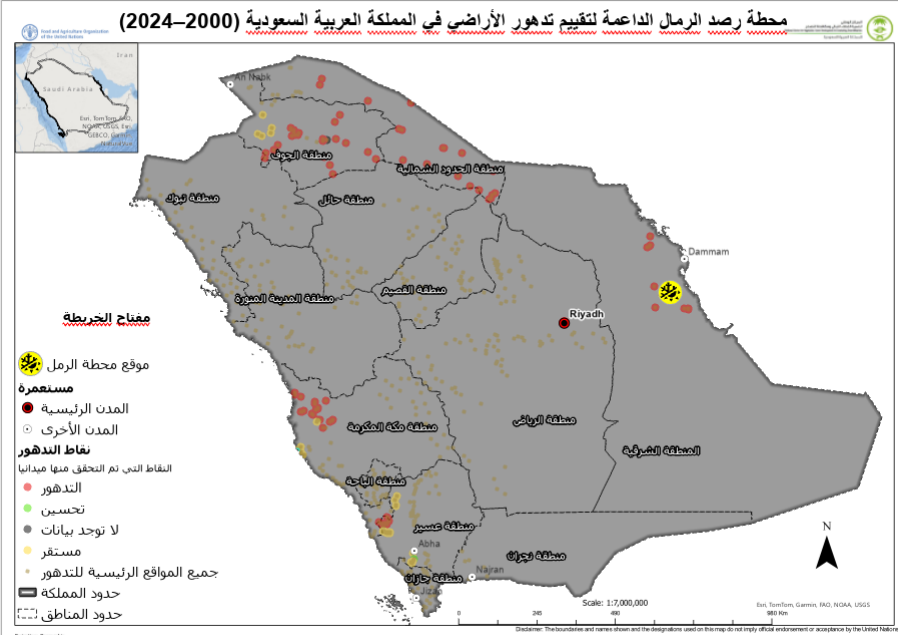


Metadata – Weather Station Analysis (Saudi Arabia, 2025)

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

Met Sand Station - Sand Encroachment Monitoring Station in 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 contains high-resolution meteorological observations collected at the Met Sand Station in Alhasa Governorate, Eastern Region, Saudi Arabia. Recorded at regular intervals by an automated datalogger, the time series includes key variables such as wind speed and direction (multi-sensor), air and panel temperature, relative humidity, rainfall, battery voltage, and selected diagnostics. The station is operated as a single fixed point and provides locally representative conditions that are critical for understanding the meteorological drivers of sand movement and sand encroachment. The

dataset supports analysis of wind regimes, weather events, and seasonal patterns to inform monitoring, interpretation, and management of sand encroachment impacts on nearby assets and landscapes.

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	2022
Publication	2023
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

Society

Economy

Utilities Communication

Environment

Oceans

Biota

Health

Elevation

Geoscientific Information

Planning Cadastre

Inland Waters

Boundaries

Structure

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)

Alhasa

Saudi Arabia

Eastern Region

Meteorological station

NCVC

FAO

Sand met station

Wind monitoring

Sand encroachment

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

Produced by the Geospatial Department of the Food and Agriculture Organization (FAO) of the United Nations in Saudi Arabia, in collaboration with the National Center for Vegetation Cover (NCVC). Field biomass and tree density data were provided by NCVC. No reproduction, redistribution, or modification is allowed without prior written permission from FAO and NCVC.

2.04 Regions

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

Enter global or specific regions

Eastern Province: Al Ahsa

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

This dataset represents observations from a single fixed meteorological station point located in Alhasa Governorate, Eastern Region, Saudi Arabia. The coordinates refer to the station installation location (not multiple sites). Measurements are automatically recorded at the stated interval; users should review diagnostics (e.g., battery/diagnostic fields) and apply standard QA/QC to identify gaps, maintenance periods, or sensor anomalies. The data are intended to support sand encroachment monitoring by characterizing local wind and weather conditions, and should not be generalized to represent all of Saudi Arabia.

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

Spatial accuracy varies by GPS conditions and terrain. Environmental conditions (e.g., dust, sun angle) may influence vegetation readings.

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 1.0 (Field Validation Series, 2022)

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

To be assigned before official publication

3.03 Purpose

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

Provide data purpose

Provide a reliable local meteorological time series from the Met Sand Station (Alhasa, Eastern Region, Saudi Arabia) to support sand encroachment monitoring by quantifying wind and weather conditions that drive sand transport, deposition, and exposure risk.

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>
Select one of the following : (highlighted by Yellow)
<i>Grid 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>
Enter supplemental information / Remarks
• The station location is represented as one-point feature (the installation coordinates), not a set of sites or an area coverage. • Data are intended for site-to-local scale interpretation; regional generalization should be made cautiously. • Users should apply basic QA/QC and consult diagnostic and power fields to identify gaps, maintenance periods, or sensor anomalies before analysis.

3.07 Temporal extent Start and End			
<i>Provide temporal extent start and end that may have bearing on this data.</i>			
Temporal extent start		Temporal extent end	
Date	Time	Date	Time
<i>Enter temporal start date</i>	<i>Enter temporal start time</i>	<i>Enter temporal end date</i>	<i>Enter temporal end time</i>
2025-11-09	23:15	2025-12-09	09:00

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

Attribute / Feature	Description
<i>Enter the attributes of this Layer</i>	<i>Enter the description of the attributes</i>
<i>TIMESTAMP</i>	<i>Timestamp of observation recorded by the datalogger</i>
<i>RECORD</i>	<i>Station record number</i>
<i>BattV</i>	<i>Sequential datalogger record number</i>
<i>PTemp_C</i>	<i>Battery voltage of the station power system in volts</i>
<i>WindDir</i>	<i>Panel temperature measured by the station in degrees Celsius</i>
<i>WS_ms</i>	<i>Wind direction measured by sensor 1 in degrees</i>
<i>WSDiag</i>	<i>Wind speed measured by sensor 1 in meters per second</i>

<i>WindDir_2</i>	<i>Diagnostic status information for wind sensor 1</i>
<i>WS_ms_2</i>	<i>Wind direction measured by sensor 2 in degrees</i>
<i>WSDiag_2</i>	<i>Wind speed measured by sensor 2 in meters per second</i>
<i>WindDir_3</i>	<i>Diagnostic status information for wind sensor 2</i>
<i>WS_ms_3</i>	<i>Wind direction measured by sensor 3 in degrees</i>
<i>WSDiag_3</i>	<i>Wind speed measured by sensor 3 in meters per second</i>
<i>WindDir_4</i>	<i>Diagnostic status information for wind sensor 3</i>
<i>WS_ms_4</i>	<i>Wind direction measured by sensor 4 in degrees</i>
<i>WSDiag_4</i>	<i>Wind speed measured by sensor 4 in meters per second</i>
<i>T107_C</i>	<i>Diagnostic status information for wind sensor 4</i>
<i>T107_C_2</i>	<i>Air temperature measured by CS107 probe 1 in degrees Celsius</i>
<i>Rain_mm_Tot</i>	<i>Air temperature measured by CS107 probe 2 in degrees Celsius</i>
<i>AirTC</i>	<i>Total accumulated rainfall during the measurement period in millimeters</i>
<i>AirTC_Avg</i>	<i>Instantaneous air temperature in degrees Celsius</i>
<i>RH</i>	<i>Average air temperature over the sampling interval in degrees Celsius</i>
<i>WS_ms_5</i>	<i>Relative humidity expressed as a percentage</i>
<i>WS_ms_5_Avg</i>	<i>Instantaneous wind speed measured by sensor 5 in meters per second</i>
<i>WS_ms_5_Std</i>	<i>Average wind speed from sensor 5 over the sampling interval in meters per second</i>
<i>WindDir_5</i>	<i>Standard deviation of wind speed from sensor 5 in meters per second</i>
<i>PTemp</i>	<i>Wind direction measured by sensor 5 in degrees</i>
<i>KE_Tot</i>	<i>Total kinetic energy recorded by the particle monitoring system</i>
<i>PC_Tot</i>	<i>Total particle count recorded by the particle counter</i>
<i>PC_FP5_Tot</i>	<i>Total particle count recorded by FP5 particle counter</i>