Maximising the Power of Web GIS with ArcGIS Online

Lebogang Mashishi & Leigh Thomas

esri South Africa

THE SOUTHERN AFRICA ESRI USER CONFERENCE 2023

Topics that we'll cover in our session…

- Introduction to ArcGIS Online and its capabilities
- Setting up an ArcGIS Online account and understanding licensing options
- Navigating the ArcGIS Online user interface
- Adding and managing data in ArcGIS Online
- Creating and editing web maps
- Adding and configuring layers to web maps
- Sharing maps with others and publishing web apps
- Exploring ArcGIS Online apps and templates
- Best practices for working with ArcGIS Online

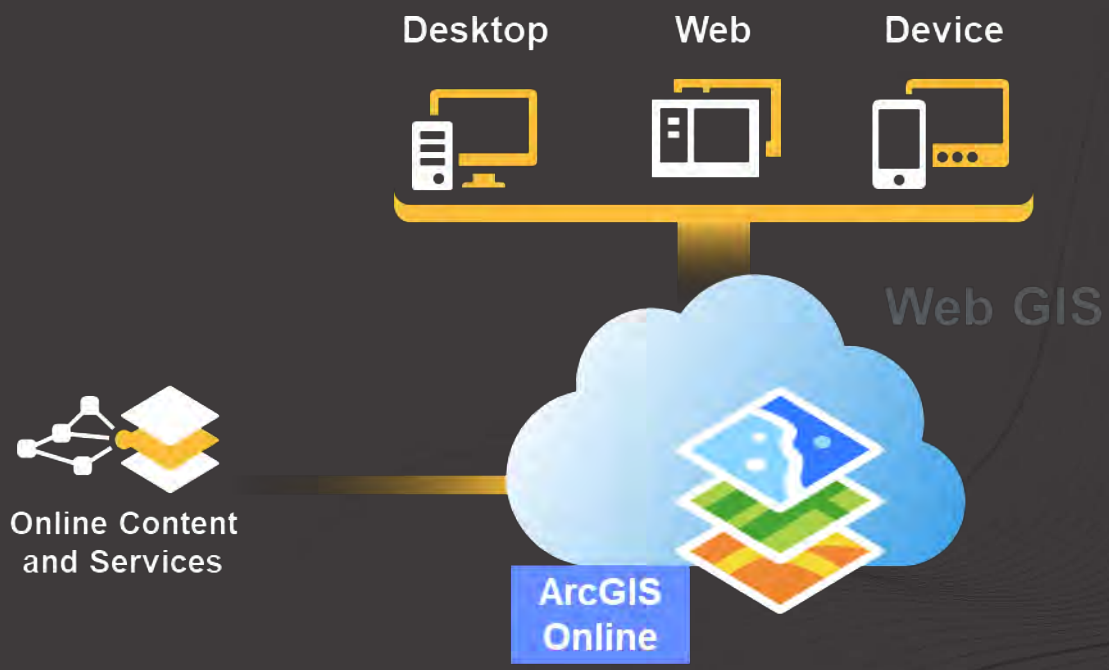
Introduction to ArcGIS Online and its Capabilities

Lebogang Mashishi

Overview

What is ArcGIS Online

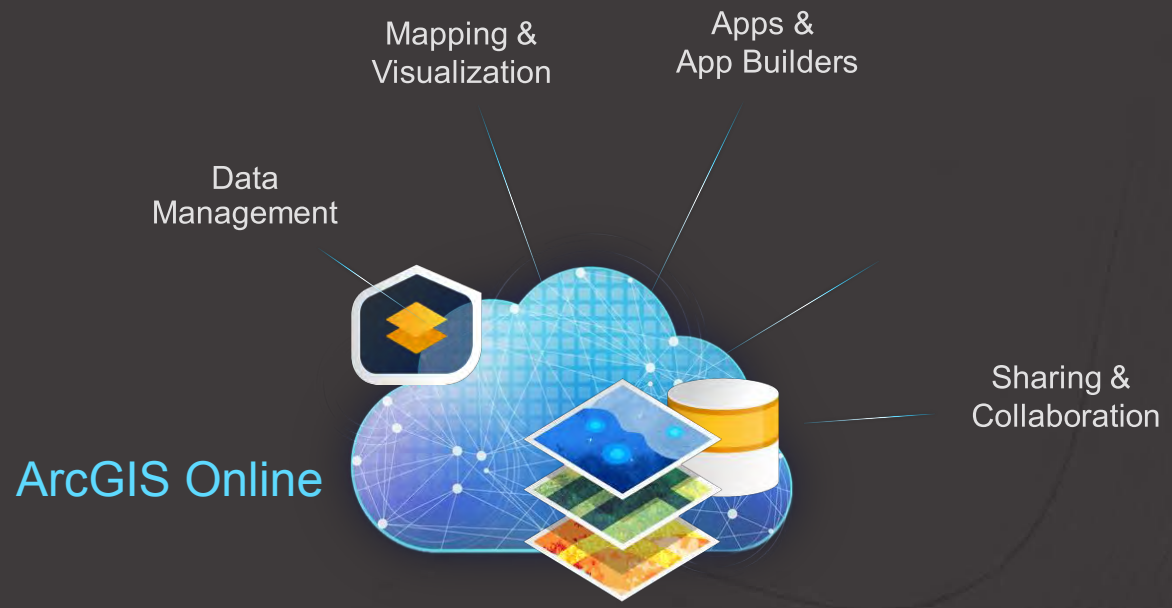
- Web GIS
- Cloud-based mapping & analysis solution
- Software-as-a-Service (SaaS) model
- World's largest web mapping platform
- Global and inner reach



Capabilities

What you can do with ArcGIS Online

- Create maps, scenes, apps, and notebooks
- Sharing of Maps and Apps
- Collaboration of teams
- Explore and analyse data
- Manage data
- Be mobile in the field



Benefits

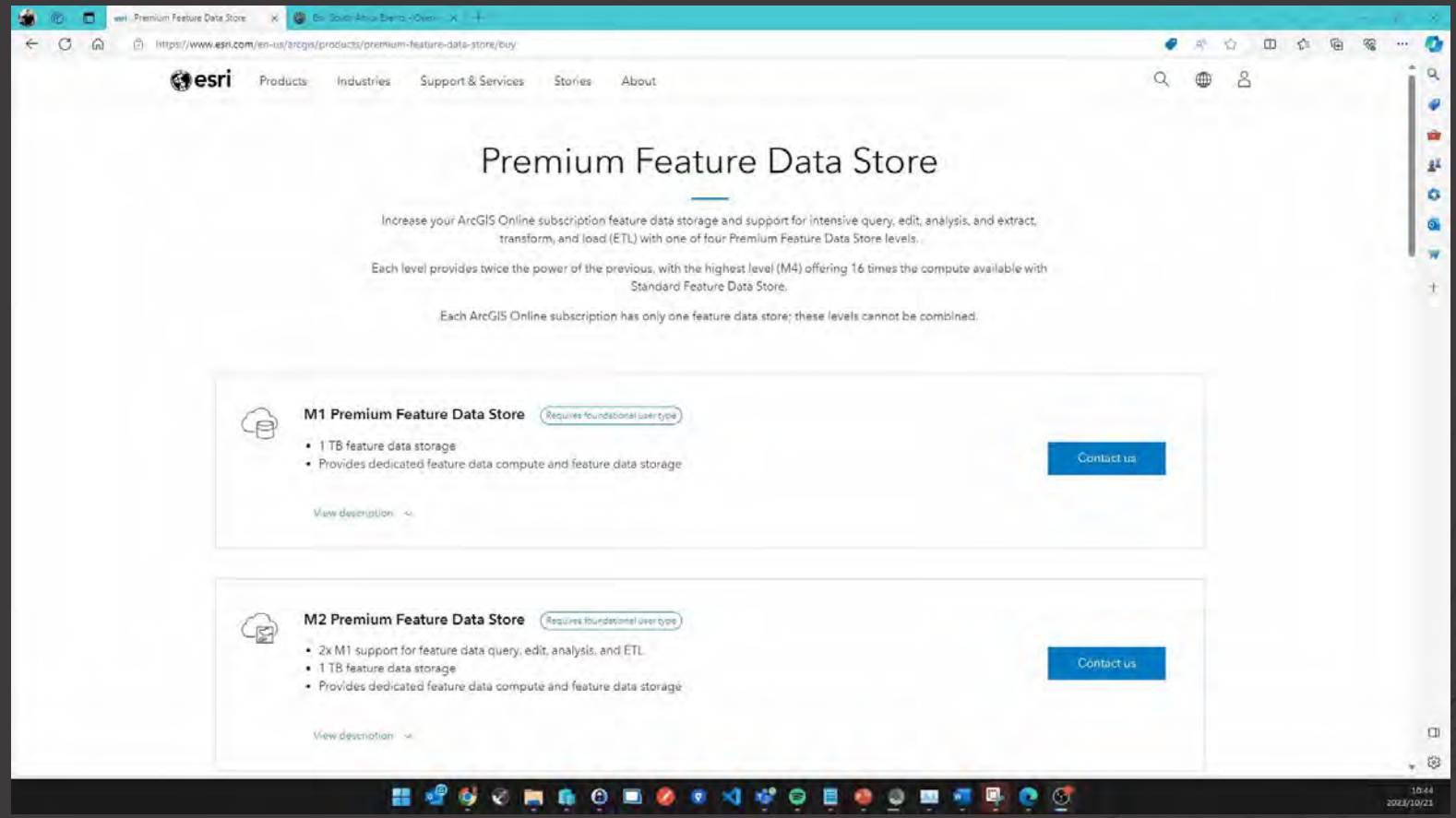
Understanding organisational benefits

- Scalability
- Low overhead
- Agile
- High Availability
- New releases and updates
- Reduced time to start-up
- Enterprise System Integration
- Flexible Pricing
- Secure and private

Benefits

Understanding organisational benefits

- Scalability
- Low overhead
- Agile
- High Availability
- New releases and updates
- Reduced time to start-up
- Enterprise System Integration
- Flexible Pricing
- Secure and private
- Premium Options



Setting up an ArcGIS Online Account and Understanding Licensing Options

Lebogang Mashishi

Overview

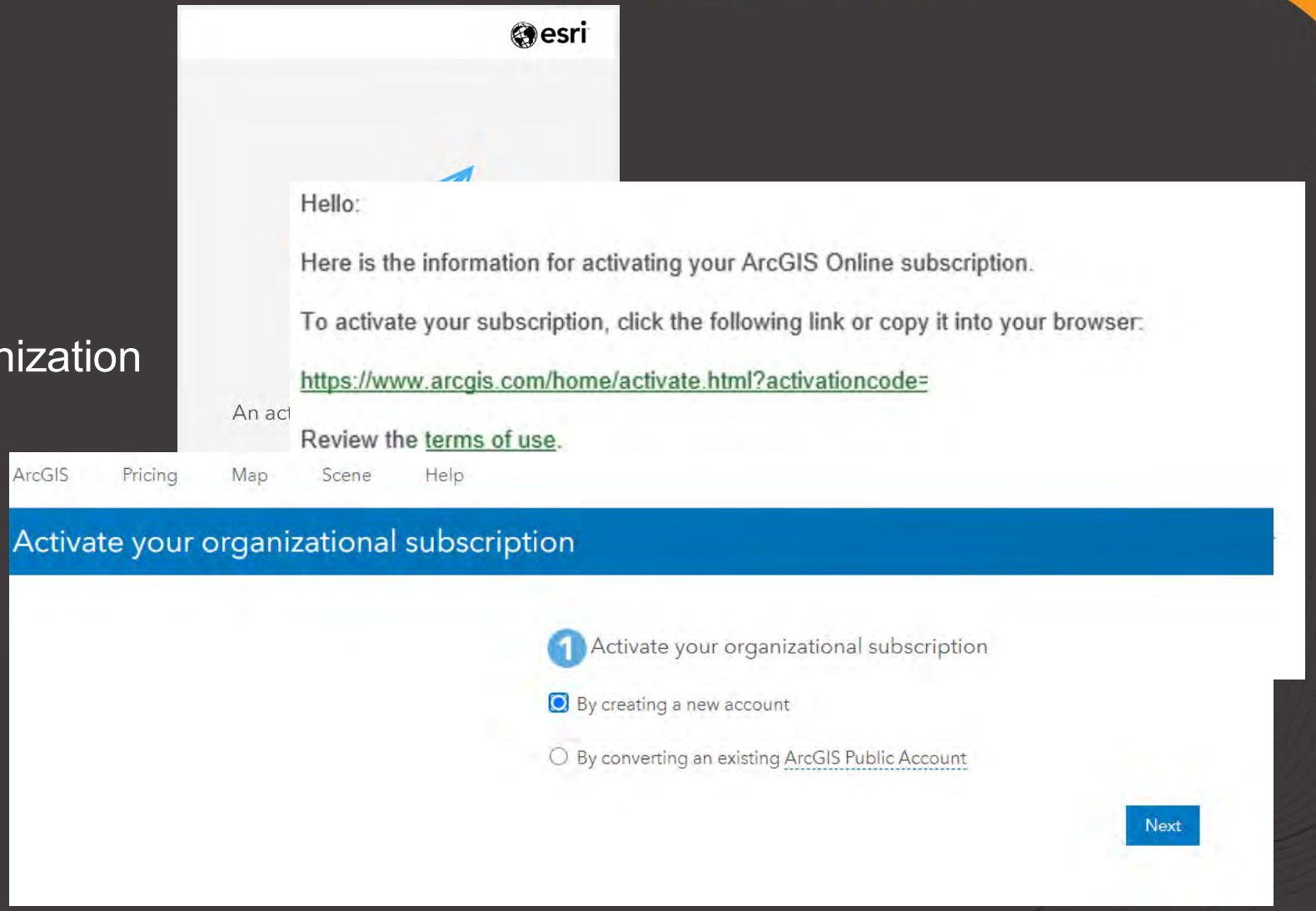
Role Players

- Administrator
- GIS Professional
- End User

How to Get Started

Activate Subscription

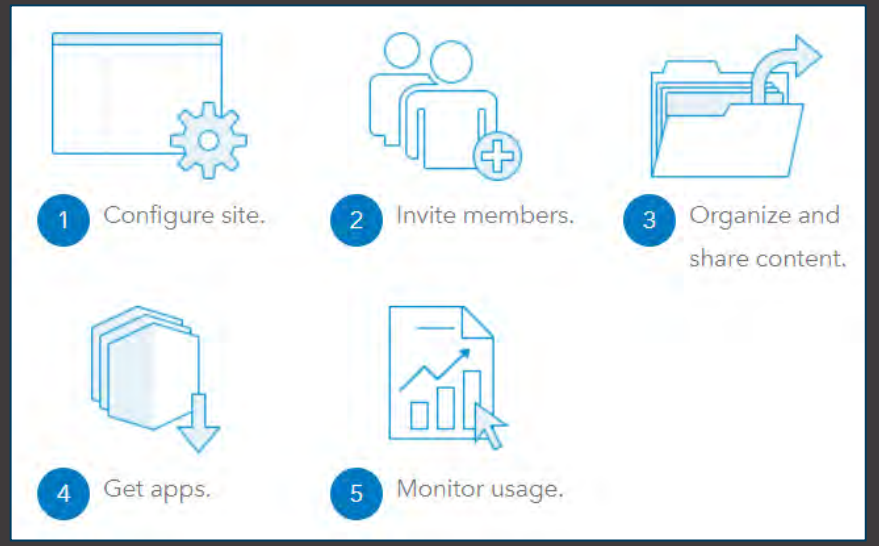
- Public vs Organisational
- Activation Email from Esri
- Provide a name for your organization
- Provide a short name
- Choose the region
- Set Credentials



How to Get Started

Administrative Next Steps

- Configure Site
- Invite and Add Members
- Organize and Share Content
- Get Apps
- Monitor Usage



Types of User Types

An Overview

- Foundational User Type
- Dependent User Type
- User Type Extension

Types of User Types

An Overview Comparison

Viewer

Editor

Mobile Worker

Creator

GIS Professional

Least Amount of Capabilities → Most Amount of Capabilities

Types of User Types

Dependent vs Foundational

Viewer

Editor

Mobile Worker

Creator

GIS Professional

Dependent User Type

Foundation User Type

Types of User Types

Credit allocation

Viewer	Editor	Mobile Worker	Creator	GIS Professional
0	250	250	500	500

ArcGIS App Bundles

Viewer

Essential App Bundle

- ArcGIS Map Viewer & Scene Viewer
- ArcGIS StoryMaps
- ArcGIS Instant Apps
- ArcGIS Experience Builder
- ArcGIS Web App Builder
- ArcGIS Dashboard
- ArcGIS Hub Basic
- ArcGIS AppStudio Basic
- ArcGIS for Power BI
- ArcGIS Maps for Adobe Creative Cloud

Field Worker App Bundle

- ArcGIS Field Maps
- ArcGIS Survey123
- ArcGIS Workforce
- ArcGIS Quick Capture

Office App Bundle

- ArcGIS for Excel
- ArcGIS for PowerPoint
- ArcGIS for SharePoint
- ArcGIS for Teams

Types of User Types

Viewer

- View items that are shared with them by other ArcGIS users and have access to a selection of apps
  - Essential Apps
  - Office Apps
- Typically for:
  - Consumers of GIS Services like managers, executives, non-GIS professionals

Types of User Types

Editor

- View and edit data in ArcGIS maps and apps that are shared with them by other ArcGIS users.

  - Essential Apps
  - Office Apps

- Typically for:

  - GIS Data Capturers, Analysts or anyone who works behind the computer to create or modify GIS data

Types of User Types

Mobile Worker

- View and edit data in ArcGIS maps and apps that are shared with them by other ArcGIS users.

  - Essential Apps
  - Field Apps
  - Office Apps

- Typically for:
  - Field data capturers, or people who primarily interact with content on the field

Types of User Types

Creator

- Create and edit content such as maps and apps, perform spatial analysis using the analysis tools, collect data, and collaborate and share content for use in apps
  - Essential Apps
  - Field Apps
  - Office Apps

- Typically for:
  - System Admin, GIS Specialist and other content creators & collaborators.

Types of User Types

GIS Professional

- Build advanced 2D and 3D maps, visualizations, and analyses using ArcGIS Pro as well as use ArcGIS Online/ArcGIS Enterprise to create, edit, and collaborate and share content for use in apps.

  - Essential Apps
  - Field Apps
  - Office Apps
  - ArcGIS Pro (Basic, Standard or Advanced)

- Typically for:
  - System Admin, GIS Specialist and other content creators & collaborators.

Understanding Licensing Options

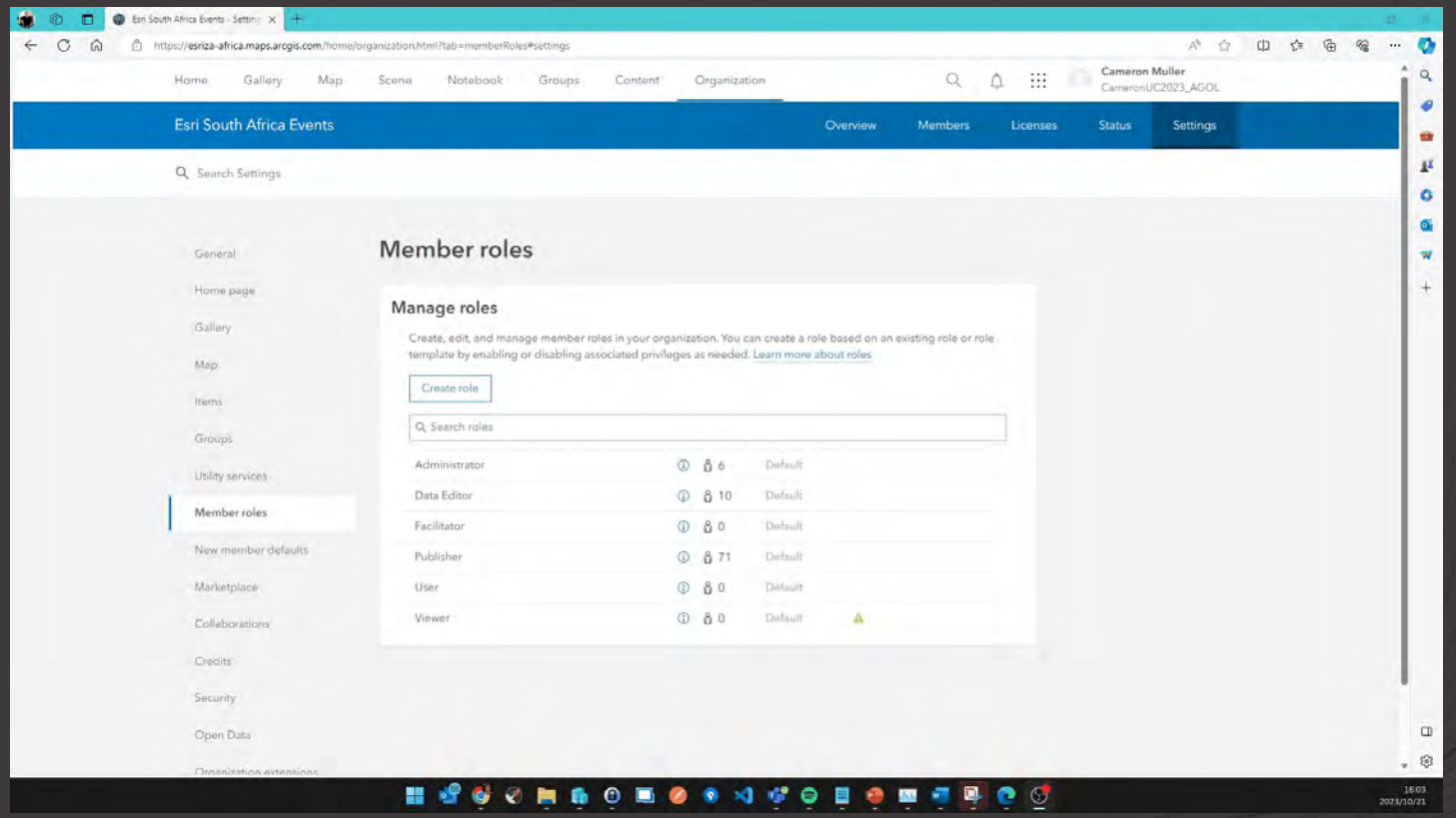
Privileges

- Determined by the Role
- Role limited by User Type
  - Administrator
  - Data Editor
  - Facilitator
  - Publisher
  - User
  - Viewer

Understanding Licensing Options

Privileges

- Determined by the Role
- Role limited by User Type
  - Administrator
  - Data Editor
  - Facilitator
  - Publisher
  - User
  - Viewer
- Default vs Custom
- Rule of least privileged



Navigating the ArcGIS Online Interface

Lebogang Mashishi

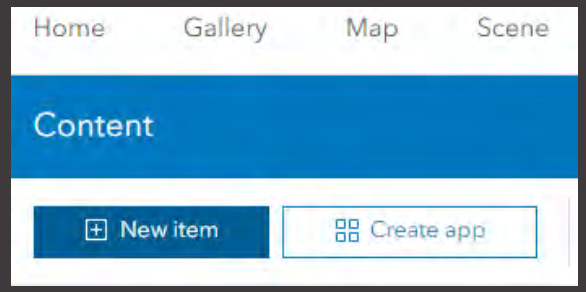
Adding and Managing data; Creating web maps; Sharing and publishing web apps in ArcGIS Online

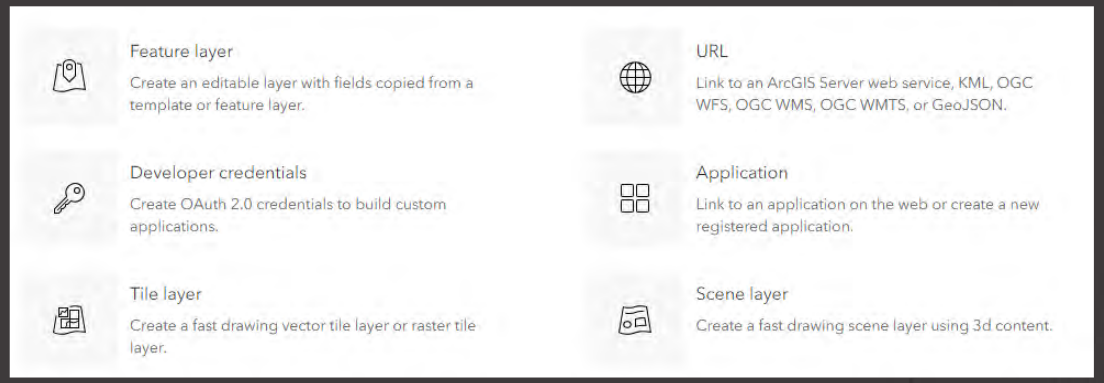
Leigh Thomas

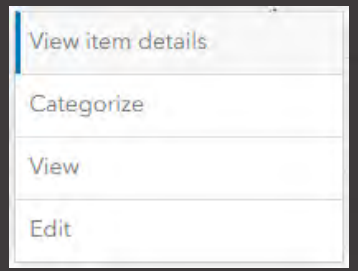
Adding & Managing Data

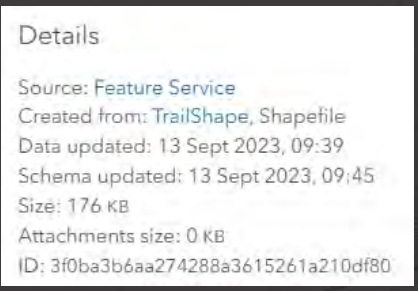
Overview

- Add data to your organization
- Manage settings and details
- Use the layers in maps, scenes and apps





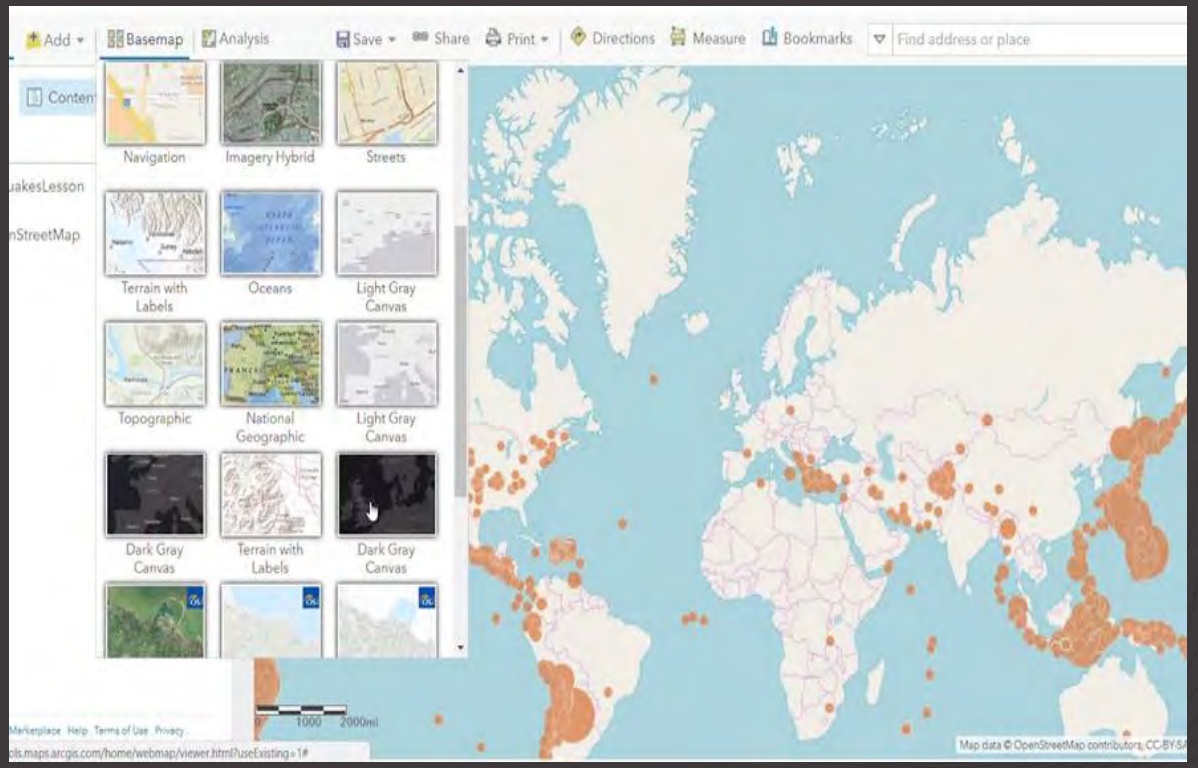




Creating & editing web maps

Overview

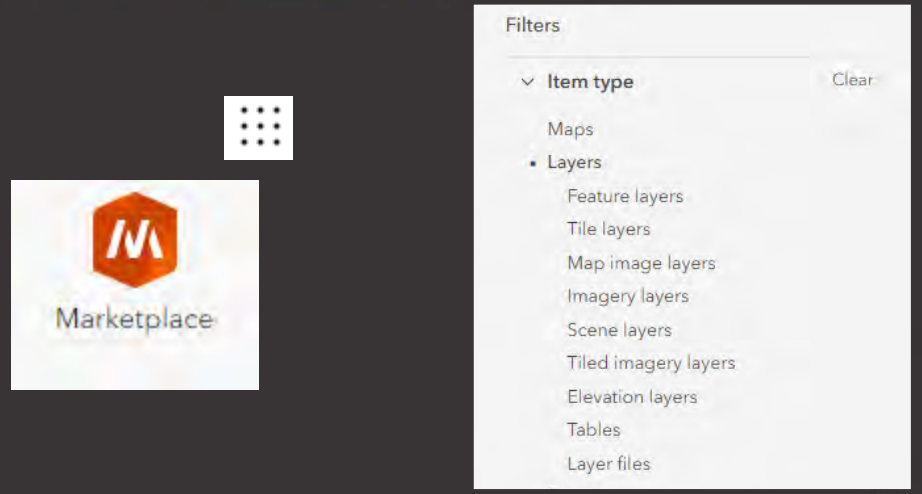
- Use to tell stories and answer questions
- Basemap, data layers, extent and navigation tools
- Styles and Pop-ups
- Create in ArcGIS Pro, modify in ArcGIS Online – intercompatibility
- Adding & configuring layers to web maps

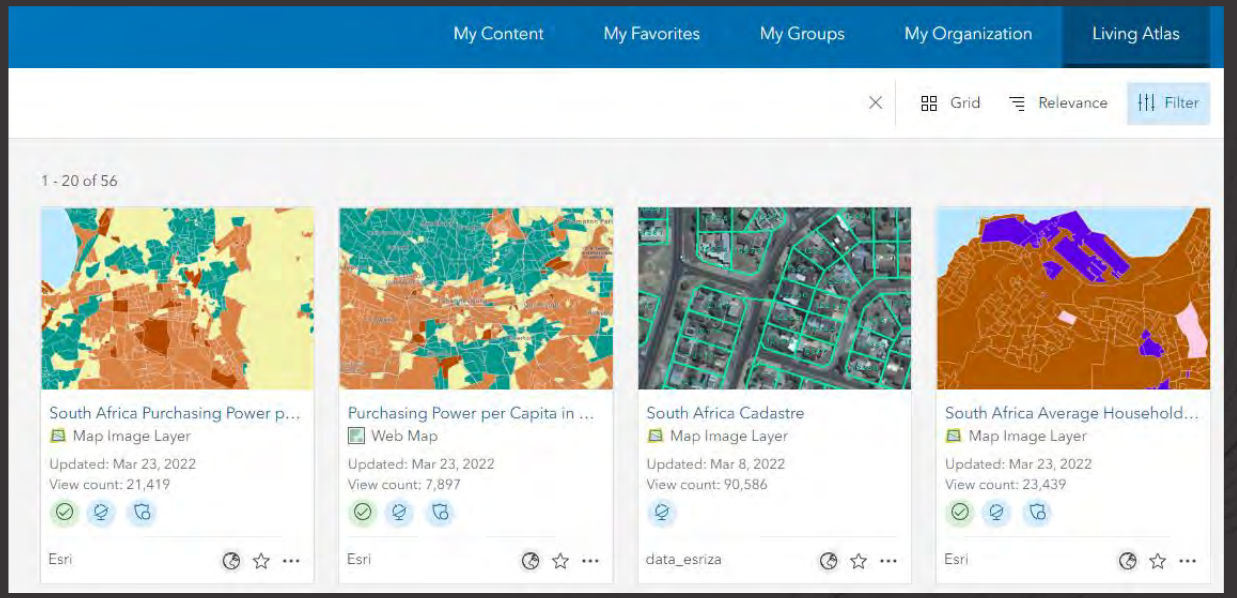


Adding layers to web maps

Layer types

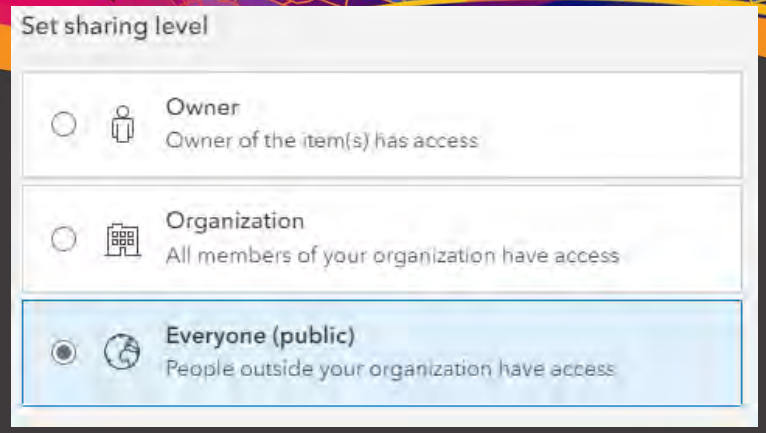
- Layers are contents of the map
- Public, organization & subscription layers
- Types of layers:
  - Map service
  - Feature service
  - Image service
  - KML
  - OGC WMS
  - CSV
  - Delimited text file (.csv and .txt)
  - Shapefile (.zip)
  - GPS file (.gpx)
  - Editable layers created in the ArcGIS.com map viewer (map notes)





Sharing maps & publishing apps

Considerations



- Layers in the map also need to be shared
- For a map to be accessible to the public (and if your organization allows sharing outside the organization), you must share it with everyone – share the public URL to the map (https://www.arcgis.com/mapviewer/index.html?webmap=<map_id>) rather than the URL that includes your organization name (https://<organization_name>/mapviewer/index.html?webmap=<map_id>
- You can create an app with a map from the My Content tab of the content page or from the Map Viewer using the Create app button

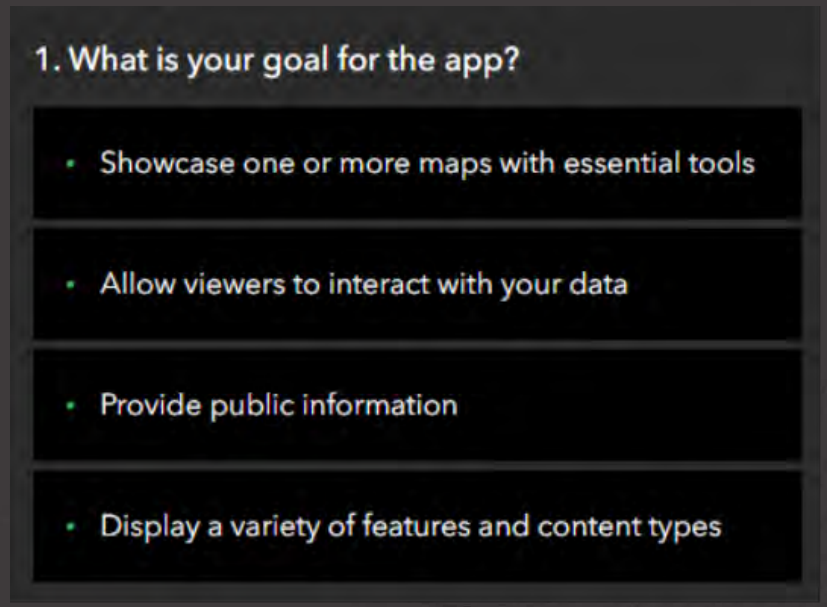
Exploring ArcGIS Online apps and templates

Considerations

- Purpose - Embedded in this goal is your intended audience: Who is going to use your app and what are the key points that you want them to take away from the experience?

- Functionality - What is the critical functionality needed to support that goal?

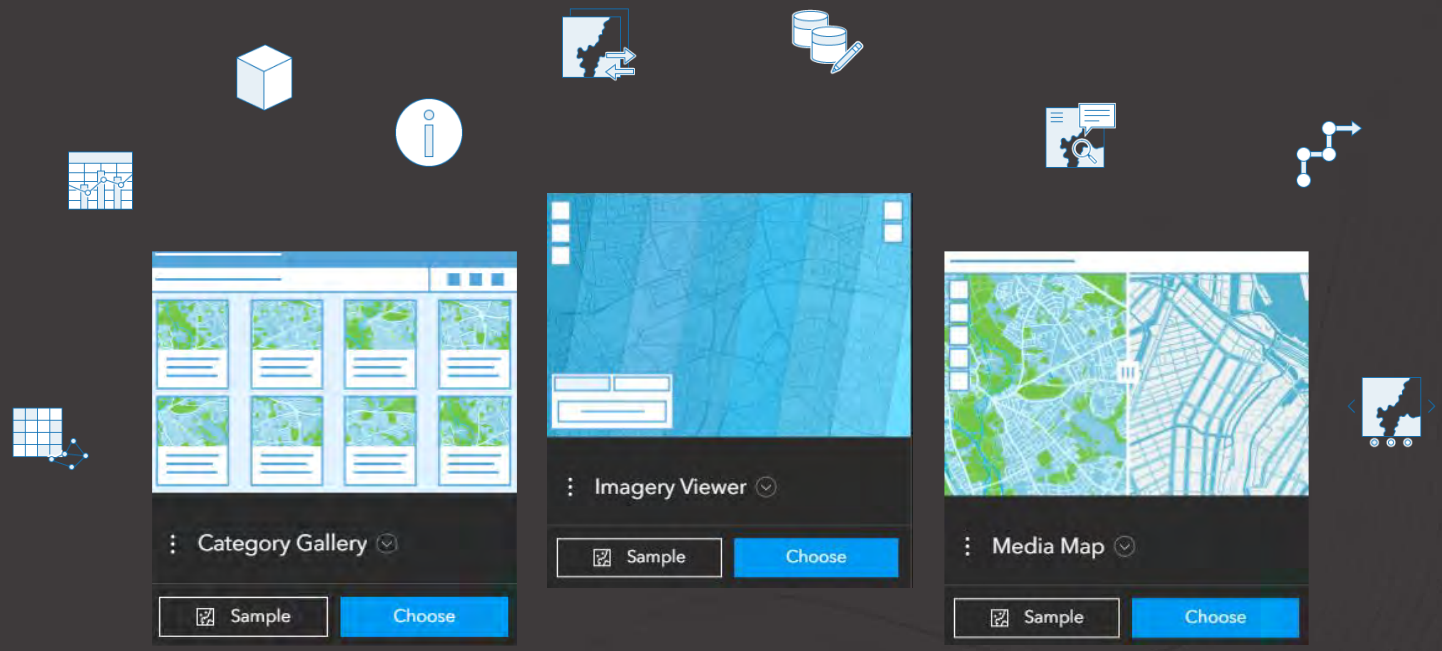
- Aesthetic - How does the app's layout and color scheme support your brand or message?



Exploring ArcGIS Online apps and templates

Template Types

- Collect and Edit Data
- Compare maps and layers
- Display a scene (3D)
- Explore & Summarize data
- Interpret imagery
- Make a gallery
- Provide local information
- Route and get directions
- Showcase a map



Best practices for Working with ArcGIS Online

Lebogang Mashishi

Overview

- Monitor and Tracking
- Reporting
- Members
- Content
- Administration

Credits

What they are

- What are credits?
  - Currency used across ArcGIS and are consumed for specific transactions and types of storage, premium content and analysis

- Why do we pay for credits?
  - ArcGIS Online maintains servers, processes data, and it curates content.

Credits

What consumes credits?

- Storage
  - Common storage types: feature storage, tile storage, and file storage.
    - Others: scene storage, notebook storage, vector tile storage, imagery storage

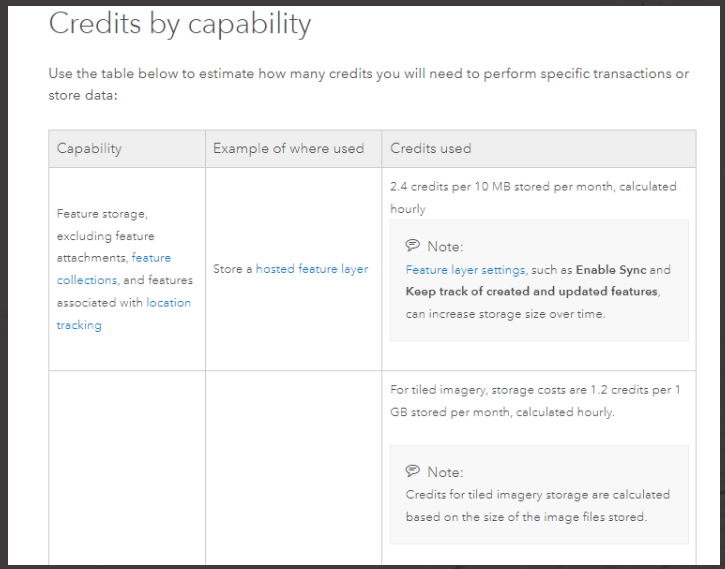
- Transaction based tools
  - Geocoding, GeoEnrichment, image analysis, and spatial analysis tools.
  - Charged based on the number of records and the generated output.

Credits

How are credits calculated

- Storage costs are associated with size and time
  - For feature storage - 2.4 Credits per 10MB stored per month
  - For tiled imagery – 1.2 credits per 1GB
  - For dynamic imagery costs are based on image size and number of images – 1-10 images is 10 credits per day

- Transaction based tools are usually calculated based on the transaction
  - 1 Service area is 0.5 credits per drive time
  - 1 Report is 10 Credits
  - 40 credits per 1000 geocodes



Credits by capability

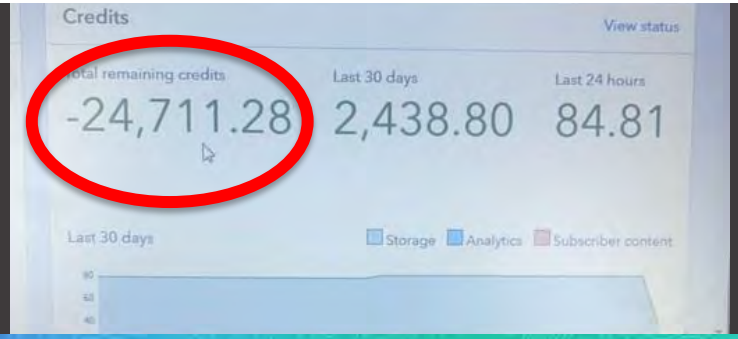
Use the table below to estimate how many credits you will need to perform specific transactions or store data:

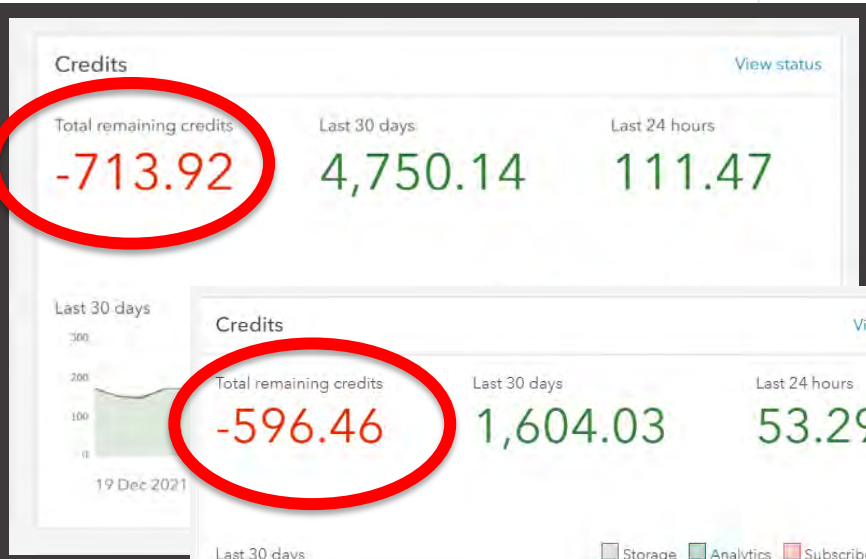
Capability	Example of where used	Credits used
Feature storage, excluding feature attachments, feature collections, and features associated with location tracking	Store a hosted feature layer	2.4 credits per 10 MB stored per month, calculated hourly Note: Feature layer settings, such as **Enable Sync** and **Keep track of created and updated features**, can increase storage size over time.
		For tiled imagery, storage costs are 1.2 credits per 1 GB stored per month, calculated hourly. Note: Credits for tiled imagery storage are calculated based on the size of the image files stored.

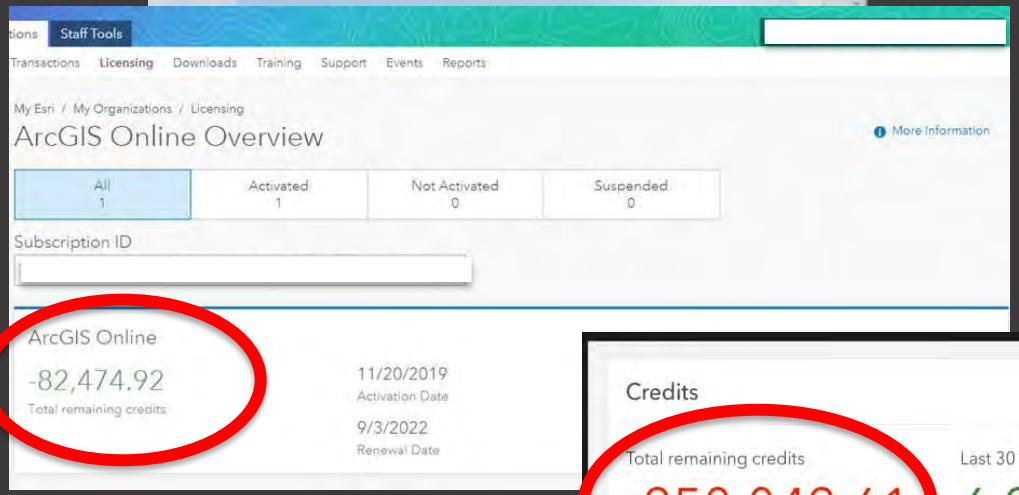
Credits

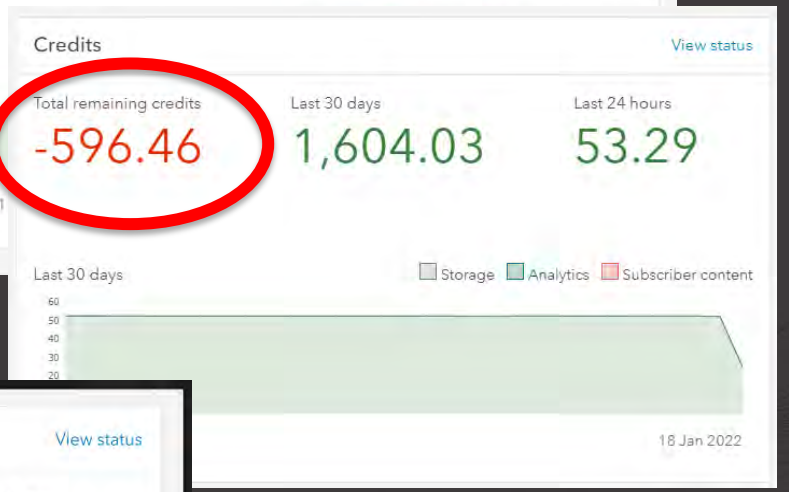
Account Restricted

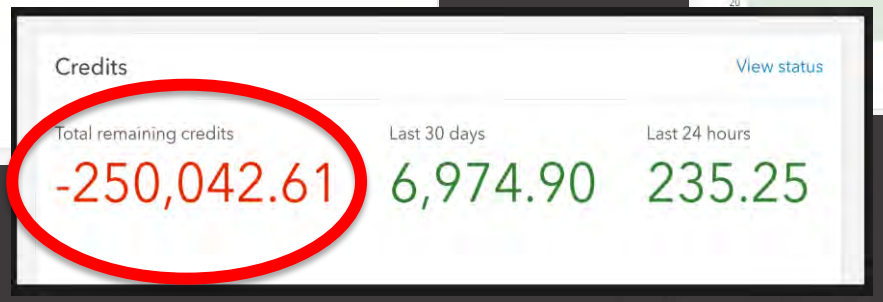
⚠ **Your organization is in a restricted state.** All members are currently unable to perform some actions that require credits. Remove restrictions











Credits

Account Restricted

- Restricted state is when an organization uses all its credits
- Can’t Use:
  - Premium content
  - Batch geocoding

- Negative credits have to be paid

Members

Credits, Groups, Licenses and Security

- Credits:
  - Set budgets
  - Estimate
  - Monitor
- Groups:
  - Auto add
- Licenses:
  - New member defaults
  - Custom Roles
- Security:
  - Configure organization-specific logins

Content

Basemap, Categories, Sharing and Templates

- Basemap:
  - Vector Styling Editor
- Governance:
  - Content categories, tags, descriptions
- Sharing:
  - Manage sharing approach
- Templates:
  - Esri defaults
- Optimisation:
  - Map content optimisation

Administration

Contacts, Renewal, Uptime

- Contacts:
  - Assign more than a single contact
- Renewal:
  - Mark renewal date in your calendar/device
- Uptime:
  - System Status

Questions

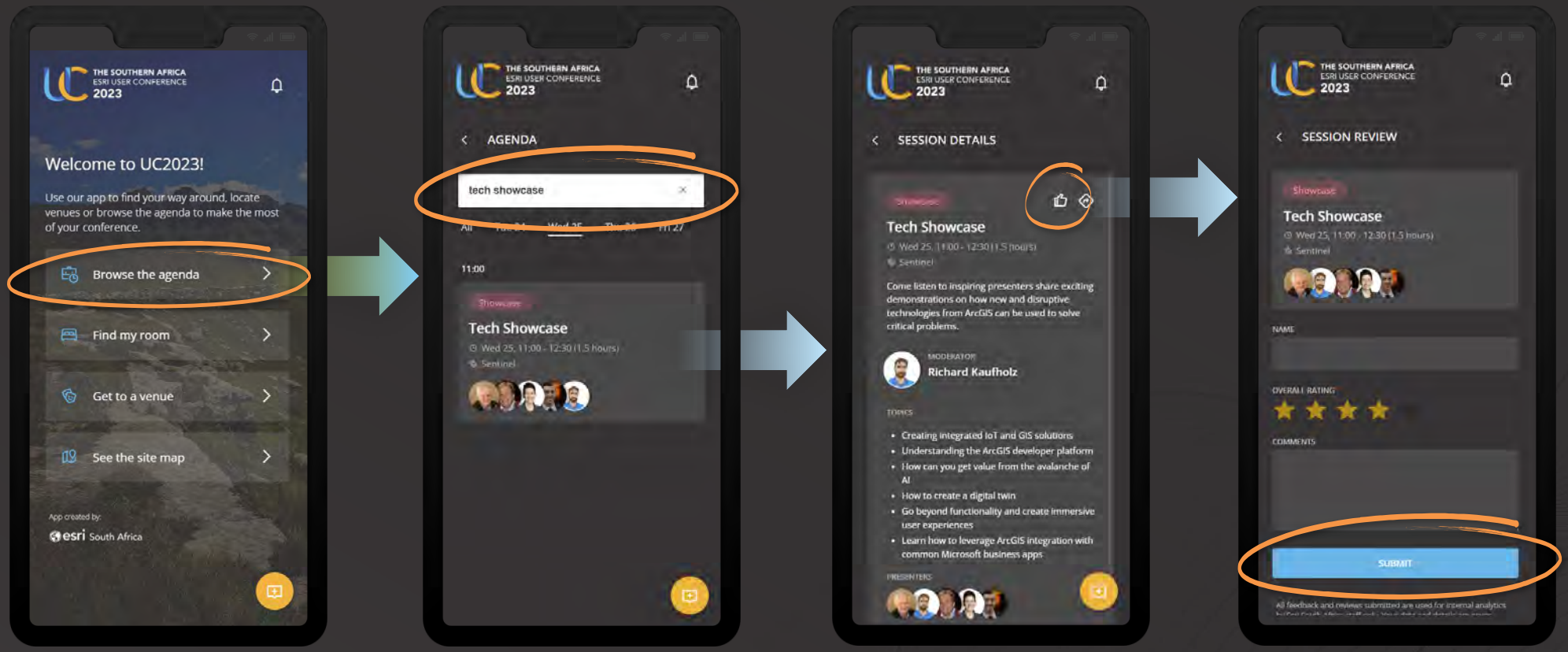
Please share your feedback in the UC2023 app

Open **uc2023.esri-southafrica.com** and browse the agenda

Search and select the session you attended

Click the “thumbs up” icon

Complete and submit your review



THE SOUTHERN AFRICA ESRI USER CONFERENCE 2023

CONNECTING COMMUNITIES