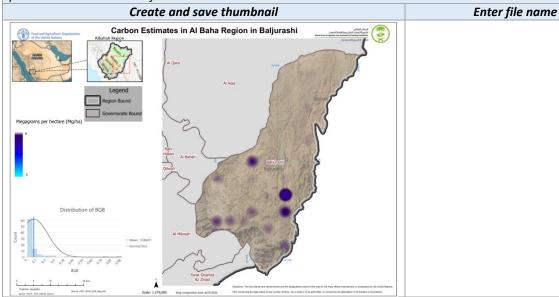# Metadata – Carbon Stock (C-Stock) in Baljurashi Governorate, Al Baha Region, Saudi Arabia

## Part 1:     Basic Metadata (Mandatory)

### 1.01     Thumbnail

*Prepare small thumbnail that represents this dataset. Create and save thumbnail. Insert thumbnail in the space provided and indicate the file name.*

| Create and save thumbnail | Enter file name |
|---|---|
|  | |

### 1.02 – Title

*Descriptive title for this data. Should provide sufficient information to external users.*

| Enter Data Title |
|---|
| *Carbon Stock Mapping in Baljurashi Governorate, Al Baha Region, Saudi Arabia* |

### 1.03 – Abstract

*Provide a short and concise abstract which summarizes what this data is about. Similar to the abstracted provided in a scientific paper.*

| Enter data abstract |
|---|
| *This dataset presents the spatial distribution of carbon stock in Baljurashi Governorate, Al Baha Region, Saudi Arabia. The carbon stock (C-Stock) values are expressed in tonnes per hectare (Mg/ha) and estimated from below-ground and above-ground biomass using a conversion coefficient derived from the IPCC (Intergovernmental Panel on Climate Change) default factor. The data supports carbon accounting, climate reporting, and ecosystem management under the FAO–NCVC framework. The map illustrates the carbon pool variability across sample locations, providing insights for land restoration planning, sustainable vegetation management, and national greenhouse gas inventories.* |

## 1.04 – Date type

*Provide all three type of dates - Creation date, Publication date, and Revision date.*

| Identification of when a given event occurred | |
|---|---|
| *Creation* | *2024* |
| *Publication* | *2025* |
| *Revision* | *2023* |
| *relevant date* | *2023* |

## 1.05 – Group

*The group, department or unit to which this data belongs.*

**Enter group name**

*Registered Members,*
*FAO Spatial Data Group,*
*Natural Resources Management Component NRM - FAO KSA*

| **1.06 – Category** | **1.07 – Free-text Keywords** |
|---|---|
| *Provide one primary category to which this data belong. Select from the list provided. Possible categories related to the SRADP project are highlighted in green color.* | *Keywords helps Search Engines such as Google find data requested by users. Use FAO AGRIS to select the most appropriate keywords for this data. To make the data discoverable, provide a minimum of 5 keywords.* |
| *Field declared Mandatory by the Metadata Schema* | *A space or comma-separated list of keywords. Use the Widget to select from Hierarchical tree.* |
| **Select one of the following : (highlighted by Yellow)** | *REQUIRED: Common-use word or phrase used to describe the subject of the data set. (Provide 5 keyword minimum)* |
| *Imagery Base Maps Earth Cover* | *NCVC* |
| *Society* | *Below Ground Biomass* |
| *Economy* | *Baljurashi* |
| *Utilities Communication* | *Al Baha* |
| *==Environment==* | *Forest* |
| *Oceans* | *Monitoring* |
| *==Biota==* | *Vegetation* |
| *Health* | *Cover* |
| *Elevation* | *Remote* |
| *Geoscientific Information* | *Sensing* |
| *Planning Cadastre* | *Carbon* |
| *Inland Waters* | *Stock* |
| *Boundaries* | *Natural* |
| *Structure* | *Resources* |
| *Transportation* | *FAO* |
| *Intelligence Military* | |
| *Location* | *-* |
| *Climatology Meteorology Atmosphere* | *-* |
| *Farming* | *-* |
| *Population* | *-* |

# Part 2: Location and Licenses (Mandatory)

| 2.01 Language |
| --- |
| *Provide data language* |
| *Language used within the dataset* |
| ***Enter data language*** |
| *English* |

| 2.02 License |
| --- |
| *Provide the type of license under which this data is published and intended to be used.* |
| *License of the Dataset* |
| ***Select one of the following License: (highlighted by Yellow)*** |
| *NextView* |
| *Not Specified* |
| *Open Data Commons Open Database License / OSM* |
| *Public Domain* |
| *Public Domain / USG* |
| *Varied / Derived* |
| *Varied / Original* |

| 2.03 Attribution |
| --- |
| *Identify the entity or agency with authority and responsibility over this data.* |
| *Authority or function assigned, as to a ruler, legislative assembly, delegate, or the like.* |
| *\*Field declared Mandatory by the Metadata Schema* |
| ***Enter attribution for this data*** |
| *The Geospatial Department of the Food and Agriculture Organization (FAO) of the United Nations in Saudi Arabia, in collaboration with the NCVC, produced this dataset. Tree root data were derived from field measurements and modeled relationships based on established allometric equations. Use of this dataset requires prior approval from FAO and NCVC.* |

| 2.04 Regions |
| --- |
| *Identify the region that the data covers. You can provide several regions.* |
| ***Enter global or specific regions*** |
| **Baljurashi Governorate, Al Baha Region, Kingdom of Saudi Arabia** |
| |
| |
| |
| |
| |
| |
| |

## 2.05    Data quality statement

*Statement on the data quality. This allows any known issue about the data quality to be documented and shared with data user so that they can use the data appropriately.*

***Provide data quality statement***

*Carbon stock (C-Stock) values were calculated from below-ground biomass (BGB) using the equation:*
*C-Stock = BGB × 0.47,*
*where 0.47 represents the IPCC-recommended carbon fraction of dry biomass (IPCC, 2006).*
*This formula aligns with the FAO (2017) and IPCC Tier 1 methodology, which assumes that, on average, 47% of the dry biomass of vegetation consists of carbon.*
*Results are consistent with regional biomass datasets and suitable for carbon modeling and environmental reporting.*
*Unit: tonnes (Mg/ha)*

## 2.06    Restrictions

*Indicate any know restriction on this data. You could consideration the following when assessing data restriction:*

*(1) Exclusive right to the publication, production, or sale of the rights to a literary, musical, or artistic work, or to the use of a commercial print or label, granted by law for a specified period of time to an author, composer, artist, distribution*
*(2) Rights to financial benefit from and control of distribution of non-tangible property that is a result of creativity*
*(3) Formal permission to do something*
*(4) Government has granted exclusive right to make, sell, use or license an invention or discovery*
*(5) Produced or sold information awaiting a patent*
*(6) Withheld from general circulation or disclosure*
*(7) Name, symbol, or other device identifying a product, officially registered and legally restricted to the use of the owner or manufacturer*
*(8) Other restrictions*

*Limitations Placed upon the access or use of the data*

* *Field declared Mandatory by the Metadata Schema*

***Enter any know data use restriction information***

*(3) Formal permission to do something*
*The dataset can be viewed and analyzed freely. However, any modification or redistribution must be coordinated with the GIS Department at FAO–NCVC in Saudi Arabia.*

| 2.07 Other constraints |
| :--- |
| *Identify any other constrains on this data that would be important to document and share with the data users* |
| **Enter other constrains on this data** |
| *Estimates assume a uniform carbon fraction (0.47) across vegetation types. Minor variability may exist due to differences in wood density and species composition.* |

# Part 3: Other Data Description (Optional)

| 3.01 Edition |
| :--- |
| *If the data is linked or resulting from work that has editions, indicate the edition for this dataset.* |
| *Version of the cited resource* |
| **Enter Edition** |
| *Version 1* |

| 3.02 DOI |
| :--- |
| *The DOI (Digital Object Identifier) will be assigned by the Metadata Administrator.* |
| *DOI will be added by Admin before publication* |
| **Create and enter the data DOI** |
| **DOI to be assigned by FAO Metadata Administrator prior to publication.** |

### 3.03 Purpose

*The purpose for which this dataset and related studies were undertaken.*

**Provide data purpose**

*This dataset quantifies below-ground carbon stock derived from vegetation biomass, supporting carbon monitoring, REDD+ reporting, and sustainable land-use planning under FAO–NCVC's climate initiatives.*

### 3.04 Maintenance frequency

*The frequency for data update.*

*Frequency with which modifications and deletions are made to the data after it is first produced*

**Select one of the following : (highlighted by Yellow)**

*Frequency of maintenance for the data is not known*

*Data is repeatedly and frequently updated*

*There are no plans to update the data*

*Data is updated each day*

*Data is updated every year*

*==Data is updated as deemed necessary==*

*Data is updated each month*

*Data is updated every two weeks*

*Data is updated in intervals that are uneven in duration*

*Data is updated on weekly basis*

*Data is updated twice each year*

*Data is updated every three months*

### 3.05 Spatial representation type

*How the spatial data is presented, Method used to represent geographic information in the dataset*

**Select one of the following : (highlighted by Yellow)**

*Grid data is used to represent geographic data*

*Three-dimensional view formed by the intersecting homologous rays of an overlapping pair of image*

*Textual or tabular data is used to represent the geographic data*

*Triangulated irregular network*

*==Vector data is used to represent geographic data==*

*Scene from a video recording*

### 3.06 Supplemental information (Remarks)

*Provide any additional supplemental information about this data that could help the user when using this data*

**Enter supplemental information / Remarks**

- C-Stock = BGB × 0.47 (IPCC, 2006)
- Units: Mg/ha
- Estimated range: 0 – 10.84 Mg/ha (as per legend)
- Mean C-Stock = 0.28 Mg/ha
- Number of records: 88 sample points

## 3.07    Temporal extent Start and End

*Provide temporal extent start and end that may have bearing on this data.*

| Temporal extent start | | Temporal extent end | |
|---|---|---|---|
| *Date* | *Time* | *Date* | *Time* |
| *Enter temporal start date* | *Enter temporal start time* | *Enter temporal end date* | *Enter temporal end time* |
|  |  |  |  |

## 3.08    Responsible Parties / Point of Contact

*Who can be contacted about this data? This is usually the metadata administrator.*

| Admin Name |
|---|
| *Enter Metadata Admin* |
| Dr. Njeru Jeremiah – Chief Technical Advisor of Natural Re Management NRM – FAO KSA<br>Dr. Ouerchefani, Dalel - TECHNICAL ADVISER, FAOSA<br>Mr. Gabriel Vincent Sanya – GIS / RS and Land Cover Mapping Expert -FAOSA<br>Mr. Haitham Abdullah – GIS Specialist – FAO KSA |

## 3.09    Responsible and Permissions / Owner

*Who is the responsible over this data? This is usually the person that led or supported the creation of the data*

| Data Responsible / Owner |
|---|
| *Enter data owner* |
| *FAO*<br>*NCVC Geo-Spatial Unit*<br>*MoEWA* |

## 3.10    Metadata Author

*Who is the author of the metadata? This is usually the person that led or supported the creation of the data.*

| Data Responsible / Owner |
|---|
| *Enter Metadata Admin* |

## Part 4: Part 4 - Data Attributes (Optional)

### 4.01    Key data features and attributes

*Detailed description of the data layer features and attributes will be provide in a separate custom template for data features and attributes description. Here, the key features and attributes (objects) for this data are provided.*

**Description of key features and attributes**

| Attribute / Feature | Description |
|---|---|
| *Enter the attributes of this Layer* | *Enter the description of the attributes* |
| *x* | *Longitude coordinate in decimal degrees (WGS84)* |
| *y* | *Latitude coordinate in decimal degrees (WGS84)* |
| *Carbon* | *Carbon Stock value in tonnes per hectare (Mg/ha); derived as =BGB × 0.47* |
| *fld_name* | *Field code: Carbon* |
| *fld_title* | *Field title: Carbon Stock* |
| *fld_unit* | *Measurement unit: tonnes* |
| *min_val* | *Minimum recorded value: 0 Mg/ha* |
| *max_val* | *Maximum recorded value: 10.836650638 Mg/ha* |
| *data_pt* | *Total number of field plots (418) used for modeling and validation* |
| *region* | *Al Baha Region (Baljurashi Governorate)* |
| *country* | *Saudi Arabia* |