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## UAV APPLICATION IN COASTAL ENVIRONMENT, EXAMPLE OF THE OLERON ISLAND FOR DUNES AND DIKES SURVEY

B. Guillot<sup>1</sup> and F. Pouget<sup>2</sup>

<sup>1</sup>Geography Master Student – University of La Rochelle, Master SPE (Environmental Science), France

<sup>2</sup>Geography-GIS Lecturer - University of La Rochelle –UMR7266 LIENSs, France

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**Abstract.** The recent evolutions in civil UAV ease of use led the University of La Rochelle to conduct an UAV program around its own potential costal application. An application program involving La Rochelle University and the District of Oleron Island began in January 2015 and lasted through July of 2015. The aims were to choose 9 study areas and survey them during the winter season. The studies concerned surveying the dikes and coastal sand dunes of Oleron Island. During each flight, an action sport camera fixed on the UAV's brushless gimbal took a series of 150 pictures. After processing the photographs and using a 3D reconstruction plugin via Photoscan, we were able to export high-resolution ortho-imagery, DSM and 3D models. After applying GIS treatment to these images, volumetric evolutions between flights were revealed through a DDVM (Difference of Digital volumetric Model), in order to study sand movements on coastal sand dunes.

[Conference paper](#) (PDF, 1187 KB)

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