**MSAVI II**

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**LOCATION 1**

Jan – low value: 0.00303295

High value: 1.39498

Range: 1.39194705

June – low value: 0.140472

High value: 1.204483

Range: 1.064011

**INTERPRETATION** – In the month of January, MSAVI II indicates ratio between 0.00303295 to 1.39498 with the range of 1.39194705, which clearly indicates significant difference between highly vegetative area irrespective of soil and moisture noises and the areas dominated by uncultivated bare soil-moisture content with vegetation not so prevalent. Lower value proximity to 0 indicates spots in the location of Non-Vegetative and bare soil area. In the month of January higher range values has maximum portion of the location, thus vegetation has higher spatial area cover. On the contrary, June month has a decrement in high range values indicating decreased reflections in the NIR region from the location which were extensively vegetated in the month of January, and the portion with low MSAVI II ration value has increases over the extent, maturing of vegetation and onset of bareness characterises the month of June.

**LOCATION 2**

Jan – low value: 0.2272406

High value: 1.185401

Range: 0.958160

June – low value: 0.206344

High value: 1.1688237

Range: 0.9624797

**INTERPRETATION –** in the month of January MSAVI II ratio has its least value of 0.22 and high value of 1.18 with the range of 0.95 which has shown us the condition of vegetation and less bareness, overall bright appearance of the MSAVI II image of January month signifies higher greenness with high reflectance in NIR region and less impact of Soil-Moisture content affecting the detection of vegetation presence. Whereas in the month of June, MSAVI II ratio value decreases in the terms of limits of high and low which implies average deduction of vegetation area and higher impact of soil bareness with the moisture content. Soil noise appears to be increasing from the month of January to June and decreasing of the distinctness of vegetative cover signal over the region.

**LOCATION 3**

Jan – low value: -0.235622

High value: 1.240739

Range: 1.476361

June - low value: 0.180569

High value: 1.172973

Range: 0.992404

**INTERPRETATION –** At third location from the month of January to June, land portion of more bareness and least vegetation has spread extensively at the western area. In the month of June dense vegetation can be visualized excluding Soil brightness correction factor including soil bareness, moisture and other parameters involving, whereas June has witnessed the onset as well as spread of bare soil land and matured vegetation respectively. NIR reflectance’s decreases as from January to June clearly signifying loss of vegetation and gain of un-cultivated bare soil land.

**TREND ANALYSIS**

As we visualize the derived result in temporal trend, we ought to find the MSAVI II index for three location each of two time frame, trend curve is made up by the location (time) vs MSAVI II index. In the curve, Cartesian Y ordinate consist of the average mean value of the resulted MSAVI II image’s array (Digital number) value for each location (time) image of all six point over X ordinate. Starting from the location 1 January data with average MSAVI II index of 0.699, furthermore trend curve moves down (0.672) in the time of June depicting less vegetation and higher impact of soil brightness/adjustment factor over area. Location 2 (January) data has average MSAVI II value of 0.706 signifying considerable vegetative area, whereas in the month of June value decreases to 0.6875 returning the same area to less vegetative and more bareness. Location 3 has an interesting trend, in the month of January average mean value of MSAVI II image is 0.5025 which has increases drastically of around 0.6767 in the month of June giving information about the area in terms of more bare soil area in January and more vegetation in June month, probably this occurring might be as a result of crop type, physiological condition, climatic patterns, moisture content or soil type.