Living community-based digital platform for the storage and sharing of toponymic knowledge among Siberian Ewenki[1]

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1. Introduction: The Ewenki language

The Ewenki people (also Evenki, Evenks) are one of the Indigenous communities of Russia, with a total population of approximately 38,000 people (Census 2010). Their numerous communities are traditionally characterised by their subsistence orientations toward hunting, reindeer herding, horse breeding, fishing, and gathering. This is one of the most widely spread and previously highly nomadic communities in Eurasia. The area of their settlement in Russia comprises 7 million square km. This area stretches from Western Siberia in the west to the Okhotsk Sea in the east, from Taymyr Peninsula in the north to the steppe region of Buryatia in the south. Besides Russia, Ewenki-speaking communities also live in Mongolia and China. The uniqueness of the Ewenki lies in the fact that they live in such expansive and diverse environmental surroundings as mountainous taiga, semi-tundra, coasts, and steppes.

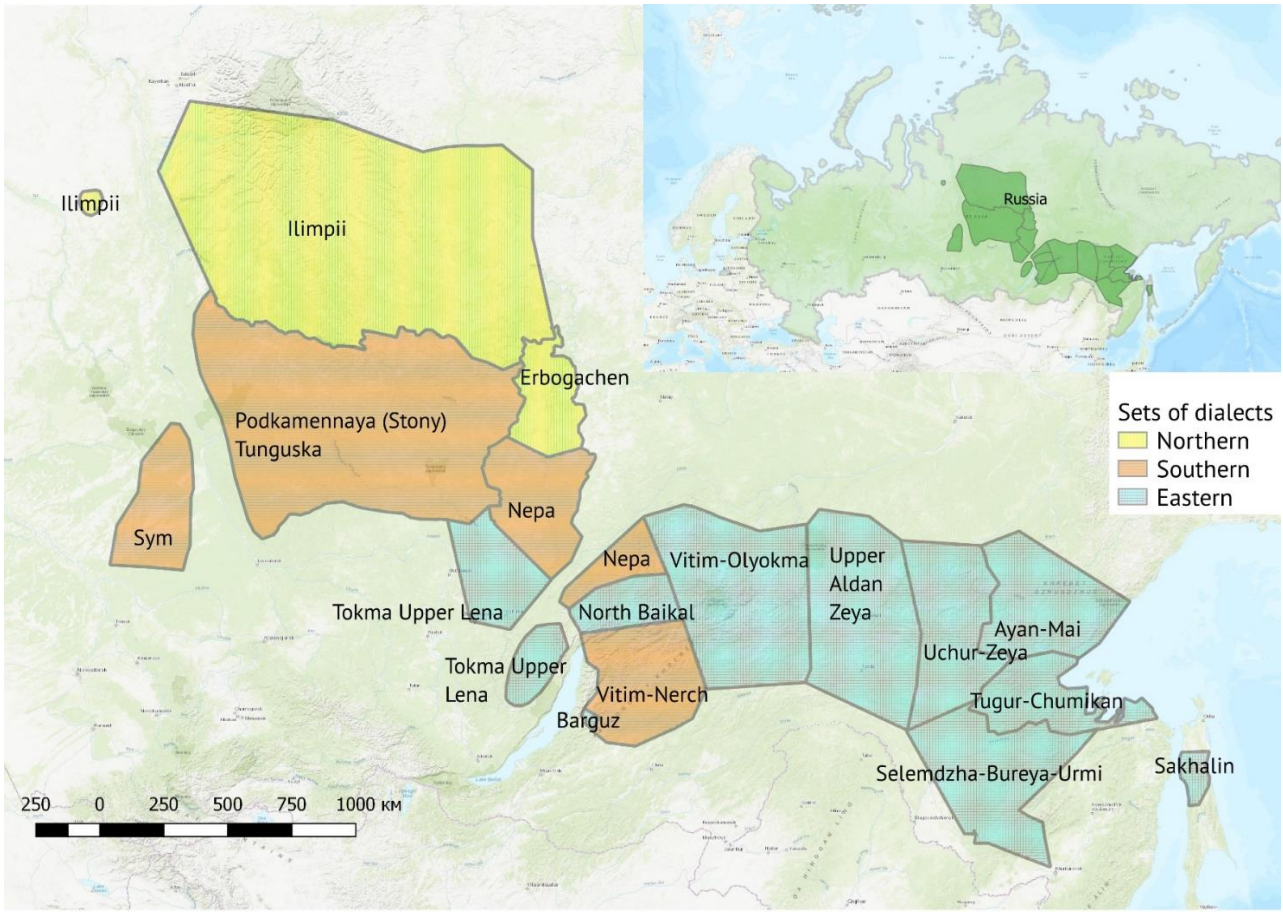
The Ewenki language is traditionally classified as one of the Tungusic languages belonging to the Altaic language family along with Mongolic and Turkic languages. This language is agglutinating with SOV word order. All suffixes are added to the stem of the word in a strict order. The system of derivational morphology is very rich and productive, with nearly a hundred derivational suffixes (see Nedjalkov 1988). According to Etnologue, Ewenki is an endangered language.[2] Of the population of 38,000 Ewenki in Russia, only 10% speak the native language. Yet the situation may significantly vary from one community to the other.

As for dialect variation, the Ewenki language spoken in Russia is divided into three groups: Southern, Northern and Eastern, with more than fourteen dialects comprising over fifty subdialects (see Map 1). This three-branch classification is rather conventional and based on the

[1] : http://toponymics-live.net/sistema-dannykh
[2] Evenki | Ethnologue

variation of s/h at the beginning of the word and in intervocalic position which is challenged in contemporary research (see Bulatova and Grenoble 1999). All dialects are considered by linguists to be closely related varieties of one language as all of them are mutually intelligible. Despite such a huge territory of their distribution, there are similar cultural and linguistic features among all Ewenki communities (Atknine 1997). The similarity of the language within such a huge geographic area suggests the recent adaptation of the people to the Siberian environment (Pevnov 2012). Yet there is a distinction between the most western and the most eastern communities, i.e., living in proximity to the Yenisei River to the west and in the territory known as the Russian Far East to the east, not only in regard to phonetics but also in terms of vocabulary and grammar (Vasilevich 1948).

Map 1. The distribution of the Ewenki sets of dialects in Siberia.



2. Research Proposal: The Aim and Goals

Research has long shown the importance of place names (toponyms) among Indigenous people. Yet Indigenous members do not always have access to their cartographic and toponymic materials collected by scholars. The project proposed the creation of an open-accessed living digital platform based on the Ewenki toponymic database and vernacular cartographic material. The Ewenki toponymic database was designed within a previous project and represents an open access repository of Ewenki place names from thirty hand-written maps collected by the Soviet researcher Glafira Vasilevich in Siberia in the period from the 1920s to the 1960s (these maps are stored in the archive of the Museum of Anthropology and Ethnography, Russian Academy of Sciences). During our fieldwork (by N. Mamontova) in Yakutia among the same Ewenki communities almost a hundred years after Vasilevich we have established that at least thirty percent of the names have changed over time. The changes concern not only the names themselves but also their morphology and geographical location. This fact challenges the idea of static landscapes, with names pinned on them. Our comparative field data, obtained in the Khabarovsk Region, has further showed that Ewenki place names are not only reproduced but also changed and created (Mamontova 2020; Mamontova at al. 2022). Therefore, temporal and geographic comparisons of place names have clearly demonstrated that, along with a conventional understanding of Indigenous place names as stable, conservative and even ancient, there is a dynamic model of place naming to be found in nomadic societies. This finding required a number of methodological approaches regarding how researchers might collect and analyse geospatial concepts and place names in nomadic societies. Our project attempted to approach this issue through the creation of an open digital platform which we named ‘the living toponymic platform’.

3. Why living toponymic platform? Towards process toponymy

This project aimed at developing a flexible tool for representing Indigenous place names knowledge and enabling Indigenous communities, first of all Ewenki-speaking, to contribute, share and exchange their knowledge here-and-now. It was also aimed at providing Indigenous communities with access to their cartographic and toponymic heritage. In research on Indigenous cartography toponyms are usually considered separately from mapping. Yet community-based mapping may reveal a lot about how Indigenous people select and represent spatial relations and

what kind of place names they select to map. The specialist in Inuit cartography Robert Rundstrom (1991) proposes to have a look at cartography and map making as a dynamic process and refers to it as a 'process cartography'. He writes, 'Process cartography consists of two concentric ideas. It situates the map artefact within the mapmaking process, and it places the entire mapmaking process within the context of intarcultural and intercultural dialogues occurring over a much longer span of time' (Ibid.: 6). In our project we have adopted the term "process" regarding toponymy to highlight the temporality of toponymic knowledge production.

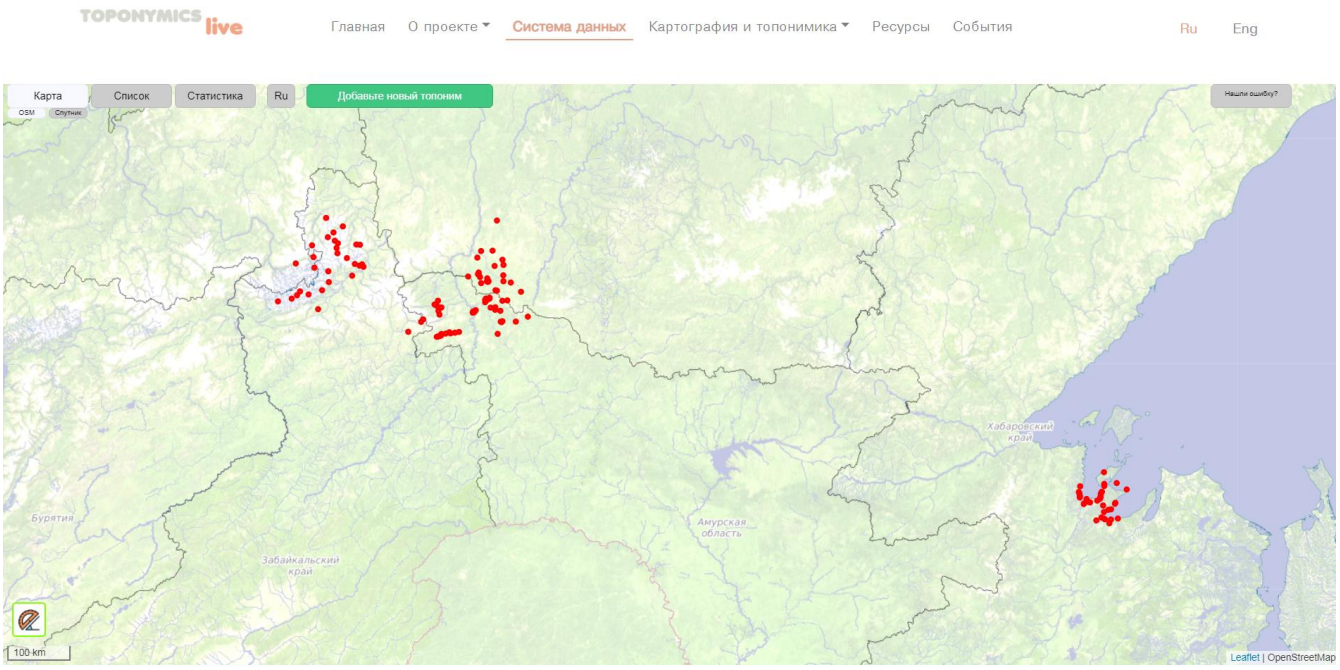
Such existing community-based digital mapping systems like OSM or Wikimapia have several limitations which prevented us from using them. First, their entry thresholds are high as the editing tools are not intuitive. Second, they were designed to reflect globalised and hence rather homogenous toponymic knowledge which makes it hard to use them as a tool for representing data on Indigenous toponyms and related traditional knowledge. Finally, their taxonomical units do not allow us to analyse linguistic information and data on how toponyms are used semantically and pragmatically, as well as their multilayered meanings and associated narratives. This information is also missing on conventional place names atlases which fail to represent Indigenous toponymic knowledge as a dynamic process. Two prominent exceptions include the Cybercartographic Atlas of Indigenous Perspectives and Knowledge of the Great Lakes Region in Ontario and the Inuit SIKU Atlas of sea ice, which are both based on Nunaliit software. Yet they were not designed for documenting toponymic knowledge. In contrast, the living toponymic platform allows its users, both researchers and community members, to publish a great variety of data concerning toponymic knowledge in synchronic and diachronic perspectives.

To sum up, the living toponymic platform is:

- Toponymic data storage with open access;
- A flexible tool for representing and sharing Indigenous place names;
- An attempt to bring together Indigenous vernacular cartography (sketch maps, oral stories, narratives about place and space) and GIS technology;
- A community-engaged platform enabling Indigenous communities to contribute, share and exchange their knowledge here-and-now;

- ❖ An analytical tool for doing research on Indigenous place names in a comparative perspective;
- ❖ An open-ended project (requires minimum supervision; can be adapted to other language communities).

Fig. 1. The interface of the living toponymic platform.



4. The structure and content of the living toponymic platform

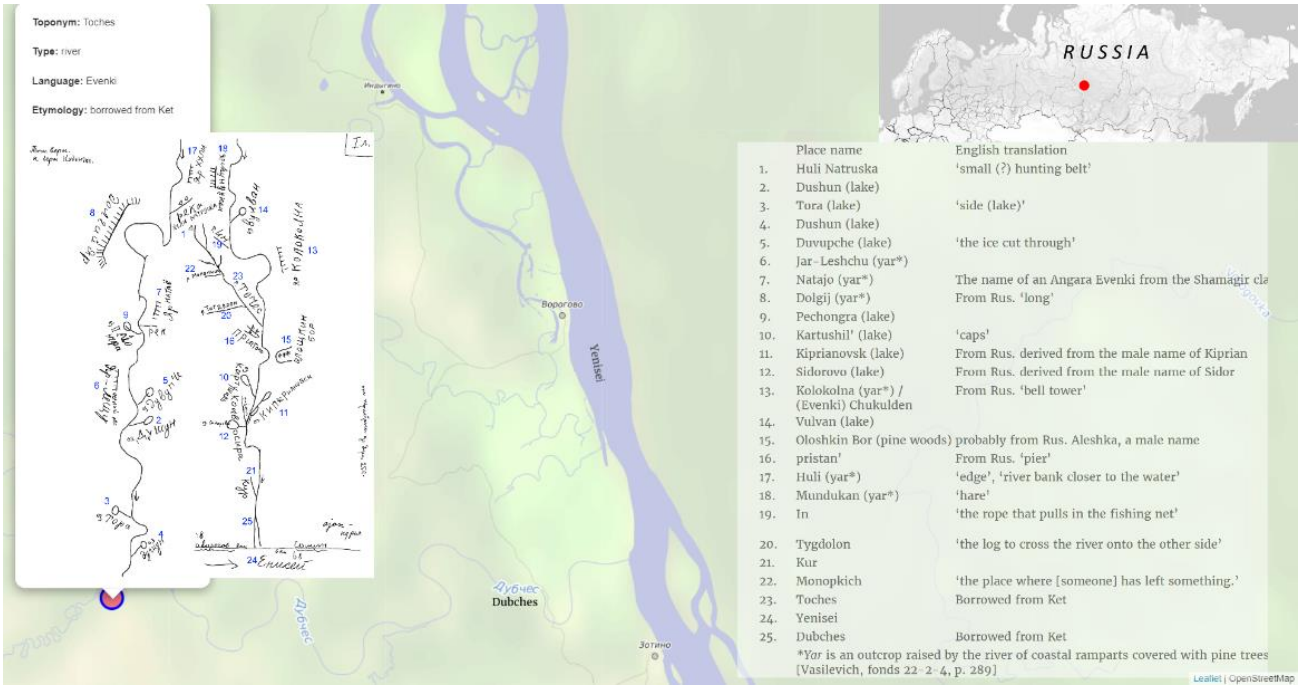
The living toponymic platform consists of three major components: the Ewenki toponymic database, the GIS platform, and a web-site.

4.1. The Ewenki Toponymic Database

The database was created as a storage place for Ewenki toponyms. Most of the toponyms in the database, which is linked to the platform, are from Vasilevich's archival sketch maps. All the maps were created by or with Ewenki and represent their own vision of the local hydrological

systems. The names were recorded in the local dialects and carefully located on the maps; some maps indicate the names of the Ewenki authors as well. The first step was to integrate this archival material into the GIS platform to provide Ewenki communities and scholars with access to this valuable Ewenki cartographic and toponymic heritage. We have established the location of the major river systems from the archival maps and then geolocated them using the platform (Fig. 2).

Fig. 2. A fragment of a sketch map (on the left) representing the place name system of the Yenisei River, collected by Vasilevich (MAE RAN, fonds 22-2-75: 6) as seen in the platform.



Other materials in the database include the following (see Fig. 3):

- Field materials collected by N. Mamontova from Ewenki in the Khabarovsk Territory (2017), Yakutia (2018), Amur and Transbaikal Regions (2021): 15 maps with around 400 toponyms;
- Field materials collected by E. Klyachko and her colleagues from Ewenki in the Ayan-Mai Region, Khabarovsk Territory, in 2021;
- Ewenki place names from sketch maps published by Bruno Adler (1910) (planned);
- Toponymic and cartographic data from Ewenki research participants.

Fig 3. The Ewenki digital toponymic database.

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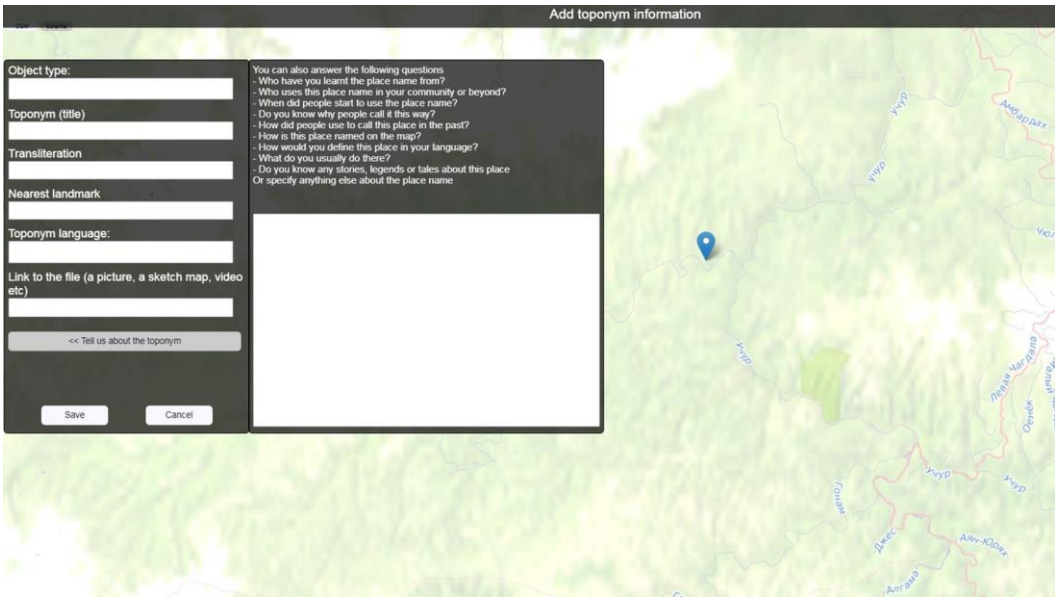
	Name	Translation (Russian)	Translation (English)	Motivation (Russian)	Motivation (English)	Comment	Area it belongs to (Russian)	Area it belongs to (English)
	Болгик	Стланик	NA	флора	flora	куст	None	None
	Болгикта	Стланик	NA	флора	flora	куст	None	None
	Болгиктакан	Маленький стланик	NA	флора	flora	куст	None	None
	Болдикта		NA	неизвестно	unknown		None	None
	Болодёкит	Осенняя стоянка	NA	круг кочевания	nomadic circle		None	None
	Болсоира Тугульчес		NA	иноязычное	foreign language	кет	None	None
	Бохорук		NA	неизвестно	unknown		None	None
	Бутунар		NA	неизвестно	unknown		None	None
	Буарик	Горелое место	NA	ландшафт	landscape	экотон	None	None
	Буарикта	Горелое место	NA	ландшафт	landscape	экотон	None	None

4.2. The GIS-based Toponymic Platform

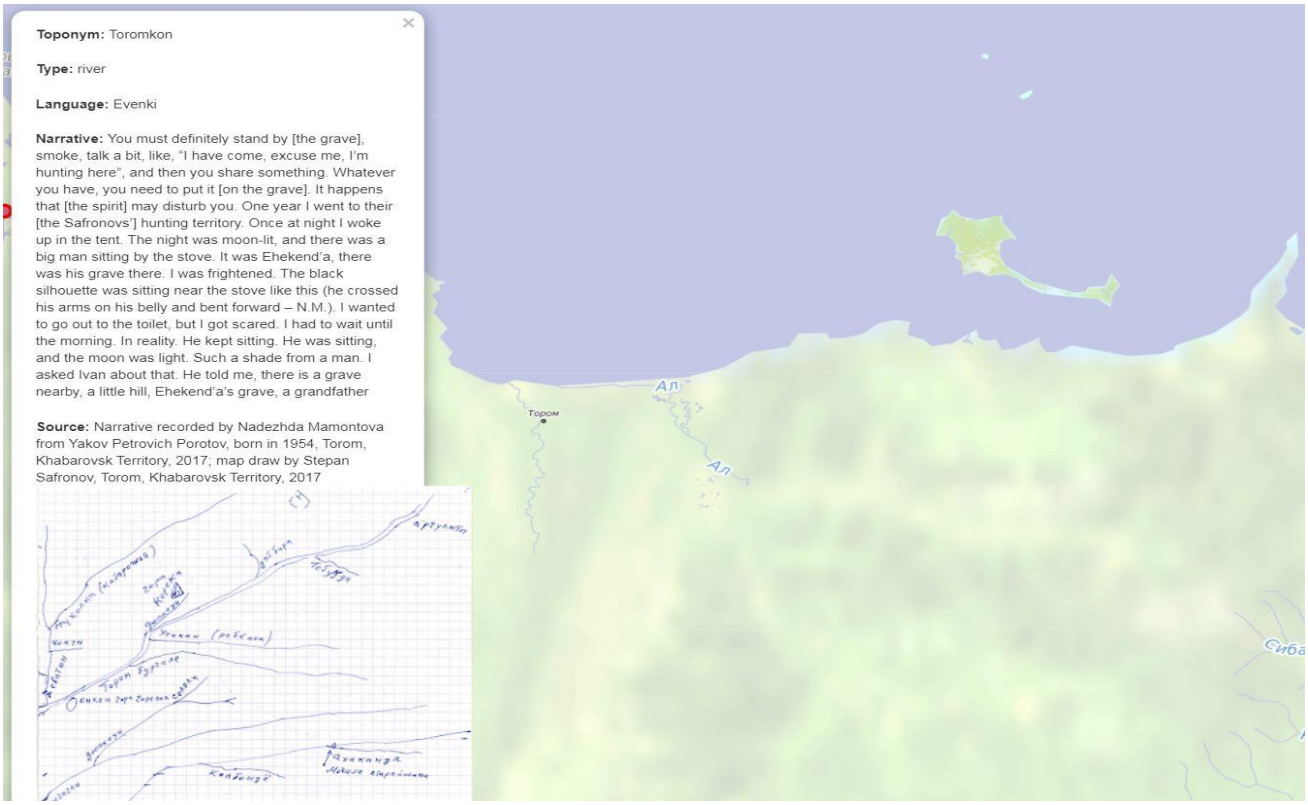
The GIS platform (designed by Sergey Golubev) constitutes the main component of the project. The platform allows Indigenous members and scholars to both access archival and published materials, which have already been integrated into the platform via the toponymic database, and add new data. For the latter the platform includes a special elicitation form (Fig. 4), with a number of questions helping the user to add toponym-related information, including its name in a native language, the landmark which is linked to the toponym, the name of this landmark in the native language and its approximate translation, and a set of open questions regarding the use of the toponym in the community, its origin and location. The elicitation form was created on the bases of two guidelines developed by the researchers from the Max Plank Institute for Psycholinguistics (Bohnemeyer 2001; Bohnemeyer et al. 2004). Researchers working in this field posit that humans in general and Indigenous people in particular perceive and classify landscape objects very differently and that this difference can be documented and analysed through research on geographical terms and concepts. For example, the Ewenki language represents a huge variation in meanings of the basic landscape terms along the dialect continuum (see Mamontova et al. 2020). Hence, there is the necessity to document not only the names but also the corresponding landscape terms. The elicitation form helps users to identify what kind of information they can upload. Yet it does not restrict their choice.

Fig 4. The toponym elicitation form.



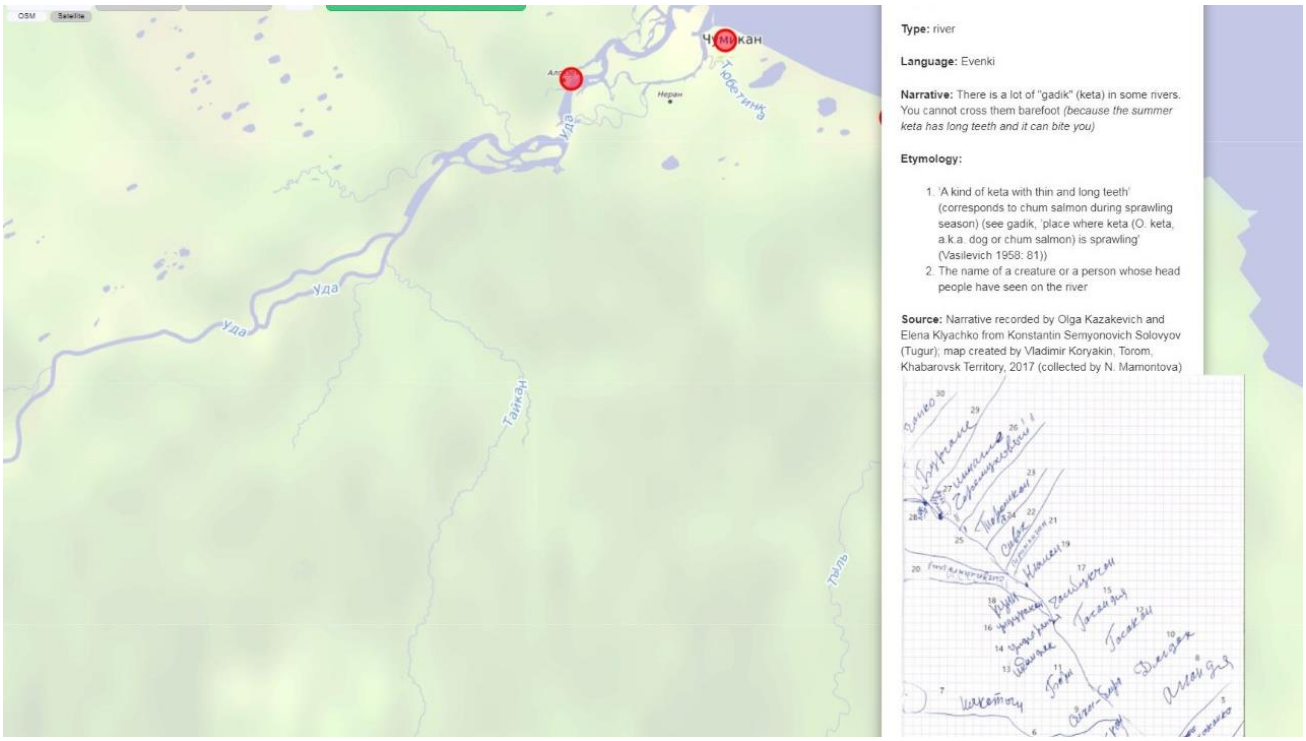
The user can also attach a picture, a sketch map, or a video to further illustrate toponymic data, for example, in the situation when the geolocation of the toponym is not possible. It can happen when named geographic objects are minor (for example, glens, small rivers, sacred places, etc.) and hence poorly visible on conventional GIS maps. Additionally, archival materials often lack information on the precise location of named places and this fact makes it hard to identify their location on the GIS map. To solve this problem, the platform allows to upload sketch maps and other non-standard cartographic information and to apply mixed forms of representation, combining GIS with community-based cartographic traditions. Besides sketch maps, these traditions may include narratives and mythological stories which serve as a form of cartographic knowledge in some Indigenous communities. For example, some Ewenki place names are not bound to certain landmarks but rather represent networks and are connected to story-telling traditions and nomadic practices. In other words, they are placed in a certain context which is rather hard to represent through conventional cartography (see Fig. 5). The platform is also provided with hyperlinks leading to the related online project, ‘Siberian Lang’, where one can listen to Ewenki narratives associated with particular named sites or place naming traditions in general.

Fig. 5. A sketch map (by Stepan Safronov) and a narrative explaining the origin of one of the place names on the map (by Yakov Porotov) collected by N. Mamontova in Torom, Khabarovsk Region, 2017.



Additionally, some place names appear to have changed over time. Therefore, the platform shows all old and new names of the same places if such information is available. Some place names may develop several and equally important interpretations. The users can both edit the information and contribute to the project thereby helping to create a community-engaged toponymic database. To do that, the platform is provided with an intuitive user-friendly interface making it easy to access and to both add and correct the data. It is also possible to add several meanings of the same name and / or provide the place with additional data. For example, the following figure shows all possible meanings of the name Gatkan, the source of information, an associated comment on the meaning of the name, and a sketch map.

Fig 6. An example of a place name with multiple meanings as seen in the platform.



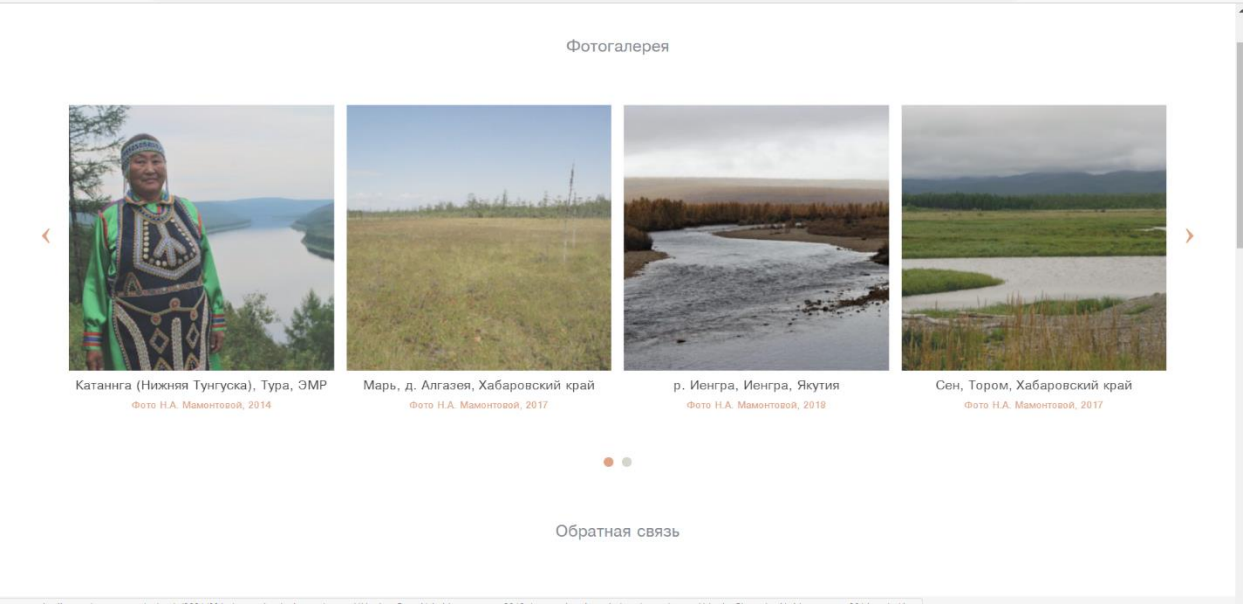
To sum up, the following toponymic information is available in the platform:

- Indigenous toponyms with their geographical positions and comments on their meanings and how they are used pragmatically in the community;
- Documentation of several names of the same place in a chronological order allowing users to examine how the names have changed along the timeline;
- Etymology and / or multiple meanings of the same toponyms;
- Narratives related to the toponyms, including mythological stories;
- Linguistic features of the toponyms (toponymic suffixation, dialectal and semantic differences, semantic shifts, etc.);
- Elicitation form and community-based guidelines for collecting, mapping and publishing toponyms and related toponymic knowledge;
- Archival and sketch maps with place names;
- Statistics on the toponyms' usage and their distribution.

4.3. Web-site

To make it easier to work with the platform, we have developed a website (designed by Ksenia Novikova) with detailed information about the project, its background, aims, materials, and results. The web-site also contains a section providing basic information about Indigenous cartography and place names studies, a list of major bibliographical sources about Indigenous toponymic and cartographic research, the abovementioned guidelines, contacts, and geolocated photographs of landscape features, named sites, and research participants obtained during fieldwork. The photographs of the landscape objects are provided with corresponding Ewenki landscape terms.

Fig 6. The images section on the web-site.



5. Ethics and Collaboration

This project is generally focused on tight collaboration with Ewenki speech communities. The open platform suggests that Ewenki participants can contribute online to the ongoing project regardless their geographic location. We expect that this project will bring attention to the state of Indigenous place names and facilitate the development of similar projects on the bases of other Siberian Indigenous languages, either via the same platform or independently. The platform will remain available online and free from charge.

Through our fieldwork, seminars, and collaboration with community members (see Photo 1), including the Ewenki activist and journalist Andrey Isaev, we have introduced the platform to Ewenki participants and enabled them to engage with it.

The results of the project have been disseminated through the Institute for Humanities Research and Indigenous Studies of the North (Yakutsk), the Institute of Ethnology and Anthropology, RAS (Moscow), the Institute of Linguistics, RAS (Moscow), and the University of Northern British Columbia (Prince George, Canada). The project was also presented at ICASS X (June 2021). The platform will be further introduced at a series of round-tables and online seminars with Ewenki and other Indigenous participants in due course.

The data collected within this project is only available for non-commercial use under Creative-Commons Licenses. As this platform is publicly available the web-site contains a link which by clicking the users will then agree with the project's aims and ethics and declare their agreement to voluntary share toponymic and other related information with other people. Some data, for example, archival materials, can be protected by copyright. In this case, additional guidelines on how to use the data are provided.

Photo 1. Working with Ewenki native speakers (Tamara Andreeva). Ust-Nyukzha, Amur Region. Photographed by N. Mamontova, 2020.

6. Related projects

This project is related to Dr. Mamontova's current research at UNBC, British Columbia, titled 'Vernacular Geography and Indigenous Participatory Mapping in Soviet Russia: Examining the Legacy of Glafira Vasilevich's Cartographic Project', financed by Banting Postdoctoral Fellowships, under the mentorship of Prof. Gail Fondahl.

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