Using UNBL to Monitor the Pulse of the Planet

Advanced Lab 2 : UNBL Secure Workspaces

This Advanced Lab offers participants the opportunity to dive into hands-on exercises and activities to explore [UN Biodiversity Lab (UNBL) secure workspaces](). We recognize that national data is often higher quality and better suited to countries' needs for decision-making, monitoring, and reporting. UNBL workspaces offer users the ability to upload data to a secure, password-protected data repository, visualize them in combination with our global data layers, invite colleagues to collaborate, and calculate dynamic indicators for a subnational or transboundary area of interest.

With attendance capped at 150 registrants, this lab offers participants a chance to build your skills to use all functionalities of UNBL workspaces, with our experts on hand to answer questions and offer advice. Through this lab you will learn to:
- Access a UNBL workspace,
- Upload data layers,
- Upload places, and
- Calculate dynamic metrics for your area of interest.

To receive your certificate, you must:
- Register on UN Biodiversity Lab (Homework Assignment 1) **by 27 April**;
- Attend the live session **on 4 May at 9-10:30am EST**;
- Submit the Homework Assignment 2 to support@unbiodiversitylab.org **by 18 May**.

☐ **Homework Assignment 1: Register on UNBL**

Background:
- ★ Creating an account gives you greater access to data and analytic features on UNBL. You must be registered on UNBL to be granted access to a UNBL workspace.

★ This lab sheet will help guide you through the steps of creating an account with UNBL. *Note: For those of you who are also registered in Advanced Lab 1, this is a repeat homework assignment. You do not need to register twice.*

★ You must complete this assignment by 27 April or our team will not be able to add you to the UNBL workspace we will use for this lab session. You also will not receive your certificate.
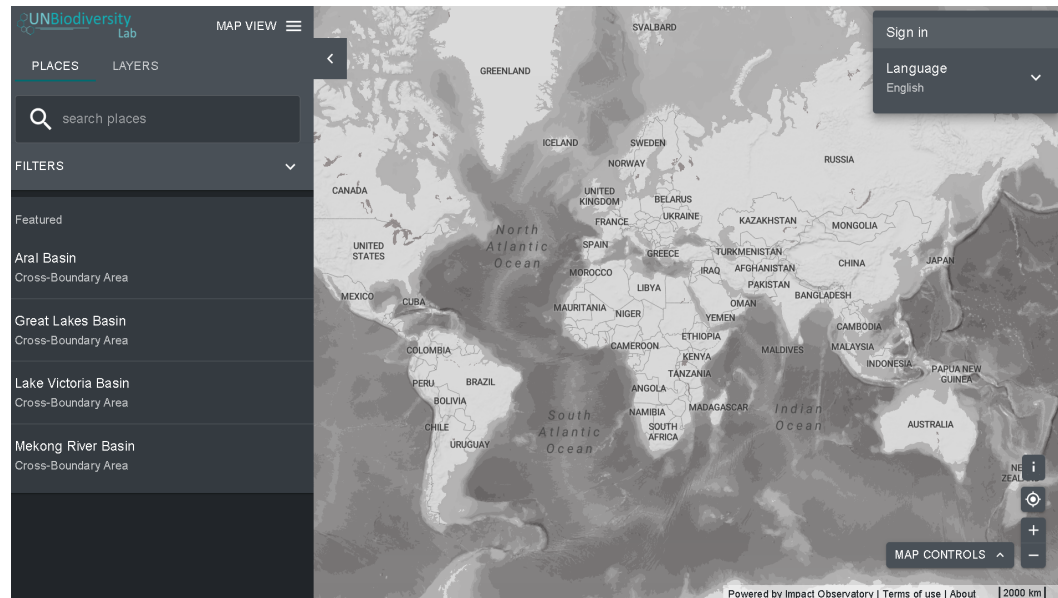
Instructions:

1. Click the 'data' page of the UNBL website, then select the launch button to access the data app.
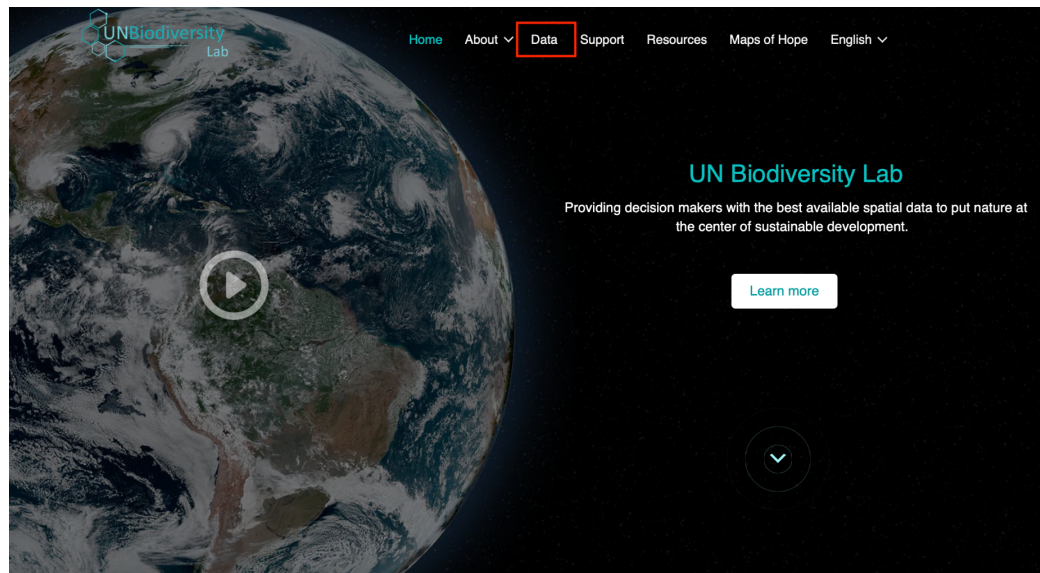
2. Once this has loaded, select the account icon in the top right-hand corner and choose 'sign up'. Enter your email, name, country, and institution (optional), and create a password to sign up. Please be sure to use the same email address that you used to register for Advanced Lab 1 and/or Advanced Lab 2. If you do not use the same email address, our team will

<u>not be able to add you.</u>

3. You will receive an email within a few minutes. Follow the instructions in this email to verify your account.
   i. If this email does not appear in your inbox please check your spam folder.
   ii. If no email arrives at all, please let us know by emailing support@unbiodiversitylab.org.
4. Once your account is verified, you can log in using your email address and password each time you access the platform.
5. You can log-out at any time by clicking on your user icon and selecting Sign Out.
6. Please also pre-download this [shape](#) to your computer in advance of the session.
7. *Optional:* Access our [UNBL workspace page](#) to learn more about the functionalities of UNBL workspaces.

❖ Need more help? Click here to view a demo (slide 1): [EN](#) | [FR](#) | [SP](#)

☐ **<u>Co-led exercise 1: Upload a layer to your workspace</u>**
**Background:**
   ★ We recognize that national data is often higher quality and better suited to countries' needs for decision-making, monitoring, and reporting. At the same time, data gaps at the national level mean that global data can offer a valuable resource to countries.

★ We created our UNBL workspaces so that you can take advantage of the best in both national and global data. UNBL workspaces enable you to upload national data to a common repository and/or connect to existing national data repositories.
★ You can add data layers to your private workspace for visualization by your team without making the layer public. You can then visualize these data in combination with UNBL's global data layers.
★ All data added to UNBL is maintained in your password protected workspace and hosted on secure servers operated by the UN International Computing Centre.
★ This exercise takes you through the steps to add a layer to your UNBL workspace from one of the cloud-based data repositories - the Google Earth Engine (GEE). We will all practice with the same raster layer – **the Global Mountains Binary map**.

Instructions:
1. Sign into UNBL using the account you created.
2. Click on the "mapview" on the top of the left panel and access the NASA ARSET workspace.
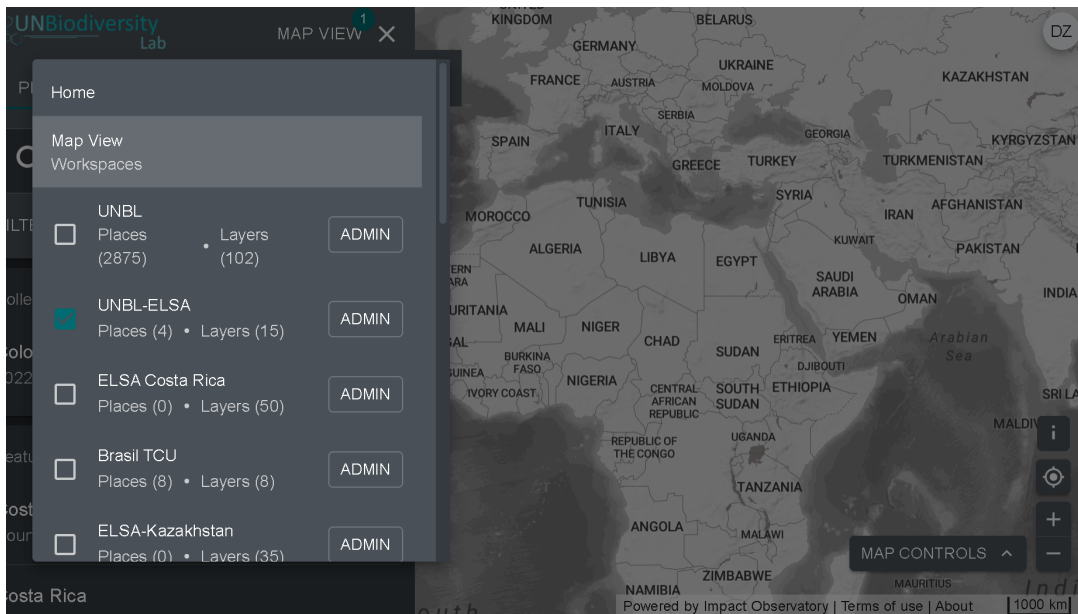
3. Click on the tab to the right of the home button to expand the dropdown menu. Select "LAYERS", then click on "CREATE NEW LAYER".
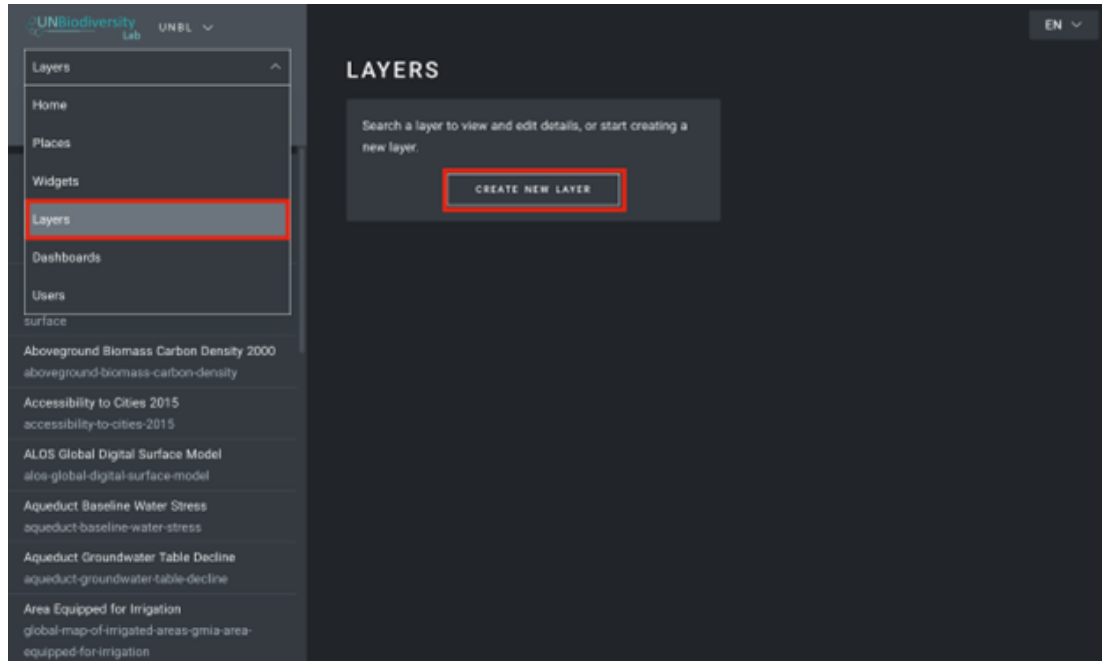
4. Fill in the following information:
    a. *Title:* Each layer needs a unique name, so that you can see which layer you uploaded yourself. **Because we are all working in the same workspace for the purposes of this lab, it is extremely important to ensure that everyone uploads a layer with a different name.** To create a unique name for your layer, type the first four letters of your first and last name, followed by the prhase "Global Mountains", for example, "gabr-sacc Global Mountains". If you have less than four letters in your name, use only the letters in your name, for example "di-zhan Global Mountains". (*Note: this is only necessary for this purpose of this lab*)
    b. *Slug:* Click the "GENERATE A SLUG NAME" button. This lets the system help you generate an appropriate slug. A slug is an unique identifier for the layer that contains only lowercase letters, numbers, and hyphens. No spaces can be used.
    c. *Included layers:* Leave this blank.
    d. *Layer provider:* Select "gee".
    e. *Layer type:* Select "raster".
    f. *Layer category:* Select "Habitats & Ecosystems & Biomes"
    g. *Layer description:* Copy/paste the following:
        Global Mountains k3 binary
        Citation: Karagulle, D., C. Frye, R. Sayre, S. Breyer, P. Aniello, R. Vaughan, and D. Wright. 2017. Modeling global Hammond

landform regions from 250-m elevation data. Transactions in GIS, DOI: 10.1111/tgis.12265

You can also add additional descriptions here if desired.

h. *Layer config:* Copy/paste the following into the config box:

```
{
  "source": {
    "assetId": "users/zdi/GlobalMountainsK3Binary",
    "sldValue": "<RasterSymbolizer> <ColorMap type=\"interval\" extended=\"false\"> <ColorMapEntry color=\"#375ac4\" quantity=\"1\"/></ColorMap> </RasterSymbolizer>",
    "styleType": "sld",
    "tiles": [

"https://sls-neur-prod-unbl-services.azurewebsites.net/api/tiles/dbd4eb04-2b81-44fe-a2ea-260da7ed1d88/{z}/{x}/{y}"
    ],
```

```
        "params_config": [],
        "type": "raster"
      },
      "legendConfig": {
       "items": [
         {
           "name": "Mountains",
           "color": "#375ac4"
         }
       ],
        "type": "basic"
      },
      "interactionConfig": {},
      "applicationConfig": {
        "active": true,
        "default": true,
        "global": true,
        "metadata": ""
      },
      "staticImageConfig": {}
    }
```

5. Click on SAVE AND VIEW DETAILS.
6. Copy the **ID**, then click "edit" to the right of the Layer Config to update the config.

7. Scroll down to line 6 in the Layer Config code. Notice the word "titles" with a URL. Paste the layer ID that you just copied into the "titles" name to replace the highlighted portion as shown below.
   "tiles": [
   "https://sls-neur-prod-unbl-services.azurewebsites.net/api/tiles/dbd4eb04-2b81-44fe-a2ea-260da7ed1d88/{z}/{x}/{y}"
   ],
8. Click on "**Save**" after your edits.

9. Scroll back to the top of the page and click on the toggle bars next to **"Published"** and **"Primary"** so that the layer is added to the mapview.

10. Return to the mapview. In the mapview dropdown menu, activate your workspace by clicking the checkbox.

11. Click Layers in the left panel. Type "Global Mountains" into the search box.

12. Click the toggle to load the "Global Mountains" layer to the map. You should now be able to view this data!
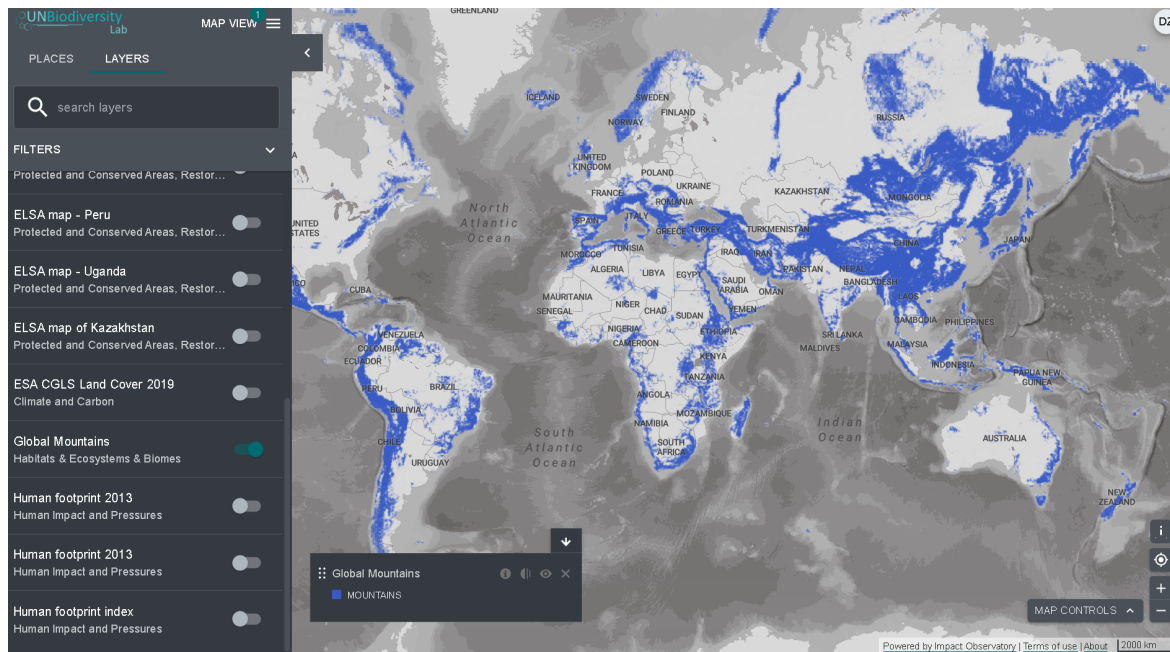
☐ **Co-led Exercise 2: Upload a new place to your workspace and calculate dynamic metrics**

Background:

★ UNBL's metrics offer a powerful way to assess baselines and monitor progress in areas you work in -- whether you work for the government, research organizations, or civil society. Therefore, our workspaces enable you to upload shapefiles for *any* area of interest and calculate any of our dynamic metrics for this place.

★ Adding a new place provides you with the ability to utilize all functionalities of UNBL for a subnational, national, or transboundary area of interest.

★ Once the place has been added to your private workspace, you will be able to:

○ Automatically calculate any of our dynamic metrics for this location; and

○ Clip any (publicly available) raster layer to this location and download it as PNG format to use as figures *(Note: the clipped layer is also available in GeoTiff format, to allow further work in a desktop GIS software. This functionality is currently being updated -- an updated version will be released shortly)*.

★ The aim of this exercise is to help you to master the approach of uploading new places to your UNBL workspace.

★ For this exercise we will all use the same file as an example - Serengeti Bounding Box. You should already have downloaded this when you completed the homework. If not, please download this file to your computer by clicking **here.** For ease of access, please save it to your Desktop.

Instructions:
1. Sign into UNBL using the account you created.
2. Click on the "mapview" on the top of the left panel and select the NASA ARSET workspace.
3. Click on the tab to the right of the home button to expand the dropdown menu. Select "Places".
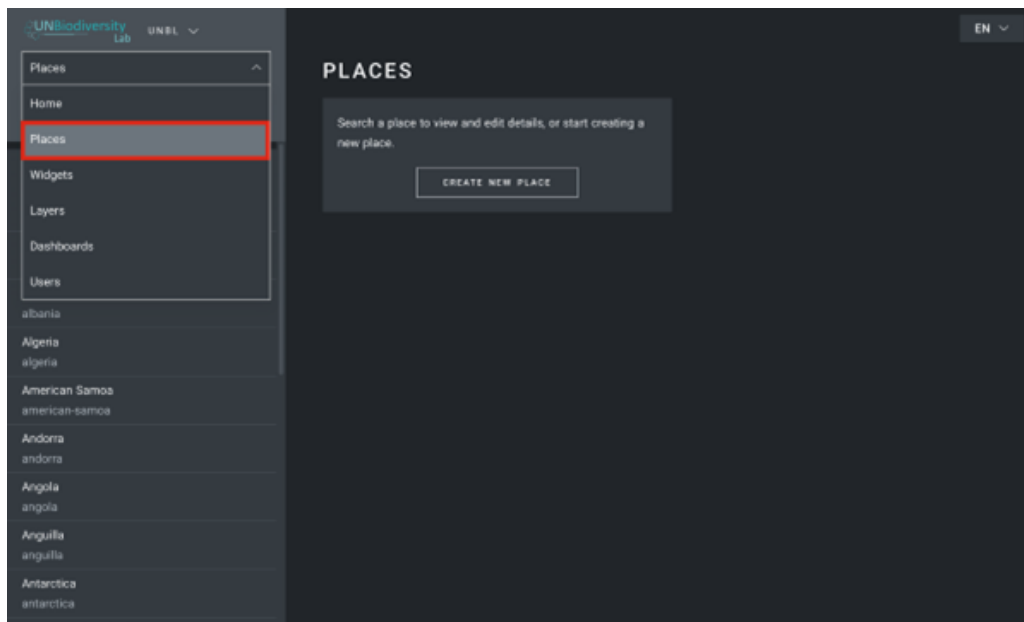

4. Click the CREATE NEW PLACE button, then on the New Place page, fill in the following information:
   a. *Title:* Each shape needs a unique name, so that you can see which shape you uploaded yourself. **Because we are all working in the same workspace for the purposes of this lab, it is extremely**

important to ensure that everyone uploads a shape with a different name. To create a unique name for your shape, type the first four letters of your first and last name, followed by the phrase "Serengeti", for example, "gabr-sacc Serengeti". If you have less than four letters in your name, use only the letters in your name, for example "di-zhan Serengeti". (*Note: this is only necessary for this purpose of this lab*).

    b. *Place type:* Select the appropriate class from the dropdown menu. In our case, it's a "Study Area" we personally identified.

    c. *Slug:* Click the GENERATE A SLUG NAME button. This lets the system help you generate an appropriate slug. A slug is an unique identifier for the layer that contains only lowercase letters, numbers, and hyphens. No spaces can be used.

    d. *Upload your Place shape:* Click on CHOOSE FILE, select the place file "serengeti-bounding-box.geojson" from your Desktop, and then click on Open (if you don't already have the file, download it [here](#)).

5. Click on SAVE AND VIEW DETAILS.

6. Scroll back to the top of the page and click on the "Published" toggle, then "Featured" toggle at the top right of the place page. This will ensure that the new place is added to the place list in your workspace mapview.
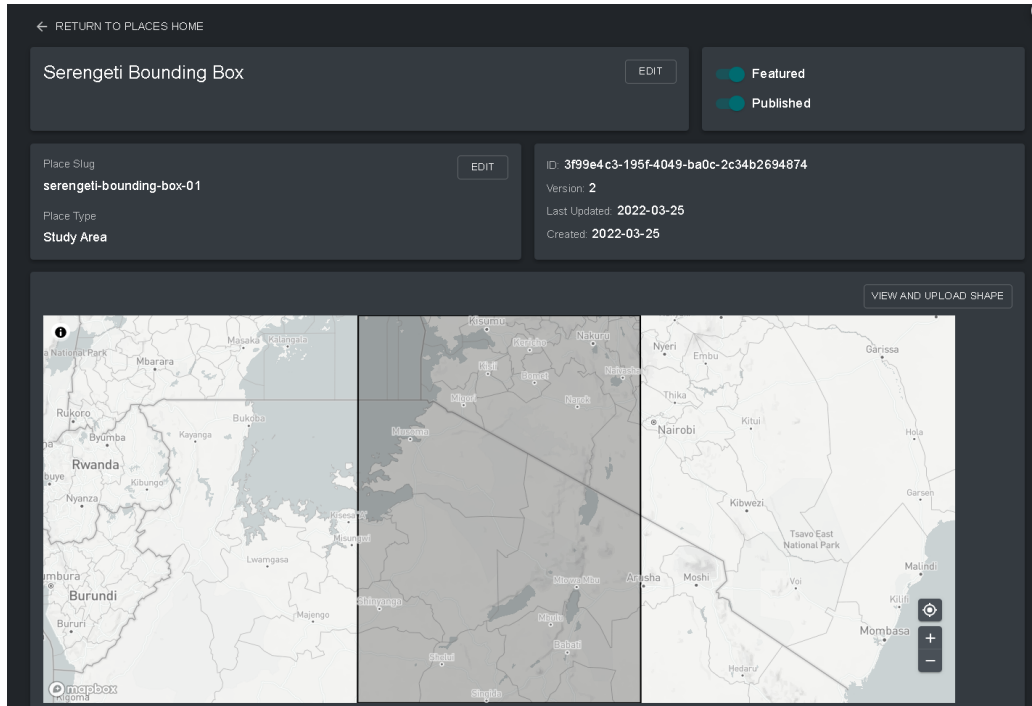
7. Return to the mapview. In the mapview dropdown menu, activate your workspace by clicking the checkbox at the left of its name.
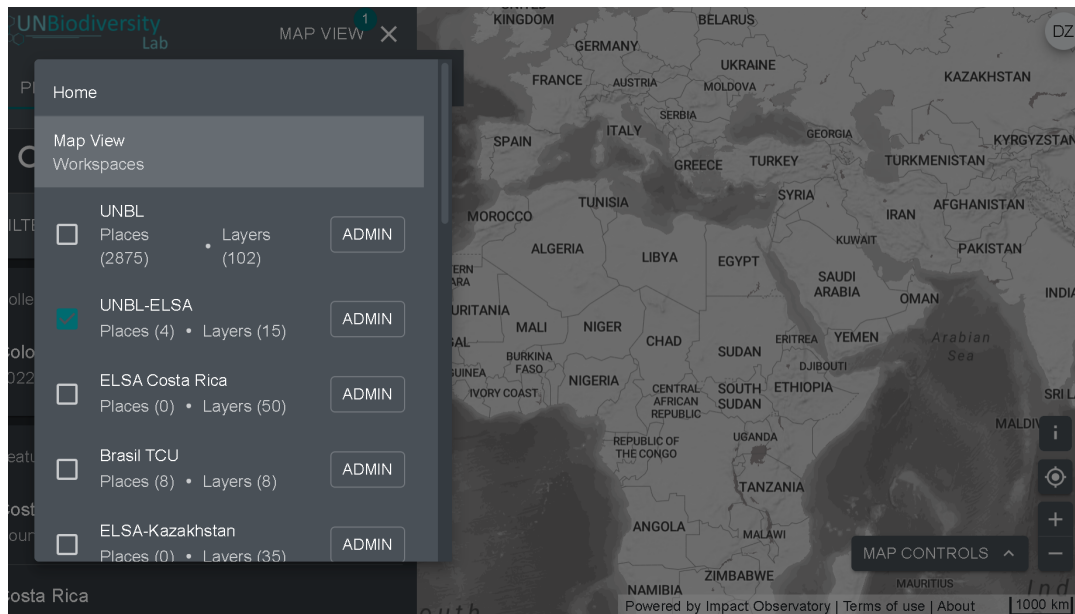
8. Click Places in the left panel. Type "Serengeti Bounding Box" into the search box.
9. Click the toggle "Serengeti Bounding Box" to load the place to the map. The mapview will automatically zoom in to the place you uploaded!
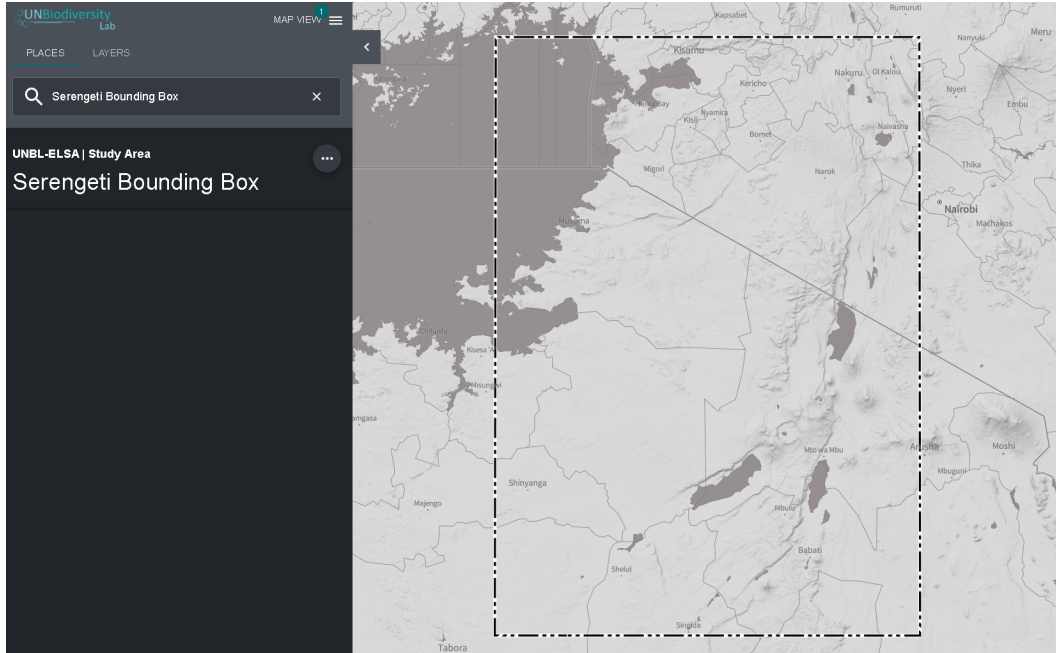
10. Now, if you would like to view global datasets within your place. Click on the mapview dropdown menu again, then check the box at the left of the public platform named "**UNBL**".
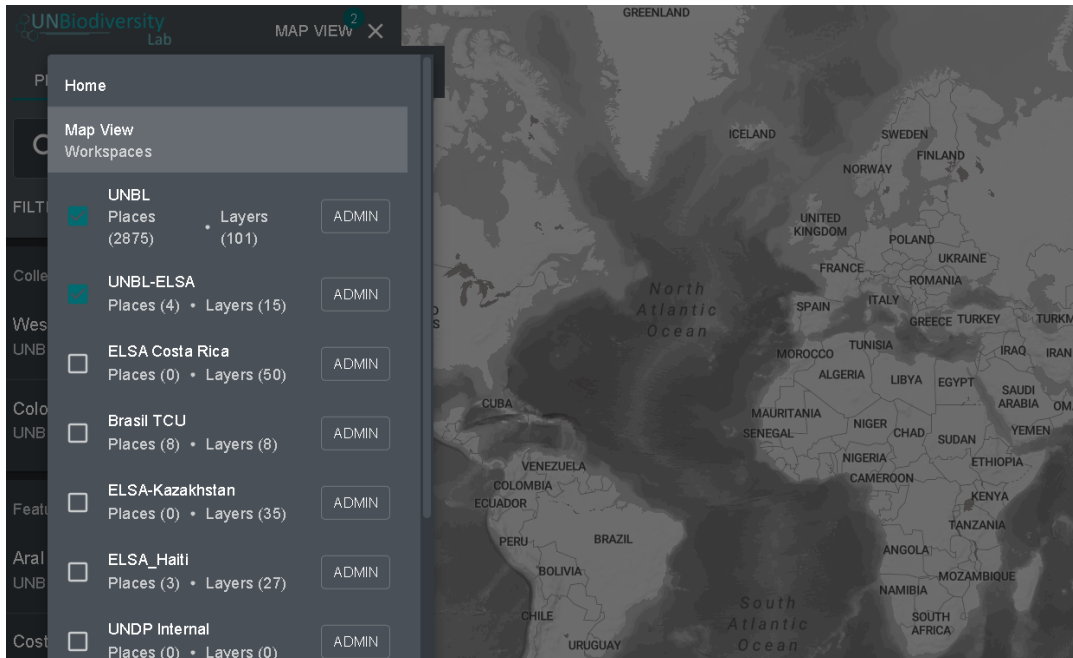
11. Once you have activated the public platform, the dynamic metrics will automatically be calculated for your new place. They can be used in plans and/or reports for your area of interest. *Please note that due to the high concurrent number of users during the lab, this may take some time to*

calculate. We recommend you come back to complete step 12 after the lab has ended.

12. Scroll through and review the metrics in the left panel. Click on the SHOW ON MAP icon if you want to view this layer on the map. Click on the REMOVE FROM MAP icon or the remove layer icon on the legend to clear the screen.
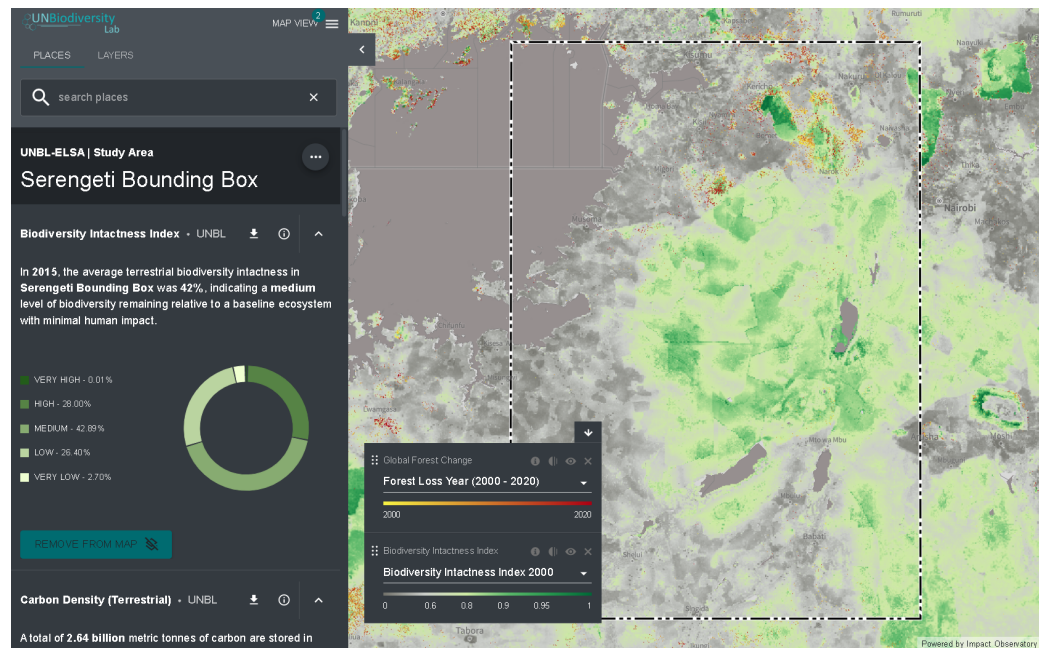
❖ Still need help? Click to view a demo (slides 5 - 6) : EN | FR | SP

☐ **Co-led Exercise 3: Create a collection of places in your UNBL workspace.**

Background:
★ In addition to adding a single area of interest, you can also create 'collections' of multiple places and calculate dynamic metrics for this collection.
★ The goal of this exercise is to explore how to add multiple places and create a collection in your UNBL workspace.

Instructions:
1. Sign into UNBL using the account you created.
2. Select "Create New Collection" at the left panel, screenshot below.
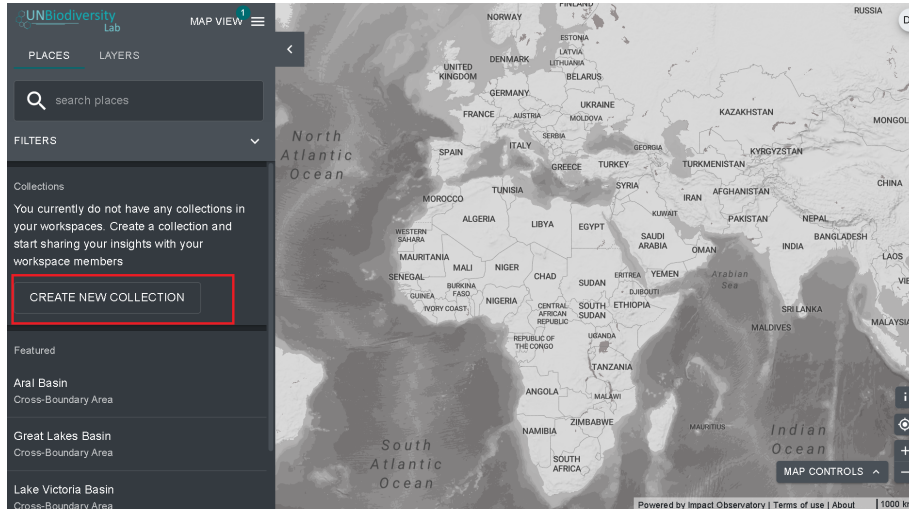
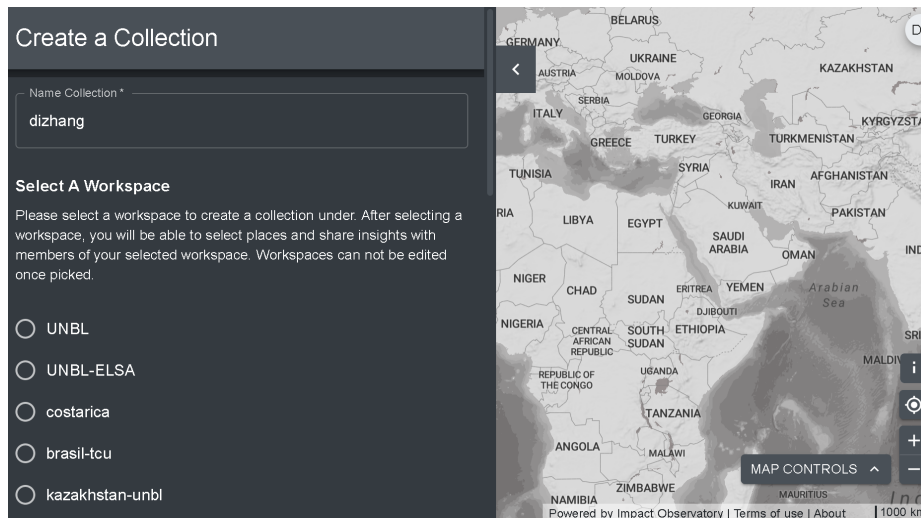3. In the type box of "Name Collection", please use your full name as the name of your places collection.

4. Under "Select A Workspace", select the one named "**nasa-arset**". Then click on "Create Collection".
5. Now on the left panel, you can add places to your collection. When you click on the three dots icon at the right of your collection name, you can also rename or delete this collection.
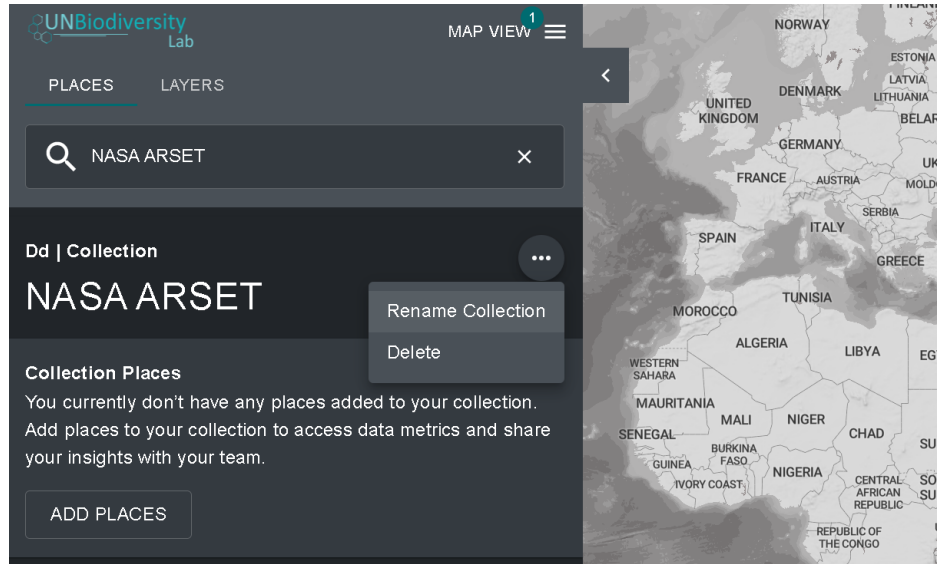
6. Now click on "Add Places", in the dropdown list, please select the following:
   - BOJAYÁ (Bellavista)
   - PUERTO GAITÁN
   - PUERTO LÓPEZ
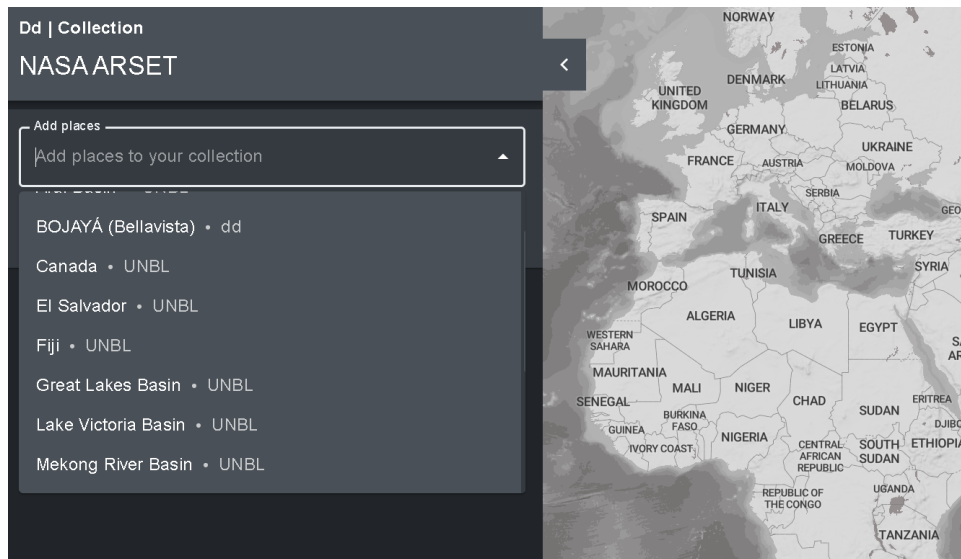   - Riosucio
   - Solano
   - TAME

   [*Note: We have pre-uploaded a few places in the NASA ARSET workspace as examples, these are municipalities of Colombia.*]

7. Use the global data in the public platform to calculate dynamic metrics within your places collection. Click on the dropdown menu of Metric, then

select "protected-areas", and compare the coverage of protected areas among the places you selected.
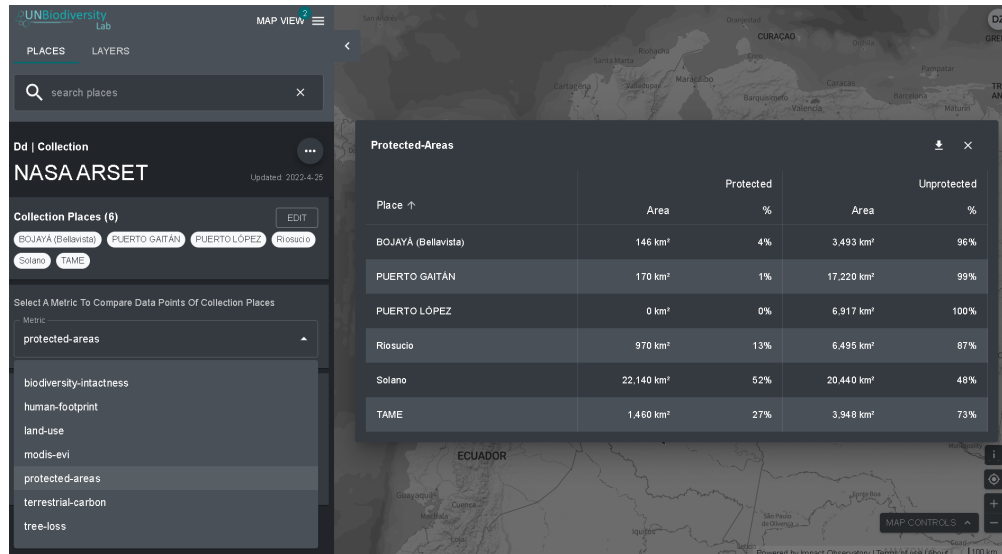
8. Next, download this data in .csv format. To do this, click on the arrow icon at the top right of the comparison table, then select CSV. Alternatively, click on "Download Metric Data Files", in the drop down list, select "protected-areas". Then, select CSV and download. The downloaded data sheet will contain the summarized statistics of protected areas coverage (both terrestrial and marine) of the places you selected in the collections.
9. Think about how you could use this function to support your work. Share with our team and your fellow participants in the question and answer box.

❖ Still need help? Click to view a demo (slides 7-8) : EN | FR | SP

☐ **Homework Assignment 2: Reflect on how you/your organization could use a UNBL workspace to help with your projects.**

Background:
★ We created the UN Biodiversity Lab to support policymakers in their commitments to the Convention on Biological Diversity. As we evolve, we are seeing increasing numbers of different use cases the platform can support.
★ We want to hear from you! Based on the functionalities we explored during this lab, we want to hear how you think the platform can support your work moving forward.
★ You must submit this homework assignment by 18 May to receive your certificate.

Instructions:

1. Reflect on these questions:
    a. Based on the functionalities we explored today, how do you think you/your organization could use a UNBL workspace to support your projects?
    b. What members of your organization would most benefit from access to a UNBL workspace (e.g., non-GIS savvy stakeholders, community groups, government employees, etc.)?
    c. What functionalities would you like to see you UNBL in the future?
2. *Optional:* Share your thoughts with the hashtag #UNBiodiversityLab. Tag @NASAARSET, @unepwcmc, and/or @NBSAPForum for a chance to be featured!
3. Regardless of whether you post on social media, please submit your response to the question to our experts at support@unbiodiversitylab.org with the subject "Homework Assignment 2: UNBL Advanced Lab 2". You must submit Assignment 2 by 18 May to receive your certificate.

Thank you for participating in our Advanced Lab 2 on UNBL workspaces! Please don't hesitate to reach out to our lead trainers for further questions following the session at di.zhang@undp.org and osgur.mcdermott-long@unep-wcmc.org.

Don't Forget! You must submit your Homework Assignment 2 by 18 May to be eligible for your certificate.

Additional Resources on the UN Biodiversity Lab:

- **Using UN Biodiversity Lab to Monitor the Pulse of the Planet: NASA ARSET Course Page:** EN | FR | SP
- **Public platform guidance:**
    - Online user guide | FAQs
    - Downloadable guidance: EN | FR | SP | PT | RU
- **UNBL workspace guidance:** EN | FR |SP | PT | RU
- **UNBL workspace application page:** EN | FR | SP
- **Learning for Nature Microcourse:** EN | FR | SP
- **UNBL @ UNEA-5.2: Exploring UNBL data providers and use cases:** EN | SP