

FAO KSA Geospatial Data – NDVI Trend Analysis for Al Baha (2018-2025)

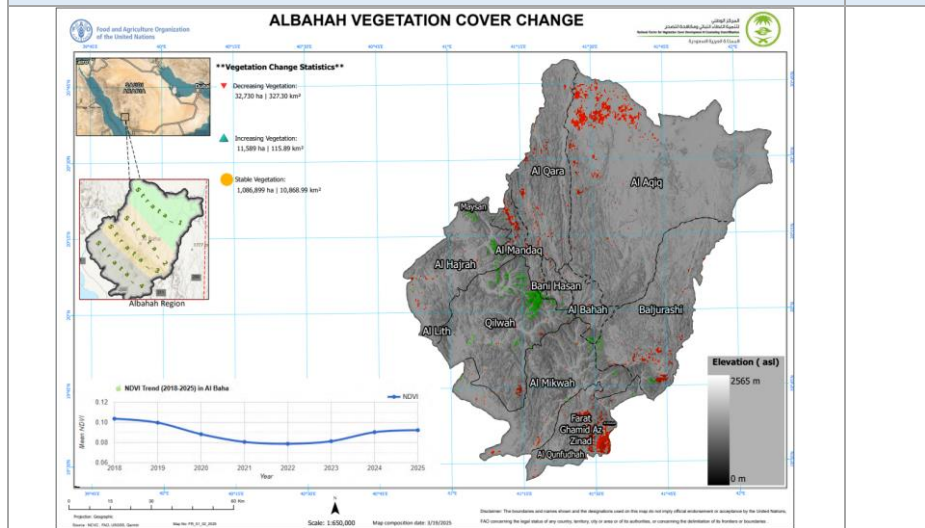
Part 1: Basic Metadata (Mandatory)

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

High-Resolution NDVI Trend Analysis for Al Baha (2018-2025)

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 provides an analysis of vegetation trends in the Al Baha region, Saudi Arabia, between 2018 and 2025, using Sentinel-2 imagery. NDVI (Normalized Difference Vegetation Index) was computed annually to detect changes in vegetation cover. The analysis applies cloud-masking techniques, linear regression modeling, and binary classification to identify regions with increasing, decreasing, or stable vegetation cover. This dataset is useful for land management, environmental monitoring, and sustainable development planning.

The classification is as follows:

- 1-Stable Vegetation
- 2-Decreasing Vegetation
- 3-Increasing Vegetation

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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	March 2025
Publication	2025
Revision	2025
relevant date	2025

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

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.

Field declared Mandatory by the Metadata Schema

Select one of the following : (highlighted by Yellow)

Imagery Base Maps Earth Cover	KSA
Society	FAO
Economy	Vegetation-NDVI
Utilities Communication	
Environment	-
Oceans	-
Biota	-
Health	-
Elevation	-

1.07 – Free-text Keywords

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.

A space or comma-separated list of keywords. Use the Widget to select from Hierarchical tree.

REQUIRED: Common-use word or phrase used to describe the subject of the data set. (Provide 5 keyword minimum)

Geoscientific Information	-
Planning Cadastre	-
Inland Waters	-
Boundaries	-
Structure	-
Transportation	-
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

This dataset has been developed by FAO KSA in collaboration with national staff, GIS specialists, and environmental analysts. It has undergone rigorous processing and validation to ensure high-quality geospatial insights.

2.04 Regions

Identify the region that the data covers. You can provide several regions.

Enter global or specific regions

Albaha 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

The dataset is based on reliable meteorological data sources. Updates are conducted periodically to maintain accuracy.

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

This data can be used for presentation and View, if there is any kind of modification, coordination with the GIS Department in organization's office in Saudi Arabia is required.

2.07 Other constraints

Identify any other constraints on this data that would be important to document and share with the data users

Enter other constraints on this data

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

3.03 Purpose

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

Provide data purpose

This dataset aims to support policy-makers, researchers, and planners in monitoring vegetation trends, detecting land degradation, and implementing sustainable land-use strategies. It assists in climate change mitigation, biodiversity conservation, and water resource management in Saudi Arabia

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

<i>Data is repeatedly and frequently updated</i>
<i>There are no plans to update the data</i>
<i>Data is updated each day</i>
<i>Data is updated every year</i>
<i>Data is updated as deemed necessary</i>
<i>Data is updated each month</i>
<i>Data is updated every two weeks</i>
<i>Data is updated in intervals that are uneven in duration</i>
<i>Data is updated on weekly basis</i>
<i>Data is updated twice each year</i>
<i>Data is updated every three months</i>
3.05 Spatial representation type
<i>How the spatial data is presented, Method used to represent geographic information in the dataset</i>
<i>Select one of the following : (highlighted by Yellow)</i>
<i>Grid/raster data is used to represent geographic data</i>
<i>Three-dimensional view formed by the intersecting homologous rays of an overlapping pair of image</i>
<i>Textual or tabular data is used to represent the geographic data</i>
<i>Triangulated irregular network</i>
<i>Vector data is used to represent geographic data</i>
<i>Scene from a video recording</i>

3.06 Supplemental information (Remarks)
<i>Provide any additional supplemental information about this data that could help the user when using this data</i>
<i>Enter supplemental information / Remarks</i>
<p><i>The dataset contains annual mean NDVI values for Al Baha, derived from Sentinel-2 surface reflectance data. The NDVI trend is analyzed using linear regression to identify areas experiencing vegetation increase, decrease, or stability. The analysis includes:</i></p> <p><i>Cloud Masking: Sentinel-2 Scene Classification Layer (SCL) is used to filter out cloud-affected pixels.</i></p> <p><i>NDVI Calculation: NDVI is computed using the NIR (B8) and Red (B4) bands.</i></p> <p><i>Trend Analysis: A linear regression model is applied to annual NDVI composites to detect vegetation changes.</i></p> <p><i>Classification: The dataset categorizes areas into:</i></p> <p><i>Increasing Vegetation (Green): Positive NDVI trend</i></p> <p><i>Decreasing Vegetation (Red): Negative NDVI trend</i></p> <p><i>Stable Vegetation (Gray): No significant change</i></p> <p><i>Additionally, area statistics are computed to quantify the extent of vegetation changes. The dataset supports applications in ecological monitoring, sustainable land management, and climate impact studies.</i></p>

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

Dr. Ouerchefani, Dalel - TECHNICAL ADVISER, FAOSA

Mr. Gabriel Vincent Sanya - GISRS and Land Cover Mapping Expert -FAOSA

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

NCVC Geo-Spatial Unit

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

GIS Department in Food and Agriculture Organization of the United Nations (FAO) in Saudi Arabia

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

[illegible]