# SETTING UP A GOOGLE EARTH ENGINE (GEE) USER MANAGED ACCOUNT

This is a one-time setup process. **You will need a Gmail account** to register a GEE cloud project. In this tutorial we use <u>giscenter2024@gmail.com</u> as an example. You should use your own Gmail account however.

1. Click the following link https://code.earthengine.google.com/register. Then you will see

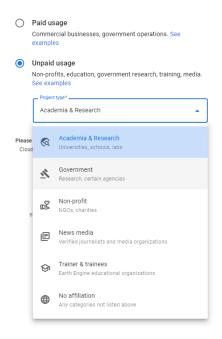
## Get started using Earth Engine

Earth Engine, Google's geospatial science platform in Google Cloud, is available for paid commercial use and remains free for academic and research use. Learn more about Google Cloud projects. Let's get started:	
Register a Noncommercial or Commercial Cloud project	
Noncommercial users can also use Earth Engine without creating Cloud projects. Click here for the signup form.	

2. Click **Register a Noncommercial or Commercial Cloud Project**. You will be prompted with:

How do you want to use Earth Engine?

Have an existing project? Click here to go to the Code Editor



3. Select the Unpaid usage option

- 4. Next, choose the **Academia & Research** or **Government** option as the Project Type depend on your organization.
- 5. Then click the **NEXT** button.



6. The following screen will appear. You do not need to enter anything here. However, if your Gmail account is associated with your organization like it is here at Idaho State University, the Organization setting has an option to associate your Google Cloud Project with your Organization. Otherwise, leave it blank. The Project-ID is usually in the form of ee-YOUR GMAIL USERNAME. You can also overwrite the default Project-ID by giving it a different name.

#### Create or choose a Cloud Project to register

Cr	eate a new project in Google Cloud, or choose one you are authorized to access to enable the API:
٢	Create a new Google Cloud Project
	Organization 👻
	- Project-ID*
	ee-giscenter2024
	Choose a unique ID. This cannot be changed later.
	Project Name (optional)
	Earth Engine Default Project
	Choose a name to help you identify the Cloud Project.
$\bigcirc$	Choose an existing Google Cloud Project
	BACK CONTINUE TO SUMMARY

7. Click the **CONTINUE TO SUMMARY** button, and you will be asked to accept the Cloud Term of Service.



- 8. Click and read the Cloud Terms of Service.
- 9. Agree to the Terms of Service as appropriate.



#### Welcome gis center!

Create and manage your Google Cloud instances, disks, networks, and other resources in one place.

g gis center giscenter2024@gmail.com	SWITCH ACCOUNT
Country	
United States	•
Terms of Service	
✓ I agree to the <u>Google Cloud Platform Term</u> of service of any applicable services and <i>J</i>	

AGREE AND CONTINUE

- 10. Next, click the AGREE AND CONTINUE link and the prompt will return to step 6.
- 11. After clicking the CONTINUE TO SUMMARY, you will be presented the following

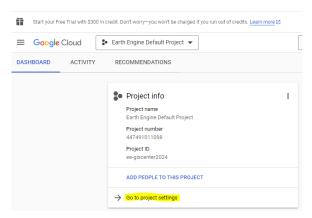
### Confirm your Cloud Project information

Project usage	1
Government	<i>v</i>
Project info	
ee-giscenter2024	0
Earth Engine Default Project	
	BACK CONFIRM
Click the <b>CONFIRM</b> button. This will complete your re	

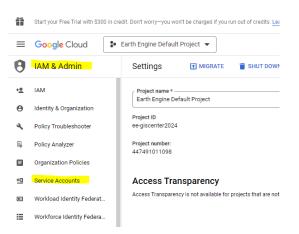
- 14. Next go to https://console.cloud.google.com/home/.
  - a. Enter your Gmail account to log in.
  - b. You will see an overview of your account.
  - c. From the account DASHBOARD we can see the Earth Engine Default Project is selected, which confirms how we set up this project earlier.

← -	> C	Console.clo	id.google.com/home/dashboard?project=ee-giscenter2024	e t	¥
Ĩ	Start you	ır Free Trial with \$30	0 in credit. Don't worry—you won't be charged if you run out of credits. Learn more 🖸		
	Goog	g <mark>le</mark> Cloud	Search (/) for resources, docs, products, and more	Q Search	

- 15. We need to set up a service account for the project next.
- 16. From the Project info card, click Go to project settings



a. From the left side of the IAM & Admin screen, click Service Accounts



b. Then click the +CREATE SERVICE ACCOUNT link near the top of this screen.

$\equiv$	Google Cloud	🐌 Ea	rth Engine Default Project 👻	Search (/) for resources, do	cs, products
0	IAM & Admin		Service accounts	+ CREATE SERVICE ACCOUNT	👕 DELETE

c. You will see the 'Service account details. 'Service account name' and 'Service account ID' should be inherited from your previous setting. You can type in your project brief description under 'Service account description'.

	Service account details     Service account name     ee-giscenter
	Display name for this service account Service account ID * ee-giscenter X C
	Email address: ee-giscenter@ee-giscenter2024.iam.gserviceaccount.com
	CREATE AND CONTINUE
<ul><li>Select <b>Owner</b> und</li><li>Then click the <b>CC</b></li></ul>	<ul> <li>E AND CONTINUE button.</li> <li>der the Role drop down list box.</li> <li>DNTINUE button.</li> <li>2 Grant this service account access to project (optional)</li> </ul>
	Grant this service account access to Earth Engine Default Project so that it has permission to complete specific actions on the resources in your project. Learn more 🖉
	Role IAM condition (optional) Owner   Full access to most Google Cloud resources. See the list of included permissions.
	+ ADD ANOTHER ROLE
	CONTINUE

- g. From the step 3 screen, click the **DONE** button.
- 17. Now your service account should look similar to the following

	+ CREATE SERVICE ACCOUNT	DELETE ·	MANAGE ACCESS	C REFRESH	S LEARN
A service account represents a	ed to secure service accounts and block risky	unning on Compute E			oogle. Learn more about service accounts. [2] the creation of service accounts entirely. Learn more
Tilter Enter property	name or value				ØIII
Email	Status	Name 个	Description	Key ID	Key creation da Actions
	he three dots unde	giscenter2024	e and choo	nge Manage	( ove
u. Chert					keys.
u. Chekt		OAuth 2		0 III	ксуз.

b. Click the ADD KEY button and choose to Create new Key

← ee-giscenter202	24		
DETAILS PERMISSIO	NS KEYS	METRICS	LOGS
Keys			
<b>A</b>	keys could pose a security bout the best way to authe		
Add a new key pair or upload Block service account key cr	ADD KEY -	om on ovictin	g key pair.
Learn more about setting or	Create new key	Key	Z
ADD KEY 👻	Upload existing key	dfc11	

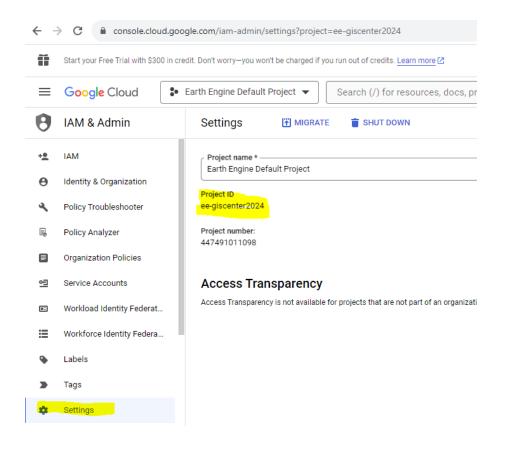
- c. Select the recommended **JSON** setting
- d. Then click the **CREATE** link.

## Create private key for "ee-giscenter2024"

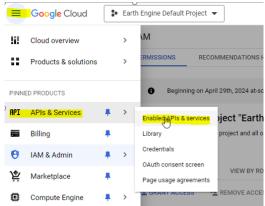
	vnloads a file that contains the private key. Store the file securely because this key 't be recovered if lost.
Key	type
$\odot$	JSON
	Recommended
0	P12
	For backward compatibility with code using the P12 format

#### CANCEL CREATE

- e. You will see a pop-up confirming the key was created and saved to your local computer's download folder.
- f. Click **Close**.
- 18. From the Google Cloud Dashboard (IAM & Admin pane), click the **Settings** on the left side of the screen.
  - a. Here you can see the project ID associated with the *Earth Engine Default Project*. This is the project ID we will use in the NASA RECOVER Long-Term Post-Fire Monitoring tool.



- 19. Click the hamburger menu button in the upper-left corner of the Google Cloud navigation window
  - a. Click APIs & Services (NOTE: You may need to click the VIEW ALL PRODUCTS button and then choose APIs and Services).
  - b. Then click the Enabled APIs & services link.



- c. From the left side of the screen, click Credentials
- d. Then, click the +CREATE CREDENTIALS button near the top of the window
- e. From the fly-out menu choose **API key**

Ĩ	Start your Free Trial with \$300	0 in credit. Don't worry—you won't be cl	narged if you run out of credits. Learn more 🖸	
≡	Google Cloud	Earth Engine default project	t <b>-</b>	Search (/) for resources, docs, proc
API	APIs & Services	Credentials	+ CREATE CREDENTIALS	RESTORE DELETED CREDENTIALS
٩	Enabled APIs & services	Create credentials to ac	API key Identifies your project using a simple API key to	o check quota and access
́Ш	Library	API Keys	OAuth client ID Requests user consent so your app can access	s the user's data
0+	Credentials	□ Name	Service account	
12	OAuth consent screen	No API keys to displa	Enables server-to-server, app-level authentication	on using robot accounts
≡₀	Page usage agreements	OAuth 2.0 Client I	Help me choose Asks a few questions to help you decide which	type of credential to use
		Name		Creation date 🗸

f. If API key was successful created, you will see popup window similar to that shown below.

#### API key created

Use this key in your application by passing it with the key=API\_KEY parameter.

cted. To prevent unautho	rized use, we recon	nmend restricting
		tricted. To prevent unauthorized use, we recon APIs it can be used. Edit API key to add restric

- g. Click Close.
- h. You will see the API key displayed under API Keys on the Credentials screen.

Create o	redentials to access your enabled APIs. Learn more 🛙			
API K	eys			
	Name	Creation date 🔸	Restrictions	Actions
	API key 1	Apr 16, 2024	None	SHOW KEY

CLOSE

- 20. In addition to these steps, we also need to give the permission to the roles that grant access for the project. To do this, we need to return to the IAM & Admin screen (HINT: From the hamburger menu, click Cloud Overview---Dashboard. Then from the Dashboard's Project Info card, click Go to Project settings).
- 21. From the IAM & Admin pane, click **Roles** from the left side of the screen (see the screenshot below for help).
  - a. From the top of this screen click the **+CREATE ROLE** link.

←	→ C : console.clou	d.google.com/	iam-admi	n/roles?project=ee-	giscenter2024	
ñ	Start your Free Trial with \$300 i	n credit. Don't wo	rry—you wo	n't be charged if you ru	n out of credits. Learn more 🖸	
≡	Google Cloud	<ul> <li>Earth Engir</li> </ul>	ne Default	Project 🔻		Sea
θ	IAM & Admin	Roles		+ CREATE ROLE	CREATE ROLE FROM SEL	ECTION
+.	IAM	Role	s for "E	arth Engine D	efault Project" projec	ct
Θ	Identity & Organization			•	u can assign to principals. You	
ع	Policy Troubleshooter	and add more 🗹		ons to it, or copy an e	kisting role and adjust its permis	ssions. Lea
E,	Policy Analyzer					
		Ŧ	Filter Ent	er property name or v	alue	
E	Organization Policies		Туре	Title		
연	Service Accounts		⊞	Custom Role		
_	Martin and Information Tradition		⊞	Custom Role		
	Workload Identity Federat		O	Access Approval	Approver	
≣	Workforce Identity Federa		O	Access Approval	Config Editor	
•	Labels		o	Access Approval	nvalidator	
•	Educio		O	Access Approval	/iewer	
	Tags		0	Access Context N	lanager Admin	
\$	Settings		O	Access Context N	lanager Editor	
~			O	Access Context N	lanager Reader	
Ø	Privacy & Security		O	Access Transpare	ncy Admin	
5.5	Identity-Aware Proxy		O	Actions Admin		
	Roles		O	Actions Viewer		
			o	Activity Analysis \	liewer	

b. Click the **+ADD PERMISSIONS** button.

← ·	→ C S console.clo	ud.google.com/iam-admin/roles/create?project=ee-giscenter2024
Ũ	Start your Free Trial with \$300	n credit. Don't worry-you won't be charged if you run out of credits. Learn more [2
≡	Google Cloud	Search (/) for resources, docs, product
Navig	<sup>gation menu</sup> ldmin	← Create Role
+ <u>e</u>	IAM	Custom roles let you group permissions and assign them to principals in your project or
Θ	Identity & Organization	organization. You can manually select permissions or import permissions from another role. Learn more [2]
٩	Policy Troubleshooter	Title *
E.	Policy Analyzer	11 / 100 characters
	Organization Policies	Created on: 2024-03-21
어린	Service Accounts	22 / 256 characters
	Workload Identity Federat	LID *
≡	Workforce Identity Federa	Cusuincuess
۹	Labels	Alpha
	Tags	+ ADD PERMISSIONS
*	Settings	

c. Make sure all the *accessapproval* options are selected.

#### Add permissions

lect all ro	Enter property name or value	0 1
	Permission 🛧	Status
$\checkmark$	accessapproval.requests.approve	Supported
$\checkmark$	accessapproval.requests.dismiss	Supported
$\checkmark$	accessapproval.requests.get	Supported
$\checkmark$	accessapproval.requests.invalidate	Supported
$\checkmark$	accessapproval.requests.list	Supported
~	accessapproval.serviceAccounts.get	Supported
~	accessapproval.settings.delete	Supported
$\checkmark$	accessapproval.settings.get	Supported
$\checkmark$	accessapproval.settings.update	Supported
	accesscontextmanager.accessLevels.create	Non-applicable 🛕
		1 - 10 of 9511 🔾

- d. Click the **Add** button.
- e. Click **CREATE**.
- 22. The custom role has been created. It usually takes about 3-4 days for Google to review your service account when first applied. After your service account is approved, you can start using it for any of your GEE applications.

END