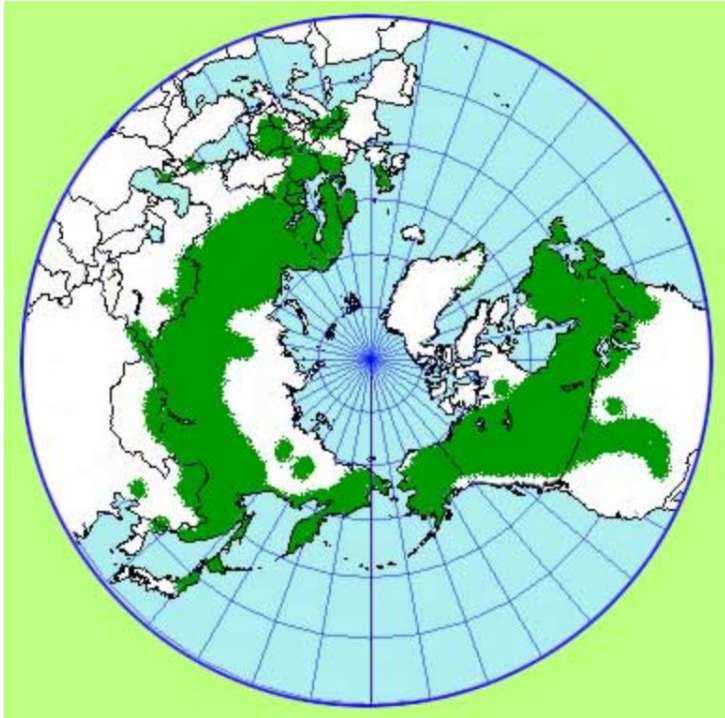


Процесс моделирования

Linnaea borealis L.

e-flora for Central Yukon

<http://www.flora.dempstercountry.org/>



Наблюдения *Linnaea borealis* в iNaturalist

на 15 августа 2020 года, с точностью привязки не более 2500 м
всего - 5008 наблюдений,
из них в России - 516



Создаём набор находок целевого вида

Файл формата CSV (Comma Separated Values)

Минимум два поля с заголовками '*lat*' и '*lon*'


Значения координат в десятичных градусах

Может быть третье поле '*month*' для моделирования миграций
(Migratory Modelling Experiment)

Основные этапы

1. **Description.** Заголовок и описание модели
2. **Occurrences.** Выбор набора данных с точками находок.
Можно загрузить таблицу и создать свой набор данных (рекомендуется)
3. **Absences.** Точки отсутствия (искали, но не нашли), если нет - оставляем по умолчанию, в таком случае рассчитывается набор точек pseudo-absence
4. **Climate** ... Выбор климатических данных и условий окружающей среды - растровые слои. Можно также создать свой набор данных с слоем (слоями).
5. **Constraints.** Ограничение территории. По границам растров П. 4, вручную или по shape-файлу. Границы применяются к точкам и результатам.
6. **Выбор алгоритма моделирования.** Всего алгоритмов 17, которые объединены в 4 группы: географические, профильные, статистические (регрессионные) и с машинным обучением

Все загруженные
наборы данных
доступны для
других
пользователей


 BETA Datasets ▾ Experiments Training Support Share Maxim Shashkov ▾

Available Datasets


Do you have a dataset you would like to see available in the BCCVL? - [Contact us](#) and we'll try and make it happen. ✕

Search Datasets Browse Collections Get Species Data Upload Dataset

Search

Source

Domain

☐ Freshwater datasets

☐ Terrestrial datasets

☐ Marine datasets

Summary

☐ Summary datasets (long term)

☐ Monthly datasets

Time Period

☐ Current

☐ Future

Scientific Type

☐ Biological

☐ Occurrence

☐ Multispecies

☐ Absence

☐ Traits

☐ Environmental

☐ Climate

☐ Topography

Collections

Sort By: Modification date ▾ ☒ Reverse 1 2 3 4 5 6 7 ... >

Fibre-Ball Weed (*Posidonia australis*) occurrences

Observed occurrences for Fibre-Ball Weed (*Posidonia australis*), imported from ALA on 20/09/2020

Rows: 716

Modified: 2020-09-20T15:44:44+10:00

View Info Package

Bailey Wootton

Manta Ray (*Manta birostris*) occurrences

Observed occurrences for Manta Ray (*Manta birostris*), imported from ALA on 25/09/2020

Rows: 39

Modified: 2020-08-25T13:38:26+10:00

View Info Package

Max Davis

Quercus robur in Russia (iNaturalist)

occurrences of *Quercus robur* for Russia obtained from iNaturalist 2020-08-17. Sites with uncertainty more than 2500 m were excluded as well as with obscured coordinates.

Rows: 2952

Modified: 2020-08-16T00:03:45+10:00

Export to ALA Spatial Portal

View Info Package Remove Sharing

Maxim Shashkov

Linnaea borealis (GBIF) 250 m

occurrences of *Linnaea borealis* globally obtained from GBIF uncertainty <= 250 m

Rows: 23039

View Info Package Remove Sharing

Maxim Shashkov

Наборы данных
можно группировать
по разным
категориям

bccvl BETA

Datasets Experiments Training Support Share

Maxim Shashkov

Explore Datasets by Collection

Do you have a dataset you would like to see available in the BCCVL? - [Contact us](#) and we'll try and make it happen.

Search Datasets Browse Collections Get Species Data Upload Dataset

Biological

Species data from GBIF

The Global Biodiversity Information Facility (GBIF) is an international open data infrastructure, funded by governments.

Search Collection

Species data from ALA

ALA collects information about all the known species in Australia aggregated from a wide range of data providers including museums, herbaria, community groups, government departments, individuals and universities.

Search Collection

User uploaded species data

Species data uploaded and shared by users

Search Collection

Species trait data from ZoaTrack

ZoaTrack provides an online repository for ecological data with tracking information collected in Australia.

Search Collection

Species data from AEKOS

AEKOS (Advanced Ecological Knowledge and Observation System) is an online repository for ecological data collected in Australia. Currently, the AEKOS dataset in the BCCVL includes data for 12 plant traits for over 8000 species.

Search Collection

Species data from OBIS

OBIS is a global open-access data and information clearing-house on marine biodiversity for science, conservation and sustainable development.

Search Collection

Climate

Climatic Research Unit (CRU) climate data

Global climate data from monthly observations collated by the University of East Anglia Climatic Research Unit

Geographic extent: Global
Year range: 1976-2005
Resolution: 30 arcmin (~50 km)
Data layers: B01-19

Search Collection

Australian Stream and Catchment Climate Data

A suite of climate layers calculated based on the Australian Hydrological Geospatial Fabric ('Geofabric') network that represents stream segments and their catchments

Geographic extent: Australia
Year range: 1921-1995
Resolution: 9 arcsec (~250 m)
Data layers: B01, 05, 06, 08, 09, 11, 12, 16-20, Growth index, Growth index seasonality, Rainfall erosivity

Search Collection

Worldclim current and future climate data

Global current and future climate data

Geographic extent: Global
Year range: 1950-2000, 2050, 2070
Resolution: 2.5 arcmin (~5 km), 5 arcmin (~10 km), 10 arcmin (~20 km)
Data layers: B01-19 (long-term), Min, Max, Mean Temperature and Precipitation (monthly)

Search Collection

Внешние источники данных о биоразнообразии

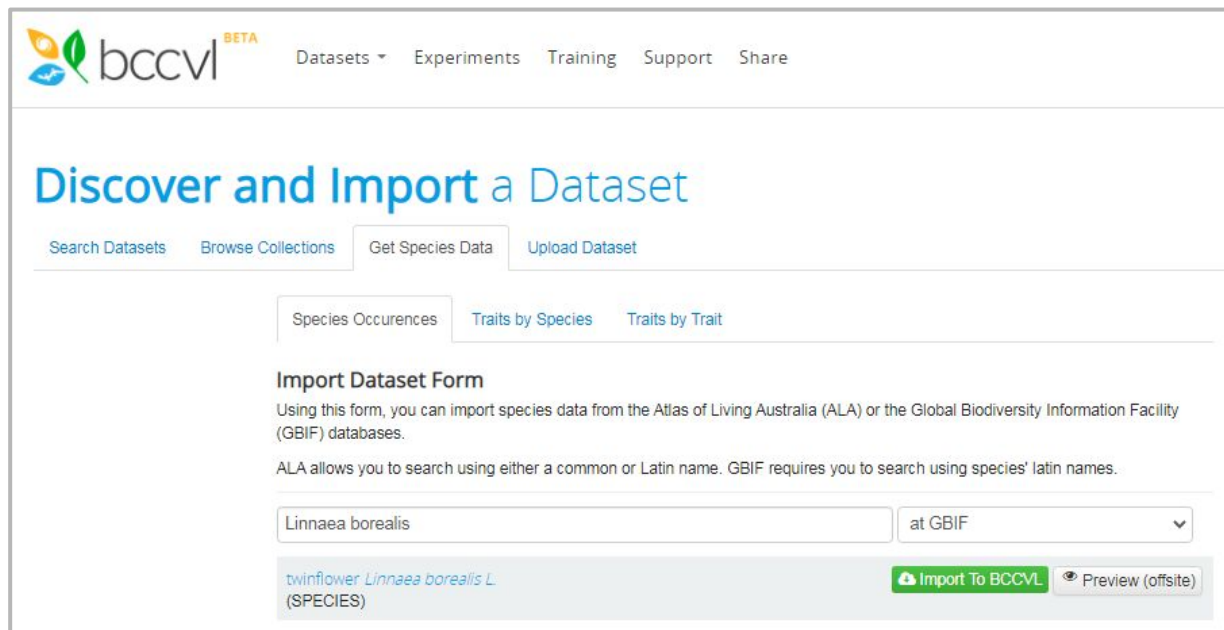
Набор данных можно загрузить из внешней информационной системы:


ALA
Atlas of Living Australia

GBIF
Global Biodiversity Information Facility

AEKOS
Australian Ecological Knowledge and Observation

OBIS
Ocean Biodiversity Information System



 **BETA** Datasets ▾ Experiments Training Support Share

Discover and Import a Dataset

[Search Datasets](#) [Browse Collections](#) [Get Species Data](#) [Upload Dataset](#)

[Species Occurrences](#) [Traits by Species](#) [Traits by Trait](#)

Import Dataset Form

Using this form, you can import species data from the Atlas of Living Australia (ALA) or the Global Biodiversity Information Facility (GBIF) databases.

ALA allows you to search using either a common or Latin name. GBIF requires you to search using species' latin names.

[twinflower *Linnaea borealis* L. \(SPECIES\)](#)

[Import To BCCVL](#) [Preview \(offsite\)](#)

Загрузить набор данных

Как правило исходные данные для моделирования собраны из разных источников, верифицированы и отобраны по определенным критериям согласно цели и задачам исследования.

В таком случае необходимо создать пользовательский набор данных

Также можно загрузить климатические сведения и данные условий среды в виде растровых слоёв.

Upload a Dataset

[Search Datasets](#)[Browse Collections](#)[Get Species Data](#)[Upload Dataset](#)

Upload Dataset Form

Dataset Type Species Occurrence

Upload occurrence data for single species

Instructions:


- Format needs to be .csv
- REQUIRED: Two columns with exact labels 'lat' and 'lon'
- OPTIONAL: third column with exact label 'month' (used in Migratory Modelling Experiment)
- Coordinates in decimal degrees

File (required) Change Linnaea_borealis_iNaturalist_global_2020-08-15.csvTitle (required) Linnaea borealis (iNaturalist)Summary Occurrence of species Linnaea borealis from iNaturalist. Downloaded 15 August 2020Scientific name (required) Linnaea borealisTaxon ID 5334220Common Name TwinflowerRights CC-BY-NC☒ I agree to the [Terms and Conditions](#)SaveCancel

Эксперимент

Для знакомства со средой
bccvl начнем с простого
типа моделирования:
Модель распространения
одного вида в
стационарных условиях

Кроме того, еще есть:

 BETA

Datasets ▾

Experiments

Training

Support

Share

Maxim Shashkov ▾

View and Run Experiments

BEFORE RUNNING AN EXPERIMENT

The datasets available for use within an experiment must be available within the BCCVL before the experiment is started. Prior to beginning an experiment, we recommend you:

Upload Datasets

Import Datasets From Other Services

PRIMARY EXPERIMENTS ⓘ

+ New

Species Distribution Modelling Experiment

+ New

Multi-Species Distribution Modelling Experiment

+ New

Migratory Modelling Experiment

+ New

Species Trait Modelling Experiment

SECONDARY EXPERIMENTS ⓘ

+ New

Biodiverse Experiment

+ New

Climate Change Experiment

+ New

Ensemble Analysis

Previously Run Experiments

Experiment	Started ▲		
Linnaea borealis in Russia, global exact (10 m) data (GBIF) SDM	26/09/20 20:10	<div>View ▶</div> <div>Share ↗</div> <div>Delete ✕</div> <div>Rerun ↺</div> <div>Download ⬇</div>	Finished
Input Datasets: <ul style="list-style-type: none">Linnaea borealis (GBIF) 10 m Algorithms: Bioclim, Surface Range Envelope, Artificial Neural Network, Boosted Regression Tree, Classification Tree, Generalized Boosting Model, Maxent, Random Forest, Flexible Discriminant Analysis, Generalized Additive Model, Generalized Linear Model, Multivariate Adaptive Regression Splines, Circles, Convex Hull, Geographic Distance, Inverse-Distance Weighted Model, Voronoi Hull Model Owner: Maxim Shashkov			
More Info ▾			
Flying Fox Group Test Alpha SDM	24/09/20 17:59	<div>View ▶</div> <div>Rerun ↺</div> <div>Download ⬇</div>	In Progress
Input Datasets: <ul style="list-style-type: none">(Unavailable) Algorithms: Artificial Neural Network, Maxent, Generalized Linear Model, Multivariate Adaptive Regression Splines, Geographic Distance Owner: Vanessa Jackson			
More Info ▾			
Mountain Ash (group 5) class 9 SDM	14/09/20 18:14	<div>View ▶</div> <div>Rerun ↺</div> <div>Download ⬇</div>	Completed
Input Datasets: <ul style="list-style-type: none">Mountain ash occurrences cleaned Algorithms: Bioclim, Maxent, Generalized Additive Model, Inverse-Distance Weighted Model Owner: Amos Smith			
More Info ▾			

Описание эксперимента

[Datasets](#)[Experiments](#)[Training](#)[Support](#)[Share](#)[Maxim Shashkov](#)

New Species Distribution Modelling Experiment

Do you have a dataset you would like to see available in the BCCVL? - [Contact us](#) and we'll try and make it happen.

[< Previous](#)[Description](#)[Occurrences](#)[Absences](#)[Climate & Environmental Data](#)[Constraints](#)[Algorithms](#)[Run](#)[Next >](#)

In this experiment, you can use up to 17 different algorithms to investigate the potential distribution of one species under current climatic conditions.

[Check our Support page for guidance on this experiment.](#)

Give your experiment a title and description.


Linnaea borealis in Russia, global data (GBIF) 250 m selective

SMD for Linnaea borealis in Russia based on global data obtained from GBIF (2020-08-02). Occurrences filtered by coordinate uncertainty (≤ 250 m) and no more than 367 points for country



Находки целевого вида

выбираем ранее
загруженные набор
данных



Datasets ▾

Experiments

Training

Support

Share

Maxim Shashkov ▾

New Species Distribution Modelling Experiment

Do you have a dataset you would like to see available in the BCCVL? - [Contact us](#) and we'll try and make it happen. ✕

◀ Previous

Description

Occurrences

Absences

Climate & Environmental Data

Constraints

Algorithms

Run

Next ▶

Select the occurrences.

Species Occurrence Datasets

Select A Dataset

Need to import or upload new occurrence datasets? [Visit the datasets page.](#)

You must select an occurrence dataset for this experiment type.

PREVIEW AREA

Набор данных

Select Species Occurrence Datasets

Search

Q

Source

Begin typing to search or select ...

Can't find the species here that you're looking for?

Find and import available species data.

Linnaea borealis L. occurrences

Details

Linnaea borealis (GBIF) 250 m

Details

Linnaea borealis (GBIF) 10 m

Details

Linnaea borealis in Russia (GBIF)

Details

Linnaea borealis (iNaturalist)

Details

Linnaea borealis in Russia (iNaturalist)


Details

Linnaea borealis (GBIF) 250 m selective

Details

Select

Набор данных

 BETA Datasets ▾ Experiments Training Support Share Maxim Shashkov ▾



New Species Distribution Modelling Experiment

Do you have a dataset you would like to see available in the BCCVL? - [Contact us](#) and we'll try and make it happen. ✕

◀ Previous Description Occurrences Absences Climate & Environmental Data Constraints Algorithms Run Next ▶


Select the occurrences.

Species Occurrence Datasets

Linnaea borealis (GBIF) 250 m selective  


Linnaea borealis L.





Rows: 2631


 Select A Dataset

Need to import or upload new occurrence datasets? [Visit the datasets page.](#)


You must select an occurrence dataset for this experiment type.



    Image

 2000 km

Точки отсутствия вида

 BETA Datasets ▾ Experiments Training Support Share Maxim Shashkov ▾

New Species Distribution Modelling Experiment

Do you have a dataset you would like to see available in the BCCVL? - [Contact us](#) and we'll try and make it happen. ✕

◀ Previous Description Occurrences Absences Climate & Environmental Data Constraints Algorithms Run Next ▶

Select absences data.

Do you have a true absence dataset for your experiment?

☐ Yes ☒ No

Pseudo-absence points will be generated for the experiment. You can change the pseudo-absence strategy used in the experiment below, or adjust for particular algorithms in the configuration settings on the Algorithm tab.

Select and configure your strategy: [Read More...](#)

Pseudo Absence Configuration (PA models)

Absence-presence ratio ⓘ

Pseudo-absence strategy ⓘ

Random ▾

Pseudo-absence SRE quantile ⓘ

Pseudo-absence disk minimum distance (m) ⓘ


Pseudo-absence disk maximum distance (m) ⓘ

Background Configuration (Maxent only)

Number of background points

PREVIEW AREA

Данные среды

 BETA Datasets ▾ Experiments Training Support Share Maxim Shashkov ▾

New Species Distribution Modelling Experiment

Do you have a dataset you would like to see available in the BCCVL? - [Contact us](#) and we'll try and make it happen. ×

◀ Previous Description Occurrences Absences Climate & Environmental Data Constraints Algorithms Run Next ▶

Select the climate and other environmental variables.

i Select common resolution

☐ Scale to finest resolution

☒ Scale to coarsest resolution

Climate & Environmental Datasets

➕ Select Available Datasets

You must select at least one climate and environmental dataset layer for this experiment type.

PREVIEW AREA

Климатические данные

Select Climate & Environmental Datasets

Search



Domain

- ☐ Freshwater datasets
- ☒ Terrestrial datasets
- ☐ Marine datasets

Summary

- ☒ Summary datasets (long term)
- ☐ Monthly datasets

Scientific Type

- ☐ Biological
 - ☐ Occurrence
 - ☐ Multispecies
 - ☐ Absence
 - ☐ Trails
- ☐ Environmental
 - ☒ Climate
 - ☐ Topography
 - ☐ Hydrology
 - ☐ Substrate
 - ☐ Vegetation
 - ☐ Land Cover
 - ☐ Land Use
 - ☐ Net Primary Productivity
 - ☐ Physical
 - ☐ Nutrients
 - ☐ Biochemical

Resolution

Climate & Environmental Collections

☐ Australia, current climate (1976-2005), 30 arcsec (~1 km)

▼ Details

☐ Australia, Current Climate (1976-2005), 2.5 arcmin (~5 km)

▼ Details

☐ CliMond (global), current climate (1975), 10 arcmin (~20 km)

▼ Details

☐ CRUclim (global), current climate (1976-2005), 30 arcmin (~50 km)

▼ Details

☐ WorldClim, current climate (1950-2000), 2.5 arcmin (~5 km)

▼ Details

☒ WorldClim, current climate (1950-2000), 5 arcmin (~10 km)

▼ Details

☐ WorldClim, current climate (1950-2000), 10 arcmin (~20 km)

▼ Details

Select Layers

Топография

Select Climate & Environmental Datasets

Search

Domain

- ☐ Freshwater datasets
- ☐ Terrestrial datasets
- ☐ Marine datasets

Summary

- ☒ Summary datasets (long term)
- ☐ Monthly datasets

Scientific Type

- ☐ Biological
 - ☐ Occurrence
 - ☐ Multispecies
 - ☐ Absence
 - ☐ Traits
- ☐ Environmental
 - ☐ Climate
 - ☒ Topography
 - ☐ Hydrology
 - ☐ Substrate
 - ☐ Vegetation
 - ☐ Land Cover
 - ☐ Land Use
 - ☐ Net Primary Productivity
 - ☐ Physical
 - ☐ Nutrients
 - ☐ Biochemical

Resolution

Climate & Environmental Collections

- ☐ Australia, Multi-resolution Ridge Top Flatness (MrRTF), (2000), 3 arcsec (~90 m)
[Details](#)
- ☐ Australia, Multi-resolution Valley Bottom Flatness (MrVBF), (2000), 3 arcsec (~90 m)
[Details](#)
- ☐ Freshwater Catchment Data (Australia), Terrain, 9 arcsec (~250m)
[Details](#)
- ☐ Freshwater Stream Data (Australia), Terrain, 9 arcsec (~250m)
[Details](#)
- ☐ WorldClim Altitude at 2.5 arcmin (~5 km)
[Details](#)
- ☒ WorldClim Altitude at 5 arcmin (~10 km)
[Details](#)
- ☐ WorldClim Altitude at 10 arcmin (~20 km)
[Details](#)

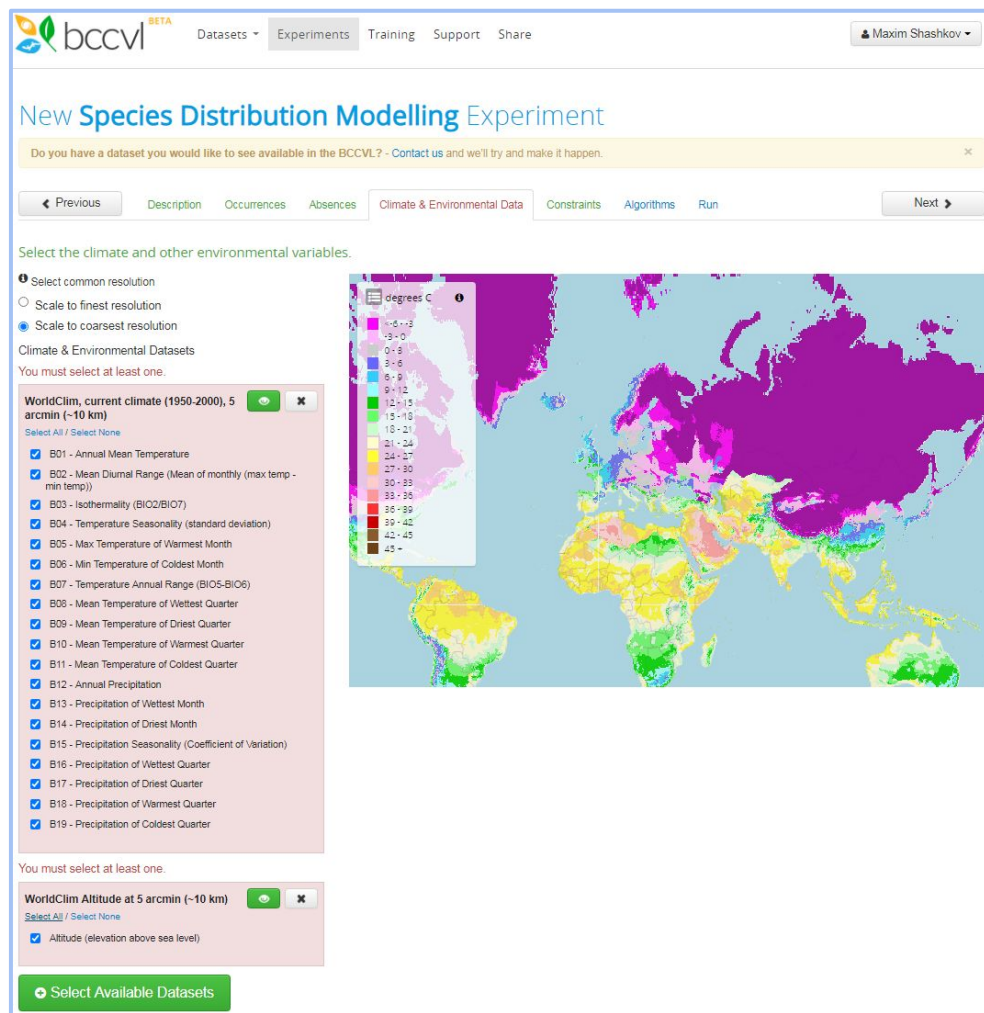
Basic search

Select Layers

Данные среды: климатические, топографические и прочие

Если набор о среде обитания включает несколько растровых слоёв, то можно выбрать необходимые.

Так как результатом моделирования представляет собой растровый слой, вычисления производятся на определенном масштабе, к которому должны быть приведены все входные слои



Процесс вычислений

The screenshot displays the bccvl BETA web application interface. At the top, there is a navigation bar with the bccvl logo, a 'BETA' label, and links for 'Datasets', 'Experiments', 'Training', 'Support', and 'Share'. A user profile for 'Maxim Shashkov' is in the top right corner. Below the navigation bar, a breadcrumb trail shows the path: Home > Experiments > Linnaea borealis, iNaturalist (global) + GCLC class 10 + class 1..4. A blue banner indicates '17 RUNNING' experiments. A tabbed interface below the banner includes 'Results' (selected), 'Details', 'Overlay Maps', 'Compare Maps', and 'Compare Graphs', with a 'Manage' link on the right. The main content area is titled 'Experiment Results' and contains a list of four experiments, each with a 'MORE' button. Each experiment entry includes the following details: Name (e.g., 'Linnaea borealis, iNaturalist (global) + GCLC class 10 + class 1..4 - bioclim'), Species ('Linnaea borealis'), Algorithm ('bioclim'), and State ('RUNNING'). To the right of each entry are three buttons: 'Export', 'Download', and 'Metadata'. A light blue informational box on the right side of the page states: 'View the outputs of your experiments by clicking on the 📁 icons in the left table. For more information on how to interpret the outputs of your experiment, click here.' Below this box is a large grey area labeled 'PREVIEW AREA'.

bccvl BETA

Datasets Experiments Training Support Share

Maxim Shashkov

Experiments > Linnaea borealis, iNaturalist (global) + GCLC class 10 + class 1..4

17 RUNNING

Results Details Overlay Maps Compare Maps Compare Graphs Manage

Experiment Results

Linnaea borealis, iNaturalist (global) + GCLC class 10 + class 1..4 - bioclim 2020-10-02T04:33:39

Species: Linnaea borealis
Algorithm: bioclim
State: RUNNING

Export Download Metadata

MORE

Linnaea borealis, iNaturalist (global) + GCLC class 10 + class 1..4 - sre 2020-10-02T04:33:40

Species: Linnaea borealis
Algorithm: sre
State: RUNNING

Export Download Metadata

MORE

Linnaea borealis, iNaturalist (global) + GCLC class 10 + class 1..4 - ann 2020-10-02T04:33:41

Species: Linnaea borealis
Algorithm: ann
State: RUNNING

Export Download Metadata

MORE

Linnaea borealis, iNaturalist (global) + GCLC class 10 + class 1..4 - brt 2020-10-02T04:33:42

Species: Linnaea borealis
Algorithm: brt
State: RUNNING

Export Download Metadata

Experiment Results

View the outputs of your experiments by clicking on the 📁 icons in the left table.
For more information on how to interpret the outputs of your experiment, click here.

PREVIEW AREA

Результаты модельного эксперимента

Результат эксперимента можно сохранить в Google Drive

