



Field Report

This report consists of satellite results of one of your fields. Automated Satellite Monitoring Service allows you to monitor multiple farming fields using latest satellite imagery.

The data in this report is generated by Farmonaut Technologies Private Limited (farmonaut.com). Contact us at support@farmonaut.com for more information.

Note: This report is auto-generated by Farmonaut systems. If you have any queries/questions regarding this report then contact us on: support@farmonaut.com

Report Generation Date: 2021-03-31 (in yyyy-mm-dd)

Field Details

Field Address: India(As Per Google Maps)

Field Area: 5900 square meters (approx.)

Field Location: Latitude: 24.089, Longitude: 32.887

Satellite Imagery Capture Date: 2021-03-31 (in yyyy-mm-dd)

Weather Statistics on the Imagery Capture Date

Weather Station: Aswān

Minimum Temperature (°C): 14.99

Maximum Temperature (°C): 21.98

Average Pressure (hPa): 1014

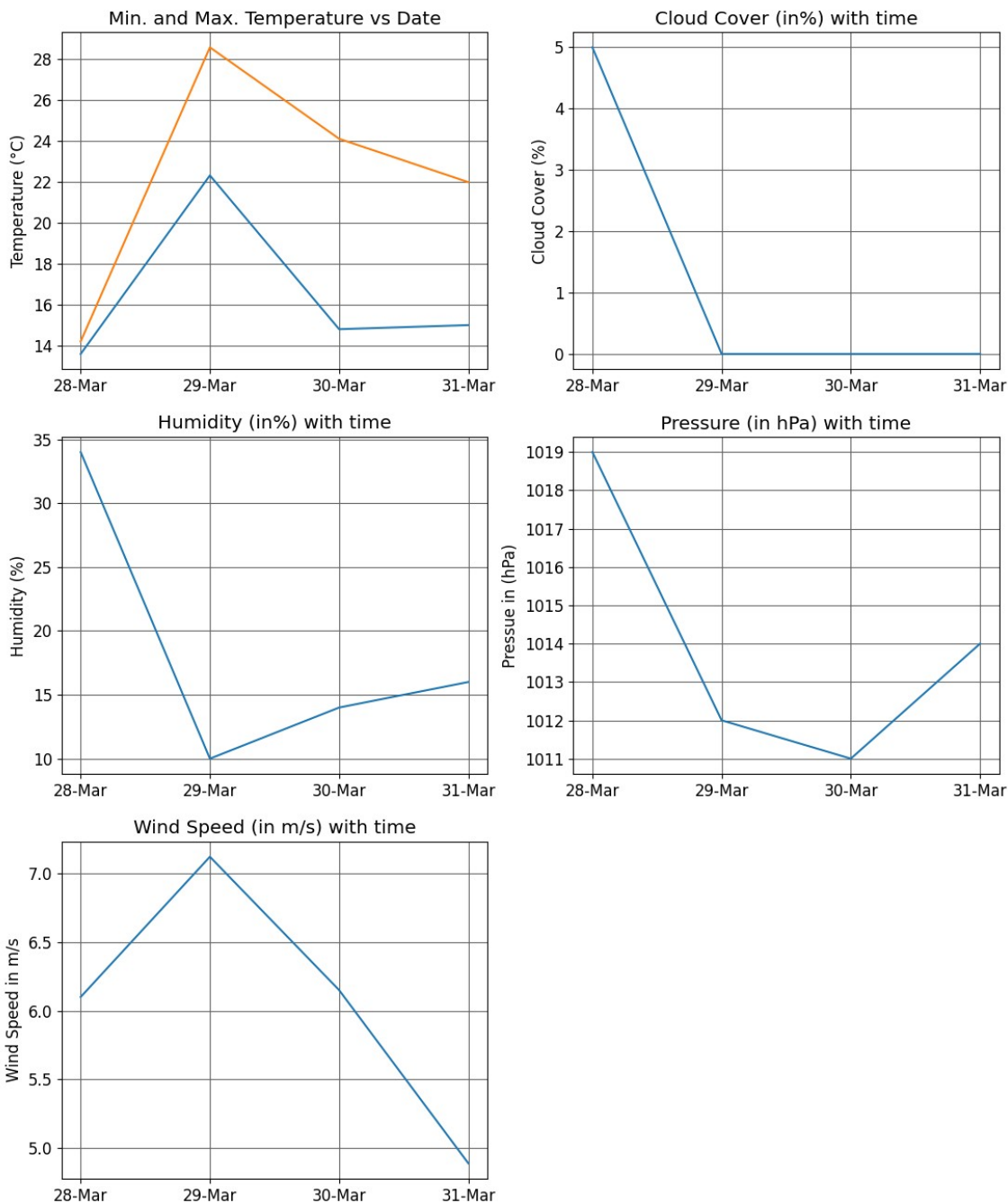
Average Humidity (in %): 16

Average Wind Speed (in m/s): 4.89

Wind Direction (in degrees): 353

Average Cloud Cover (in %): 0

Weather Graphs (Past 5 Days)



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Weather Forecast (Next 7 Days)

2021-03-31

Clear throughout the day. *Cloud Cover (in%): 0*

Min. Temp (°C): 15.3 at 03:23, Max. Temp (°C): 30.36 at 14:00

Rain Probability in(%): 0.0, **Max. Precipitation (in mm. per hour): 0 at 18:00**

2021-04-01

Clear throughout the day. *Cloud Cover (in%): 0*

Min. Temp (°C): 13.97 at 03:26, Max. Temp (°C): 29.84 at 13:34

Rain Probability in(%): 0.0, **Max. Precipitation (in mm. per hour): 0 at 18:00**

2021-04-02

Clear throughout the day. *Cloud Cover (in%): 6*

Min. Temp (°C): 12.43 at 02:59, Max. Temp (°C): 30.98 at 13:49

Rain Probability in(%): 0.0, **Max. Precipitation (in mm. per hour): 0 at 18:06**

2021-04-03

Partly cloudy throughout the day. *Cloud Cover (in%): 52*

Min. Temp (°C): 14.79 at 03:00, Max. Temp (°C): 34.62 at 13:51

Rain Probability in(%): 0.0, **Max. Precipitation (in mm. per hour): 0 at 17:35**

2021-04-04

Partly cloudy throughout the day. *Cloud Cover (in%): 48*

Min. Temp (°C): 14.88 at 02:42, Max. Temp (°C): 37.14 at 13:56

Rain Probability in(%): 0.0, **Max. Precipitation (in mm. per hour): 0 at 20:57**

2021-04-05

Clear throughout the day. *Cloud Cover (in%): 0*

Min. Temp (°C): 17.43 at 02:37, Max. Temp (°C): 38.93 at 13:47

Rain Probability in(%): 0.0, **Max. Precipitation (in mm. per hour): 0 at 03:08**

2021-04-06

Clear throughout the day. *Cloud Cover (in%): 2*

Min. Temp (°C): 18.77 at 02:37, Max. Temp (°C): 40.87 at 13:39

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Rain Probability in(%): 2.0, Max. Precipitation (in mm. per hour): 0.0003 at 16:30

Index Data for the Satellite Captured Date

NDVI	NDWI	NDRE	VARI	EVI
0.56	0.51	0.44	0.27	0.59

"Your Crop is Healthy!"

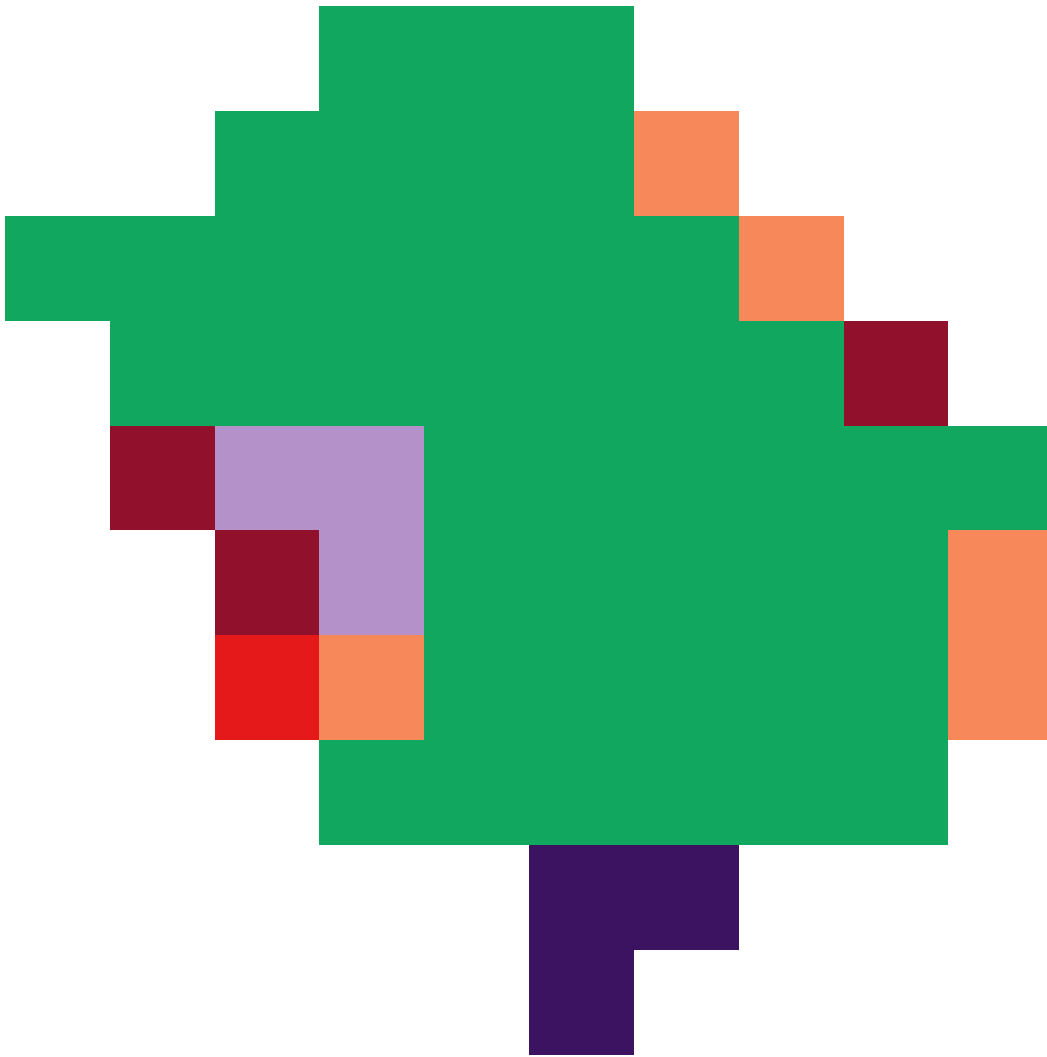
Your crop is doing great! Please Open the "My Fields" section on the Farmonaut App and visualize NDVI and NDRE images upon your field to identify regions which are not extremely green to take preventive measures.

"Your Field has Good Water Stress!"

The water stress in your field is in good condition. Please Open the "My Fields" section on the Farmonaut App and visualize NDWI image upon your field and identify the regions which are not extremely green to take preventive measures. Basic Analysis Advanced Analysis Field in Focus

Satellite Captured Images

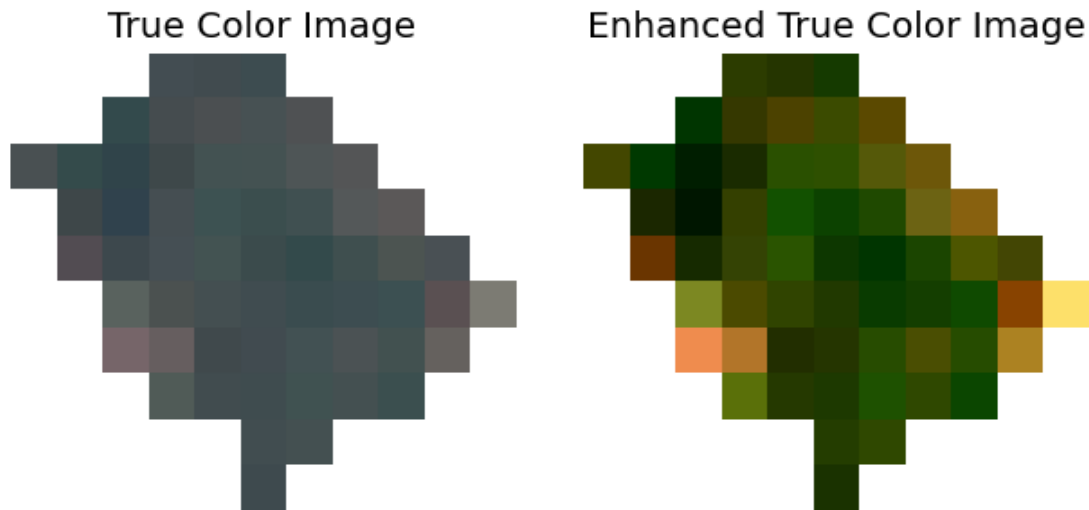
This Single Image Provides information of seven different images (attached in the report below), combined together in a single image. This image is sufficient to take ground level actions. For more in-depth analysis, you can refer to the advance analysis information below.



If you are growing crops at a location on the field, then:

-  Your crop has good health and good water stress at these locations.
-  Visit these locations to check for crop health
-  Visit these locations to check for water stress
-  Visit these locations to check for crop health with priority
-  Visit these locations to check for water stress with priority
-  Visit these locations for both crop health and water stress
-  No Information Available Due to Cloud cover on these locations

True color image is the unaltered raw satellite image retrieved for your area, whereas Enhanced True Color Image is the Farmonaut processed satellite image of your area with enhanced land features. Using these two images you can see any observable land changes around your field which may be crucial for your farming practices.



Normalized Difference Vegetation Index Image (NDVI)

NDVI image provides you a color map of the vegetation of your farming field and nearby areas. The areas shown in red are the regions where the crop growth may not be normal. You should refer to these images when your crop is in the early stage of growth.

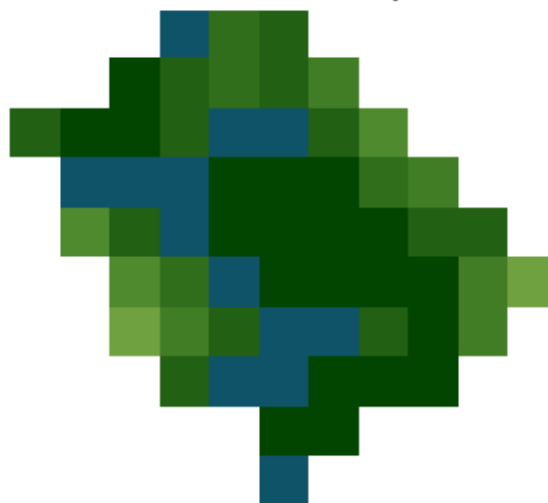
Scientific Background

NDVI measures status of plant health based on how plants reflect light at certain frequencies. Though we cannot perceive it with our eyes, everything around us (including plants) reflect wavelengths of light in visible and non-visible spectrum. Taking into account how much amount of a certain wavelength is reflected, we can assess the current status of plants. If a plant is healthy, it will have large amount of chlorophyll on its leaves and will absorb good amount of visible light from 0.4 to 0.7 microns and reflect quite less of it and vice-versa. We take into account this basic principle in identifying crop health status of an agricultural land.

NDVI (Colormap 1)



NDVI (Colormap 2)



Please check this article to read more about NDVI:

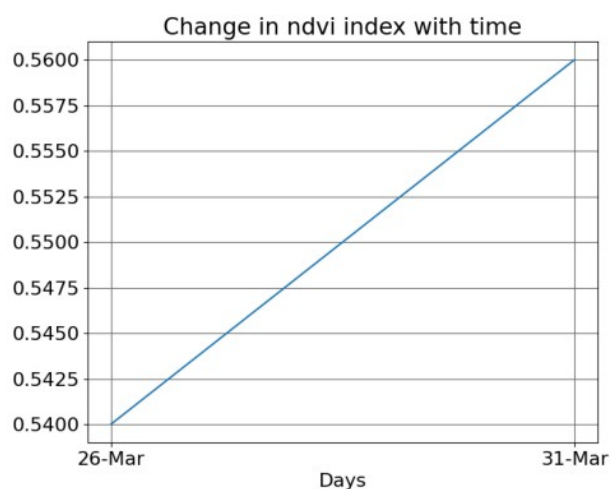
<https://farmonaut.com/blogs/remote-sensing/normalized-difference-vegetation-index-ndvi/>

Table of NDVI value change with time

Date	2021-03-26	2021-03-31
NDVI Value	0.54	0.56

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Field Area in Different Health Zones	
	NDVI: 0.9 to 1.0 -> 0 sq. m.
	NDVI: 0.8 to 0.9 -> 0 sq. m.
	NDVI: 0.7 to 0.8 -> 100 sq. m.
	NDVI: 0.6 to 0.7 -> 1100 sq. m.
	NDVI: 0.5 to 0.6 -> 2100 sq. m.
	NDVI: 0.4 to 0.5 -> 1600 sq. m.
	NDVI: 0.3 to 0.4 -> 800 sq. m.
	NDVI: 0.2 to 0.3 -> 200 sq. m.
	NDVI: 0.1 to 0.2 -> 0 sq. m.
	NDVI: -1 to 0.1 -> 0 sq. m.



Enhanced Vegetation Index Image (EVI)

EVI image provides you a color map of the vegetation of your farming field and nearby areas. The areas shown in red are the regions where the crop growth may not be normal. You should refer to these images when your crop is in the later stage of growth and your crop canopy is dense.

Scientific Background

The Enhanced Vegetation Index (EVI) uses additional wavelengths of light to correct for the inaccuracies of NDVI. Variations in solar incidence angle, atmospheric conditions like distortions in the reflected light caused by the particles in the air, and signals from the ground cover below the vegetation are corrected for using EVI.

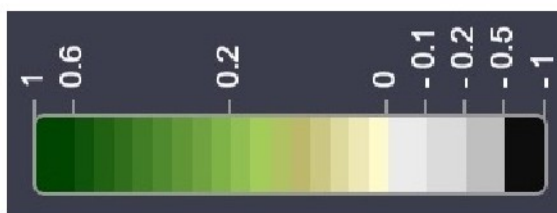
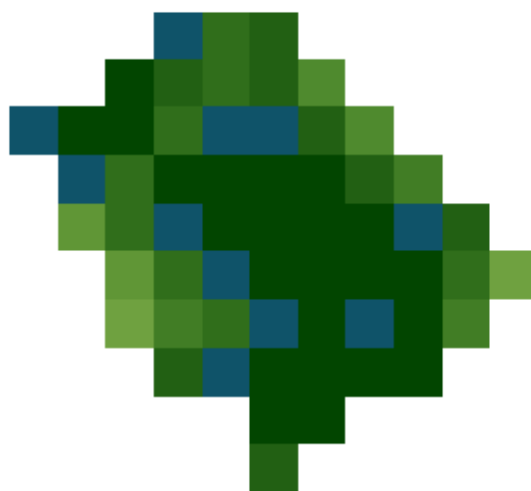
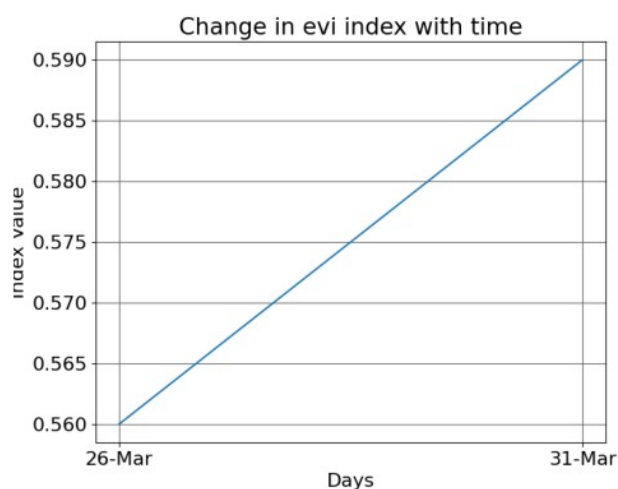


Table of EVI value change with time

Date	2021-03-26	2021-03-31
EVI Value	0.56	0.59

Field Area in Different Health Zones

■	EVI: 0.9 to 1.0 -> 100 sq. m.
■	EVI: 0.8 to 0.9 -> 0 sq. m.
■	EVI: 0.7 to 0.8 -> 900 sq. m.
■	EVI: 0.6 to 0.7 -> 900 sq. m.
■	EVI: 0.5 to 0.6 -> 1500 sq. m.
■	EVI: 0.4 to 0.5 -> 1600 sq. m.
■	EVI: 0.3 to 0.4 -> 500 sq. m.
■	EVI: 0.2 to 0.3 -> 400 sq. m.
■	EVI: 0.1 to 0.2 -> 0 sq. m.
■	EVI: -1 to 0.1 -> 0 sq. m.



Normalized Difference Red Edge Image (NDRE)

NDRE image provides you a color map of the vegetation of your farming field and nearby areas. The areas shown in red are the regions where the crop growth may not be normal. You should refer to these images when your crop is in the later stage of growth.

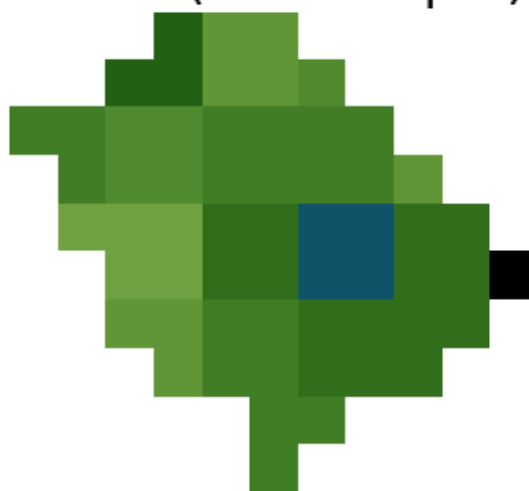
Scientific Background

NDRE uses a combination of near-infrared light and a frequency band that is in the transition region between visual red and NIR light. The red edge band of NDRE provides a measurement that is not as strongly absorbed by just the topmost layers of leaves. By using NDRE, one can get better insight into crops in their later stage because it is able to observe further down into the canopy a well. NDRE is also less prone to saturation in the presence of dense vegetation. This will help us get much accurate results in pasture biomass estimation measurements. Thus, in situations like these, NDRE can provide a much accurate and better measurement of variability in an area in which the NDVI measurement would come simply as 1.0

NDRE (Colormap 1)



NDRE (Colormap 2)



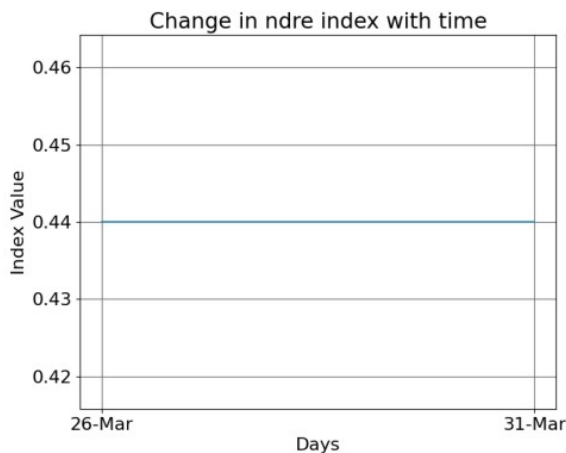
Please check this article to understand the difference between NDVI and NDRE images and their applications in agriculture: <https://farmonaut.com/blogs/remote-sensing/ndvi-vs-ndre-and-their-applications-in-agriculture/>

Table of NDRE values with Time

Date	2021-03-26	2021-03-31
NDRE Value	0.44	0.44

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Field Area in Different Health Zones	
	NDRE: 0.9 to 1.0 -> 0 sq. m.
	NDRE: 0.8 to 0.9 -> 0 sq. m.
	NDRE: 0.7 to 0.8 -> 0 sq. m.
	NDRE: 0.6 to 0.7 -> 0 sq. m.
	NDRE: 0.5 to 0.6 -> 400 sq. m.
	NDRE: 0.4 to 0.5 -> 1600 sq. m.
	NDRE: 0.3 to 0.4 -> 1600 sq. m.
	NDRE: 0.2 to 0.3 -> 800 sq. m.
	NDRE: 0.1 to 0.2 -> 0 sq. m.
	NDRE: -1 to 0.1 -> 0 sq. m.



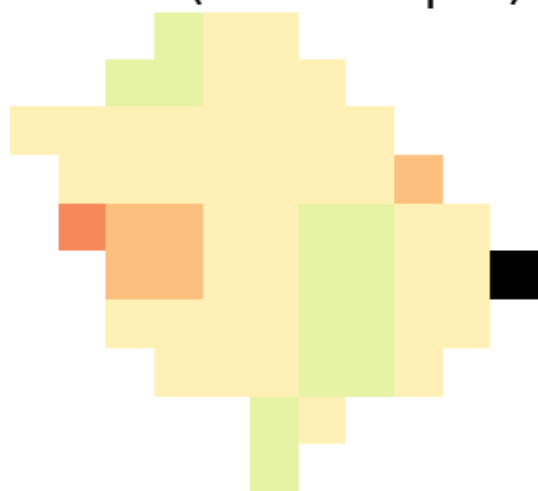
Normalized Difference Water Index Image (NDWI)

NDWI image provides you a color map of the water level of your farming field and nearby areas. The areas shown in red are the regions where the water level may not be normal. In case of drought or less rainfall, these areas will be the most affected.

Scientific Background

Vegetation cover on the earth surface undergoes severe stress during a drought. If affected areas are not identified in time, entire crops may be damaged. Hence, the early detection of water stress can prevent many of the negative impacts on crops. NDWI can help us control irrigation and significantly improve agriculture, especially in areas where meeting the need for water is difficult.

NDWI (Colormap 1)



NDWI (Colormap 2)



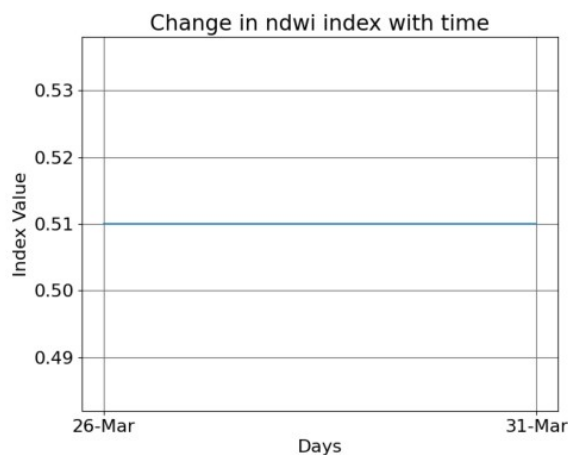
Please check this article to read more about NDWI: <https://farmonaut.com/blogs/remote-sensing/normalized-difference-water-index-ndwi/>

Table of NDWI values with time

Date	2021-03-26	2021-03-31
NDWI Value	0.51	0.51

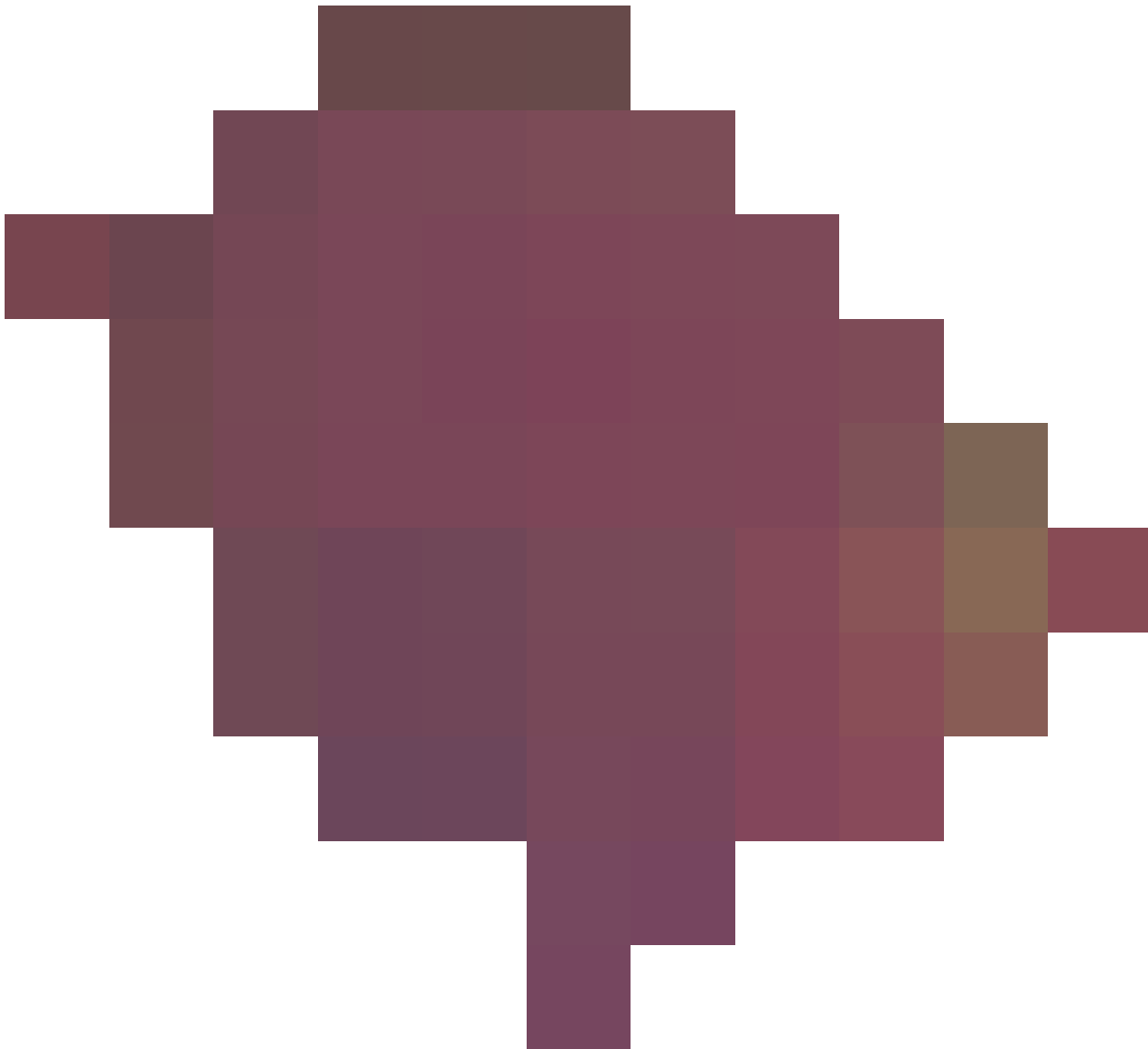
The data in this report is generated by Farmonaut Technologies Private Limited (farmonaut.com). Contact us at support@farmonaut.com for more information.

Field Area in Different Health Zones	
■	NDWI: 0.9 to 1.0 -> 0 sq. m.
■	NDWI: 0.8 to 0.9 -> 0 sq. m.
■	NDWI: 0.7 to 0.8 -> 0 sq. m.
■	NDWI: 0.6 to 0.7 -> 0 sq. m.
■	NDWI: 0.5 to 0.6 -> 800 sq. m.
■	NDWI: 0.4 to 0.5 -> 3200 sq. m.
■	NDWI: 0.3 to 0.4 -> 400 sq. m.
■	NDWI: 0.2 to 0.3 -> 0 sq. m.
■	NDWI: 0.1 to 0.2 -> 0 sq. m.
■	NDWI: -1 to 0.1 -> 0 sq. m.



Evapotranspiration

Satellite remote sensing of evapotranspiration is an essential part of the global observation system and provides inputs for agriculture, water resources management, weather forecasts, climate studies and many other applications.



Soil Organic Carbon Image (SOC)

SOC image provides you a color map of percentage of organic matter present at your selected field. Organic matter contributes to nutrient retention and turnover, soil structure, moisture retention and availability, degradation of pollutants, carbon sequestration and soil resilience. The areas shown in red are the regions where the soil organic carbon is less than 1%.

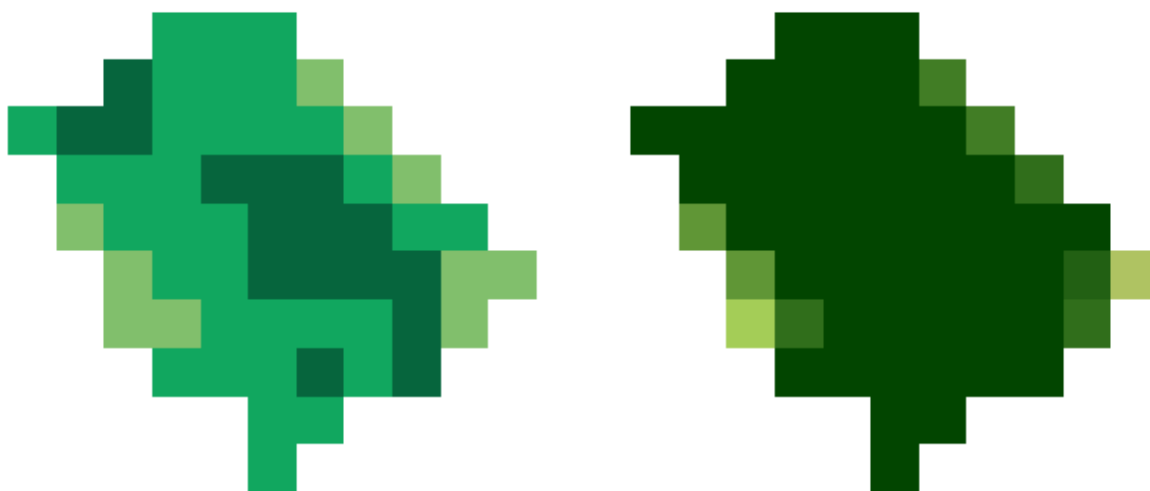


Table of SOC values with Time

Date	2021-03-26	2021-03-31
SOC Value	0.25	0.26

Field Area with Different SOC%

■	SOC: more than 0.25% -> 1600 sq. n
■	SOC: 0.2% to 0.25% -> 3300 sq. m.
■	SOC: 0.15% to 0.2% -> 1000 sq. m.
■	SOC: 0.137% to 0.15% -> 0 sq. m.
■	SOC: 0.125% to 0.137% -> 0 sq. m.
■	SOC: 0.112% to 0.125% -> 0 sq. m.
■	SOC: 0.1% to 0.112% -> 0 sq. m.
■	SOC: 0.075% to 0.1% -> 0 sq. m.
■	SOC: 0.05% to 0.075% -> 0 sq. m.
■	SOC: less than 0.05% -> 0 sq. m.

