Normalized Difference Vegetation Index

A recent study has found that the normalized difference vegetation index does not yield a reliable estimate of **food abundance** for **elephants** in tropical forests.

- Normalized Difference Vegetation Index (NDVI) estimates the density of vegetation and amount of food abundance available for herbivorous animals, for example, elephants.
- This index has a negative correlation with graminoids (grassy food grasses, sedges, and rushes – preferentially consumed by elephants) in tropical forests.
 - Negative correlation implies grass density is low in areas with a high value of NDVI (which indicates healthier vegetation).

The Vision

Normalized Difference Vegetation Index //



(0.50 + 0.08)

(0.4 + 0.30)

- NDVI calculates the difference between the red and near infrared components of light reflected by objects (like satellite).
- Since healthy vegetation strongly absorbs red and reflects near-infrared light, this difference can indicate the presence of healthy vegetation and can be mapped into a colour code (green and red).
- High NDVI value (bright green) indicates healthier vegetation whereas low value (red) indicates less or no vegetation.
- Data obtained from satellites (like Sentinel-2, Landsat and SPOT) that produce red and near-

infrared images are used for estimating NDVI.

Significance

- Agriculture: farmers use NDVI for precision farming and to measure biomass.
- Forestry: foresters use NDVI to quantify forest supply and leaf area index.
- Environment: NDVI is used to inform the ecology of various species, from elephants and red deer to mosquitoes and birds.

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 Drought: NASA states that NDVI is a good indicator of drought when water limits vegetation growth, it has a lower relative NDVI and density of vegetation.

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