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Assessment and potential uses of the SRTM DEM (90 m) for geosciences: Some cases in Spain.

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Digital Elevation Models derived from the Shuttle Radar Mission (SRTM) provide global information (90 metres in resolution) of altimetry with low cost, which is especially useful in large areas, inaccessible regions and non previously mapped sites. For these reason their use is widen used by the scientific community in geomorphology, hydrologic modelling, ecology, civil engineering, etc. Usually, these works are not specialised in the geodata geoprocessing and its specifications, and because of that they do not take into account the vertical accuracy and errors of the SRTM DEM. In this work we evaluate the main errors that a potential user in geosciences can find (aspect, slope face, signal, forest cover, etc). We studied, analyzed and evaluated those errors with some test areas in Spain. In order to develop the cross validation of SRTM DEM data we used a more accurate DEM (5 meters in resolution) obtained from the regional governmental cartography.