



## **Long-term time series of the Earth's land surface observations for studying phenological changes over the globe**

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This overview describes global satellite time-series that represent at least a 20-year long record of land surface observations. The focus is on the optical remote sensing measurements to study and monitor land surface characteristics at a spatial resolution of tens of meters to a few kilometers. The objective is to draw the attention of the science community to the longest time series of space observations of the Earth's characteristics. The three major types of observations considered are: 1) coarse spatial resolution geostationary observations, 2) coarse spatial resolution polar orbiting NOAA AVHRR observations, and 3) moderate Landsat and Spot observations. Additional sensors that contributed to shorter-term records and that enhance and/or complement the long-term datasets will be mentioned. A particular emphasis is on the moderate resolution data record from Landsat. The utility of Landsat data for time series analyses has increased tremendously during the past year once the data became freely available. Specially developed datasets from all three types of observations are discussed. Consideration of the future potential in observing global phenology from space at a Landsat-like resolution will be given.