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Satellite-derived trends in phenology over Europe: real trends or algorithmic effects

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Changes in the length of the growing season as a result of climate change, have raised many questions about the effects on plant and animal populations. Using Remote Sensing, analysis of Vegetation Index (VI) time-series can help to understand the behavior of plant phenology through the years. Large datasets of satellite images are available to study phenology changes but the interpretation of data to get information can be difficult and different approaches give different answers about changes in the phenological cycle over Europe. In this study 21 years of GIMMS NDVI data was analyzed using two approaches to derive indicators for start, end and length of growing season. Quality control procedures showed clear limitations in the applicability of the two approaches. While there was significant correlation between indicators derived from them, trends detected in start, end or length of growing season for the two approaches often do not agree. This leaves room for questions whether trends are real or due to algorithmic effects.