

MERIS images coastline correction

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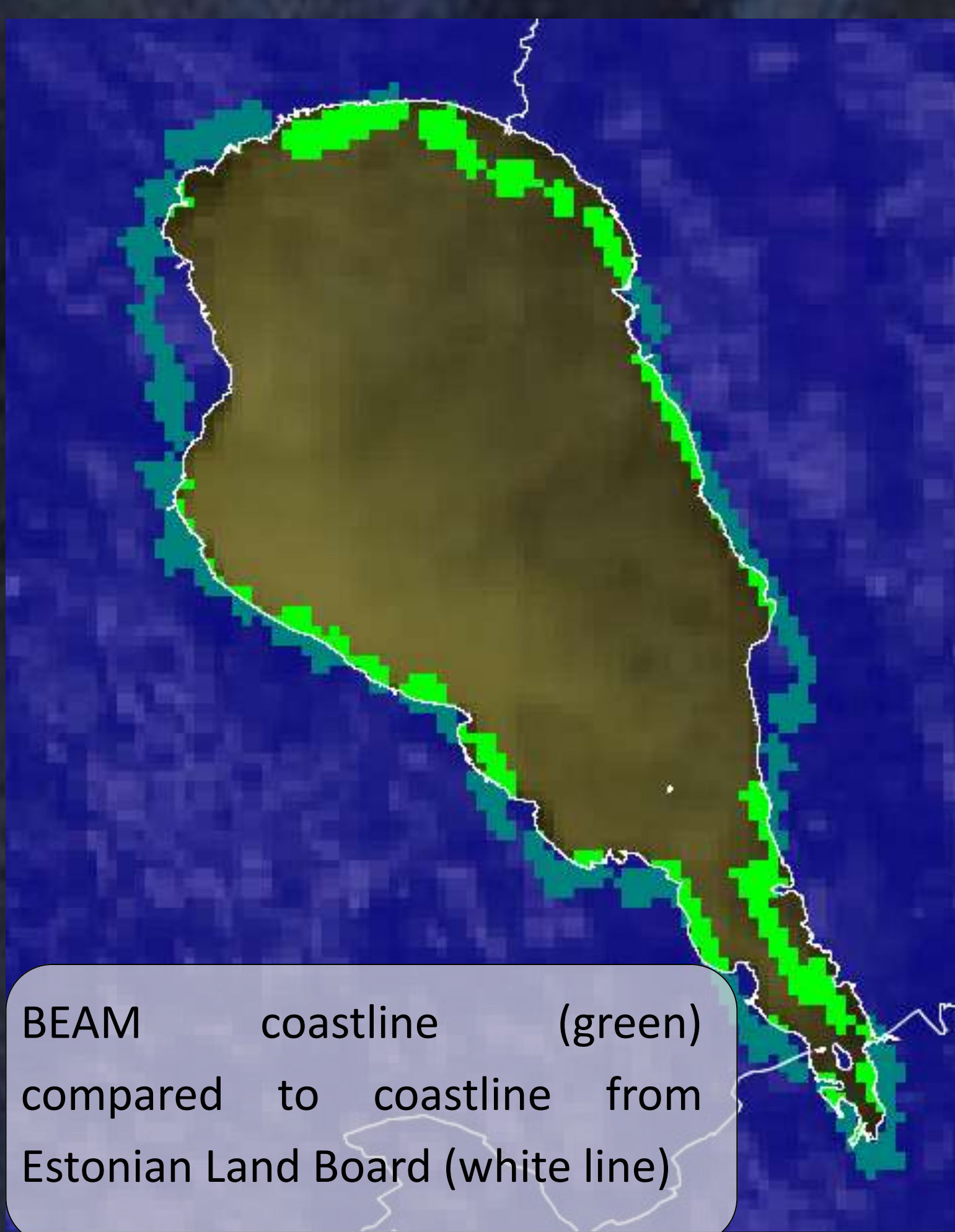
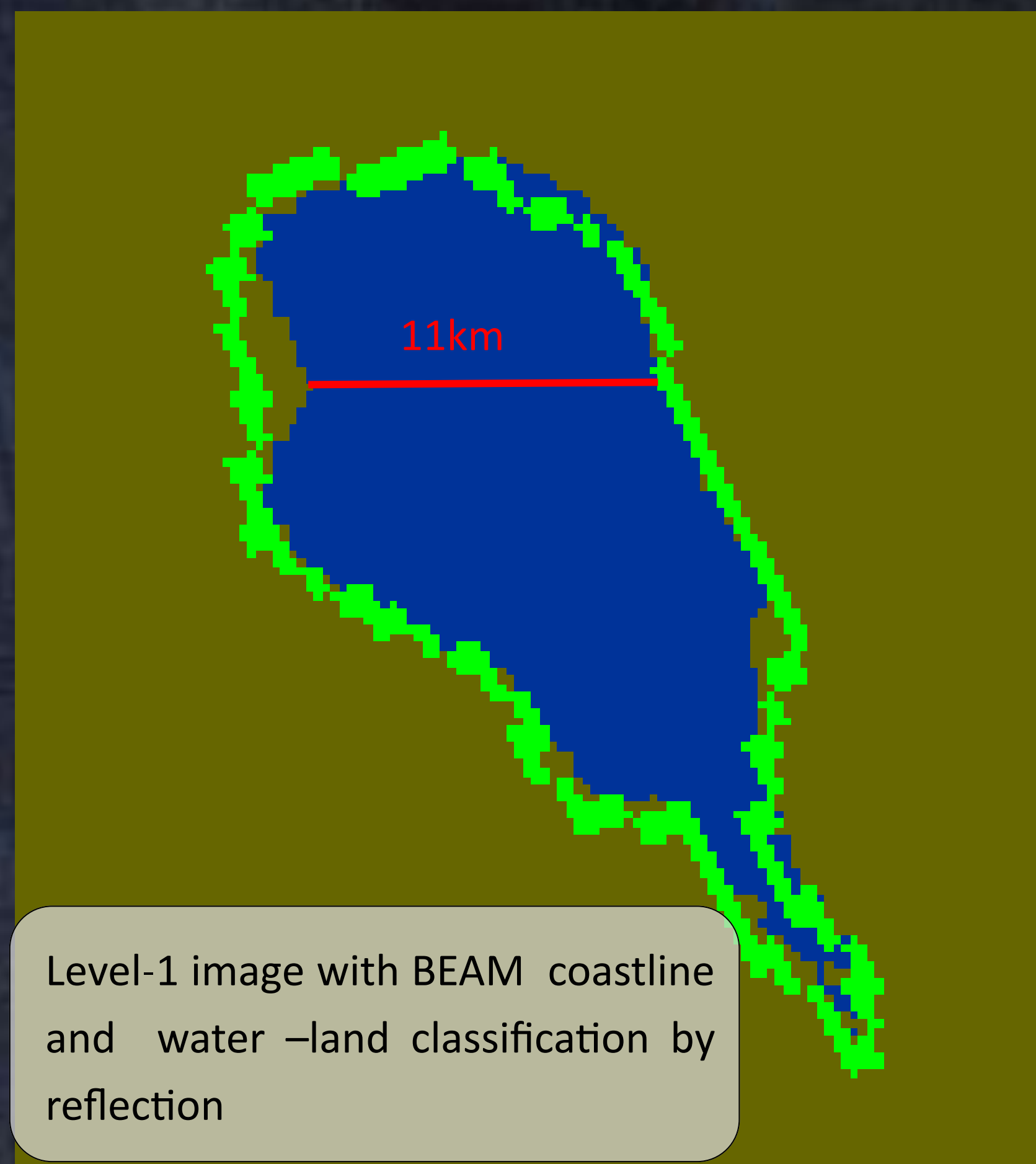
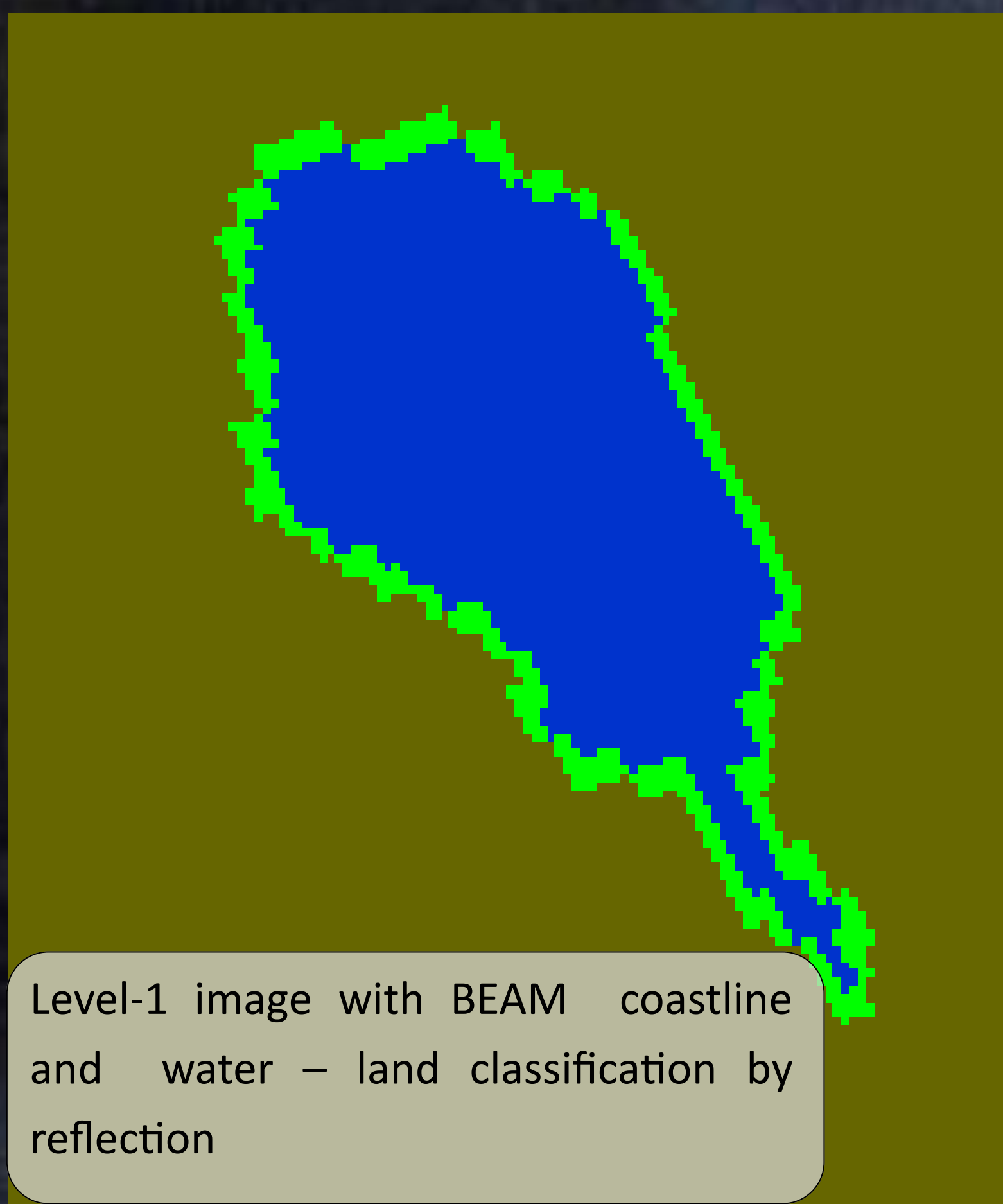
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Background

Importance of the location of the coastline in MERIS images becomes clear when information about coastal areas is needed. Also various algorithms calculating the atmospheric correction use the coastline as base. Algorithms for estimating different water quality parameters assume that pixels away from the coastline are all water. Specific algorithm to correct for neighboring land pixels – ICOL - is applied for distance up to 30 kilometers from the coast. MERIS images used are with pixel size 300x300 meters.

Problem

When processing MERIS images with BEAM software, then the coastline is calculated from the reflectances of level-1 image. The pixels are flagged as water and as land. We have figured out for Estonian coastline that in the Level-1 images these pixels are not located correctly. In standard Level-2 the flagging is proceeded better, but the coordinates for recorded coastline are still incorrect as in Level-1. The atmospheric correction and specific algorithms use the Level-1 image for input and the corresponding flags. Therefore they also put the coastline position as difference between water and land to the wrong place.



Solutions

We'll try to find out why the Level-1 flags are wrong or insert an alternative coastline from independent source.