Original: English

**United Nations Group of Experts on Geographical Names**
**2025 session**
New York, 28 April–2 May 2025
Item 5 (b) of the provisional agenda*
**Technical expertise: geographical names data management**

# Stadnamnportalen, the Norwegian geographical names portal

## Summary**

Stadnamnportalen is an innovative technical platform developed for the management of geographical names under the Norwegian Language Collections project of the University of Bergen.[1] The platform is an example of how modern technology can enable evidence-based standardization while at the same time preserving cultural heritage. Launched in June 2024, it is currently used to manage 1.7 million entries and 3.8 million source forms, which makes it one of the most comprehensive geographical names management systems in the world.

The technical architecture is the result of a deliberate move away from traditional database-centric approaches. Instead, a more flexible infrastructure was adopted that better accommodates diverse user needs and heterogeneous datasets. The system utilizes Git Large File Storage (Git LFS) for data retention and Elasticsearch for search capabilities, which enables direct file-to-index processing and significantly reduces system complexity while maintaining robust functionality. A key innovation is the platform's data management strategy, whose salient features are flexibility and standardization. Each dataset keeps its independent search index while supporting aggregated indexes on the basis of standardized place name identifiers. The document structure is based on JavaScript Object Notation (JSON), which lets it accommodate both unconstrained original data fields and standardized fields with defined constraints, thus ensuring the preservation of source material while enabling consistent cross-dataset functionality.

* GEGN.2/2025/1.

** The full report was prepared by Peder Gammeltoft (Norway), Norwegian Language Collections, University of Bergen. The report will be available at https://unstats.un.org/unsd/ungegn/sessions/4th_session_2025/, in the language of submission only, as document GEGN.2/2025/8/CRP.8.

[1] Available at https://stadnamnportalen.uib.no.

Another feature of the platform is its comprehensive cross-referencing using the Universally Unique Identifier (UUID) standard while maintaining connections to external reference systems such as Wikidata for administrative units and the Norwegian feature type codes (Systematic Organization of Spatial Information, SOSI) for geographical feature types. Integration with PostGIS software enables sophisticated spatial data handling, while an image server compliant with the International Image Interoperability Framework (IIIF) facilitates the management of historical documentation.

The front end leverages Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), the JavaScript programming language and the Leaflet.js JavaScript library to ensure interactive mapping capabilities and offer multiple options for data visualization such as list, hierarchical and table views. The interface is fully compliant with the Web Content Accessibility Guidelines (WCAG), which ensures universal accessibility as required under Norwegian law. Automated processes, implemented through GitLab Continuous Integration and Continuous Delivery (CI/CD) pipelines and so-called cron jobs is used to handle data preparation and updates. Scripts written in the Python programming language are used to manage the conversion of various input formats to Elasticsearch-ready JSON files, while the RESTful application programming interface (API) supports efficient data retrieval and display.

The platform's flexibility demonstrates how the use of modern technical infrastructure can support the inclusive, culturally informed standardization of geographical names and result in evidence-based tools for sustainable development. Its combination of standardization and flexibility, coupled with robust automation and user-friendly interfaces, is a valuable model for geographical names authorities around the world that are considering the digital transformation of their resources.