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EO4GEO – Towards an innovative strategy for skills  
development and capacity building in the space geo-  
information sector supporting Copernicus User  
Uptake

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# BoK Annotation Tool (BAT)

## EO4GEO Tools User guides



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## About

The [BoK Annotation Tool \(BAT\)](#) allows to easily annotate (associate) any PDF document with EO4GEO Body of Knowledge (BoK) concepts, to be used later in the [BoK Matching Tool \(BMT\)](#) to discover best matches.

BAT automatically edits the pdf file's metadata, adding the requested annotations using the Resource Description Framework (RDF).

The BoK Annotation Tool (BAT) is part of the EO4GEO ecosystem of tools, and was developed by the [Geospatial Technologies Research Group](#) (GEOTEC) from the Universitat Jaume I, Castelló de la Plana, Spain in the context of the Erasmus+ Sector Skills Alliance project [EO4GEO](#).

## 1. Anonymous users, login & registration

The BAT has two types of users: anonymous and registered users. An anonymous user can directly annotate a PDF, without being logged in (See [Home page section](#)). To save a document to be able to download it later, the user needs to be registered.

Figure 1 shows the login page from all EO4GEO Bok-related tools, including BAT. If you have an account, type in your email (1), your password (2) and click button 'Login' (3).

If you **forgot your password** , type in your email (1) and click 'Forgot password?' (4). You will receive an email to recover your password. If you don't have an account, click Register Now! (5) and proceed to Figure 2 Registration form. You can also sign in with your Google account (6).

The image shows the login and registration interface for EO4GEO Tools. At the top is the 'eo4geo tools' logo with the text 'Bok Annotation' below it. The interface is split into two panels. The left panel, titled 'Login', contains a sub-header 'Sign In to your account' and two input fields: 'Email' (labeled 1) and 'Password' (labeled 2). Below these is a blue 'Login' button (labeled 3) and a 'Forgot password?' link (labeled 4). The right panel, titled 'Sign up', contains the text 'This account can be used in all eo4geo tools.' Below this is a blue 'Register Now!' button (labeled 5) and an orange 'Sign in with Google' button (labeled 6).

Figure 1. EO4GEO Tools login page

To **create a new account** , fill in your email (1), your password (2) and repeat your password (3). The password you chose should contain at least 6 characters.

Then click the 'Register' button (4) and you will be immediately redirected to the Home page (Figure 2).

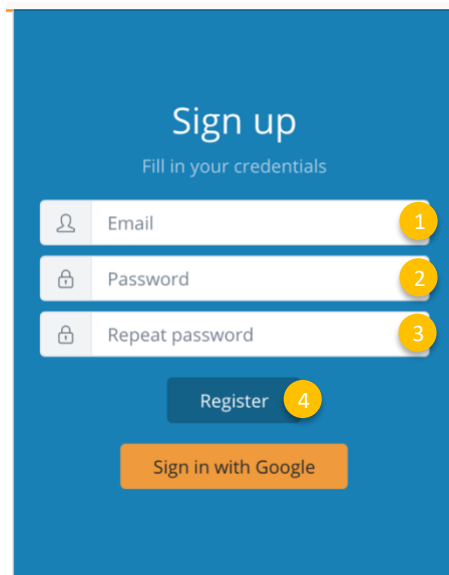
A blue rectangular form titled "Sign up" with the subtitle "Fill in your credentials". It contains three input fields: "Email" (marked with a person icon and a yellow circle with '1'), "Password" (marked with a lock icon and a yellow circle with '2'), and "Repeat password" (marked with a lock icon and a yellow circle with '3'). Below these fields is a dark blue "Register" button (marked with a yellow circle with '4') and an orange "Sign in with Google" button.

Figure 2. Register form

When registering, if you see the error 'The email address is already in use by another account', it means your email is already registered. Write your email in the login part of the form and click 'Forgot password?' to receive a link with instructions to recover it.

## 2. User details and organizations

After logging in, the user will be able to see his/her email address in the top navigation bar (Figure 3).

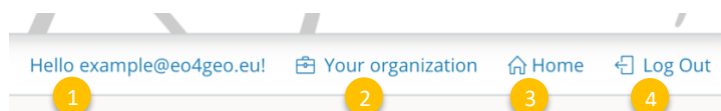


Figure 3 Navigation bar

Clicking in the email address (1) the user will be able to save his / her name and recover the password.

Clicking on 'Your organization' (2) the list of organizations a user belongs to is displayed. These organizations are important in order to be able to create content and to collaborative edit of content created in the tool, as users belonging to same organizations are able to edit content created by other users of this organizations. Also, private content can be seen by users belonging to the same organization; it cannot be seen by anonymous or other users.

To create new content the user needs to belong to at least one organization.

The 'Home' button (3) goes to the list page, overviewing all educational offers.

The 'Log Out' button (4) logs the user out and brings him/her to the login page.

To **join an organization**, click on the 'Your organization' button (2). In the organizations page (Figure 4) click on the dropdown (1) to search for the desired organization. You can type to filter by text. Once you find the desired organization, select it and click Join button (2).

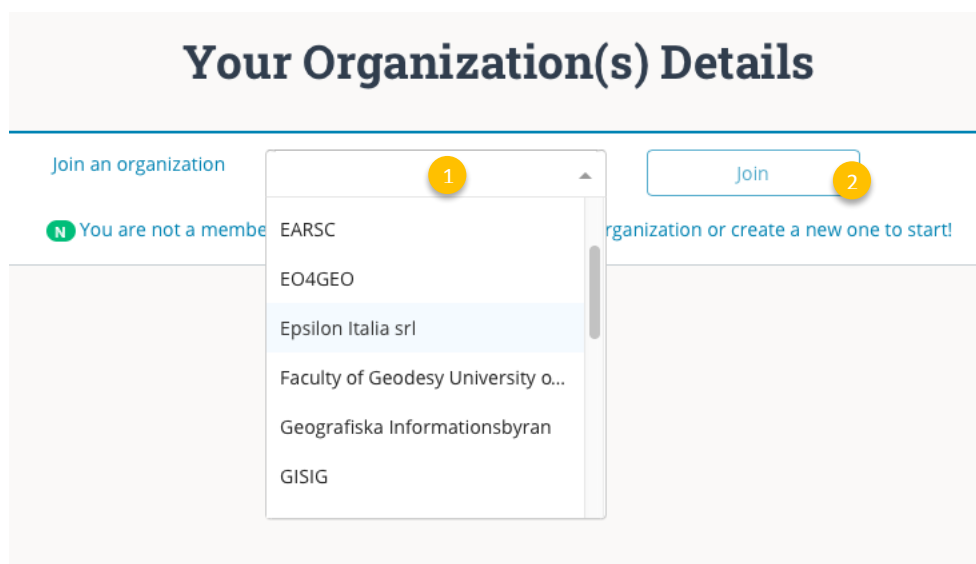


Figure 4 Dropdown in organizations page

You will be automatically added to that organization as a regular user. You can click on the **leave organization** button to be removed from it (1) (Figure 5 A regular user being member of an organization).

## EO4GEO

EO4GEO

Leave organization

EO4GEO aims to help bridging the skills gap between supply and demand of education and training in the E

Figure 5 A regular user being member of an organization

If you want to **create an organization** select the 'Create a new one' option and click on the 'Join' button (1) (Figure 6). Since you've created the organization, you are automatically an admin user, with full rights to fill in your organization name and description (2) and save changes (3) or you can **delete your organization** (4).

To help in organizing the content inside your organization you can create 'Divisions' under an organization. As an Admin, you can **create or delete divisions**, by typing the name and 'Add division' button (5).

You can change a user role (Admin / Regular) inside your organization by clicking the associated button (6). An Admin can also **remove users** (7) of an organization.

Finally, you can **add users** to your organization by typing the email address they used to log in and clicking 'Add user' button (8). After an organization is created, new users can also join themselves.

The screenshot shows the 'New Organization' form in the EO4GEO interface. At the top, there is a navigation bar with 'Join an organization', a dropdown menu 'Create a new one', and a 'Join' button (1). The main form has two input fields: 'New Organization' (2) and 'Organization Description'. To the right of these fields are 'Save changes' (3) and 'Delete organization' (4) buttons. Below these is a section 'Add / Remove divisions to this organization' with a 'Division to add' input field and an 'Add division' button (5). Further down is a section 'Add / Remove users or change permissions' containing a table with columns: Name, Email, Permission, Click to change, and Remove. The table has one row for 'Aida Monfort' with email 'aidamonfort87@gmail.com' and permission 'Admin'. The 'Click to change' column has buttons for 'Admin' (6) and 'Regular'. The 'Remove' column has a trash icon button (7). Below the table is a 'User email to add' input field and an 'Add user' button (8).

Figure 6 Creating a new organization

### 3. Annotate PDFs

There are two ways for working with BAT. If you just want to annotate it for downloading the PDF into your own folders, you don't need to be logged in and the system directly allows you to **upload a PDF**, click the 'Browse' button (4) and select a PDF file from the computer.

If you want to save the PDF annotated in our system for later use, you'll have to log in and the system asks to fill in some basic information describing the annotated PDF, as shown in figure 7, Title (1) and Description (2). Then you can upload the PDF, click the 'Browse' button (4) and select a PDF file from the computer.

The screenshot displays the 'BoK Annotation Tool' interface. At the top, there are dropdown menus for 'Save under organization' (set to 'EO4GEO') and 'Division'. To the right are 'Download' and 'Save' buttons. The main section is titled 'General Information' and contains two input fields: 'Title \*' (marked with a yellow circle '1') and 'Description' (marked with a yellow circle '2'). To the right of these fields is a 'Visibility' toggle switch set to 'Private'. Below this section is the 'Upload pdf' section, which includes a text input 'Upload resource (pdf)' and a blue 'Browse' button (marked with a yellow circle '4'). A note at the bottom right of the 'General Information' section states '\* Mandatory fields to save annotated PDF'.

Figure 7 General information to annotate a PDF

Once a pdf file has been uploaded, you can **add annotations to a PDF** using the BoK Visualization and Search component (see Figure 8), by browsing the Body of Knowledge either graphically, clicking on the concepts, or textually, clicking on the links to sub/superconcepts. You can also search for any concept in the search bar (3), results appear in the text and selected in the graph.



Once you find a concept you want to annotate with, click the 'Add' button (4) and the concept will appear in the 'Knowledge annotated' list. You can remove a concept from the list by clicking the 'x' (5).

Knowledge annotated

5 x [PS] Platforms, sensors and digital imagery

Search knowledge Associated skills will be automatically added 1

You added one BoK concept as knowledge.

3 Search Knowledge 4 Add

1

2

Knowledge  
Permalink: <https://bok.eo4geo.eu/GIST>

[GIST] Geographic Information Science and Technology  
Description:  
Geographic Information Science and Technology

Subconcepts [14]

- [AM] Analytical Methods
- [CF] Conceptual Foundations
- [CV] Cartography and Visualization
- [DA] Design and Setup of Geographic Information Systems
- [DM] Data Modeling, Storage and Exploitation
- [GC] Geocomputation
- [GD] Geospatial Data 2
- [GS] GI and Society
- [IP] Image processing and analysis
- [OI] Organizational and Institutional Aspects
- [PP] Physical principles
- [PS] Platforms, sensors and digital imagery
- [TA] Thematic and application domains
- [WB] Web-based GI

Figure 8 Browsing the BoK to add annotations

Once all the desired concepts are selected, you can **save the PDF in BAT** or **download the PDF** to save it to your computer. The annotations are stored in the metadata, and BMT can afterwards interpret them.

Annotated PDF files can be saved under an organization (Figure 9), which can be selected from the dropdown (1) and (optionally) a division (to help to organize content). Once saved, using the 'save' button (3), the annotated PDF is available under "My annotated PDFs" (see section [My annotated PDFs view](#)) and in the BoK Matching Tool (BMT). The visibility switch (2) determines if everybody can see the annotated PDF file in the BMT ("public") or only people inside your organization ("private").

**BoK Annotation Tool**

Save under organization: EO4GEO 1 Division: 3 Download Save

**General Information 1**

Title \* 2  
Title

Description  
Description

Visibility: Private ☒ Public

\* Mandatory fields to save annotated PDF

**Upload pdf**

Upload resource (pdf) Browse 4

Figure 9 Saving an annotated PDF

## 4. My annotated PDFs view

A user can check her/his previously annotated PDFs saved in 'My annotated PDFs' accessible by the top menu (Figure 10).



Figure 10 Top menu

This view (Figure 11) allows users to check previously annotated PDFs clicking on each title (1). There some operations you can do with your saved annotated PDFs.

To **edit an annotated PDF**, click the 'Edit' button (2) to add or remove annotations as explained in [Annotate PDFs](#) section.

To **download an annotated PDF** , click the 'Download' button (3) to save the file in your computer.

To **remove an annotated PDF** , click the 'Remove' button (4) to remove it from your list and from BMT.

You can also **filter annotated PDFs** by searching in the text field (4) or **start a new annotation** with the 'Annotating PDFs'(5).



Figure 11 Annotated PDFs list

## 5. Detail view

Figure 12 shows details of a previously saved annotated PDF, title and description and knowledge annotated (1).

You can also download the annotated PDF (2) and remove it (3) from the list and the BMT.

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Detail

2 3

## Example Curriculum Vitae

This is a Curriculum Vitae annotated with knowledge acquired

Knowledge 1

1 [DM2] Standards for Spatial Data Modeling [GD] Geospatial Data [GD2-3] Crowdsourced data collection [GS1] Legal aspects

[IP1] Image pre-processing [TA12] EO for societal and environmental challenges [WB1] Web services [WB] Web-based GI [WB3] Resource Publishing

[WB7] Web Application development elements

Figure 12 Detail view of an annotated PDF



# Glossary of terms

## **BAT.** BoK Annotation Tool

**Body of Knowledge (BoK)** is the complete set of concepts and relations between them, that make up a professional domain, (in this case EO/GI BoK) and the related learning outcomes as defined by the relevant learned society or a professional association.

**Knowledge.** The body of facts, principles and theories and practices that is related to a field of work or study