USING OF EUROPEAN'S SATELLITE IMAGES, SENTINEL-2 AND HYDROMETRIC DATA FOR MONITORING THE SURFACE WATER ABSTRACTION, FOR AGRICULTURAL PURPOSE, IN THE SUB-BASIN UPPER-COMOÉ, BURKINA FASO

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Water shortages frequently cause conflicts between water users in the upper Comoé sub-basin, Burkina Faso, during the dry season, particularly between farmers (Roncoli & al., 2009). Farmers are always accusing each other to misuse the available water. However, no one knows exactly the amount of water that is removed from rivers and waterbodies, by the three principal groups of farmers (rice producers, vegetable farmers and sugar cane industry), and the volume of water that must really be withdraw (Etkin & al., 2015). Knowing the areas cultivated by each user during the dry season, is a good way to determine exactly the amount of water that must be remove by users, for agriculture purpose, thus, identifying guilty farmers.

Several maps have been made using remote sensing techniques, in the context of Upper-Comoé basin, characterized by smaller plots (Wellens, & al., 2013; Traoré, & al., 2013), but high resolution purchased satellites images were needed, on the one hand, aerial photographs on the other hand.
The availability, since 2015 of European's satellite images Sentinel-2, which are free of charge with high temporal and spatial resolutions, is an opportunity to address the lack of information about water and land uses in this basin.

To achieve the above objective, Sentinel-2 images classification has been made, using Support Vector Machines algorithms, firstly (Mountrakis & Ogole, 2011). Secondly the combination of the results of the classification with hydrometric data collected from 2015 to 2017, permit us to determine and compare discharges withdrew and needed by each group of farmers at a given time.

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