SYNERGY OF SENTINEL-2 SATELLITE DATA WITH UNMANNED AIRCRAFT SYSTEM (UAS) FOR PRECISION AGRICULTURE: A PILOT VINEYARD IN GREECE

ODYSSEAS VLACHOPOULOS, ovlachop@noa.gr
Institute for Environmental Research & Sustainable Development (IERSD), National Observatory of Athens (NOA), I. Metaxa & Vas. Pavlou, GR-15236 P.Penteli, Greece

ABSTRACT
Silica-specific analysis is performed for a pilot vineyard in order to assess the stresses and disease. The study uses high spatial variability in order to assess the severity of disease and infection. The vineyard is also examined for the temporal variation of several characters through the use of high-spatial-resolution imagery. In this study, the vineyard was monitored using a high-sensorial resolution RS camera. The multispectral, panchromatic, and thermal data were processed using a photogrammetric software to derive orthomosaics. The orthomosaics were employed to create vegetation indices and analyze the differences in vegetation indices between vineyards with different levels of stress and disease. The results show that there are significant differences in vegetation indices between vineyards with different levels of stress and disease. This shows the potential of using high-sensorial resolution RS data for monitoring vineyards for stress and disease.

INTRODUCTION

Grapes are a major agricultural product in Greece, with a high demand for quality and quantity. The use of high-spatial-resolution RS data in vineyard monitoring is crucial for the identification and quantification of stress and disease. The Sentinel-2 satellite data are used in this study to monitor the vineyard's health and identify any potential stress or disease.

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CONCLUSIONS

The main purpose of this paper is to present a method to evaluate the vineyard's health and identify any potential stress or disease. The results show significant differences in vegetation indices between vineyards with different levels of stress and disease. The PV acknowledges that inherent variable production systems are existent within vineyards and the objective is to control and deliver decisions and expected outcomes managing these variables in multiple ways. Vegetation condition, yield, stress and growth, vegetation management of the farming fields, or soil quality.

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MAJOR REFERENCES


ANNEX

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