Use of remote sensing for precision agriculture

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Use of Remote Sensing for Precision Agriculture: Current Issues to be Solved. (A03-baret453580-oral)

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Abstract:

Precision agriculture requires spatial and temporal information to better describe the soil or canopy states and make the proper decision for maximizing the farmer's income while preserving the environment. Observations from remote sensing systems in the solar domain provide pertinent information on soils and crops. However, the process that starts from the signal collected by the sensor, to the farmer's advice is complex. The objective of this presentation is to describe some critical issues that have to be solved in order to fully exploit the remote sensing observations. This includes remote sensing problems, i.e. how to measure and derive accurate enough biogeophysical variables (LAI, chlorophyll content, soil moisture) characterizing the vegetation or the soil, agronomical problems, i.e. how to integrate this information into canopy functioning models, and economic problems, i.e. how to produce the final advice. These issues are briefly presented and illustrated by exemples taken from current studies. Conclusions are drawn on the avenues of research that should be investigated.

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