Assessment of ice covers horizontal movements of Baikal Lake on ALOS PALSAR interferometric data

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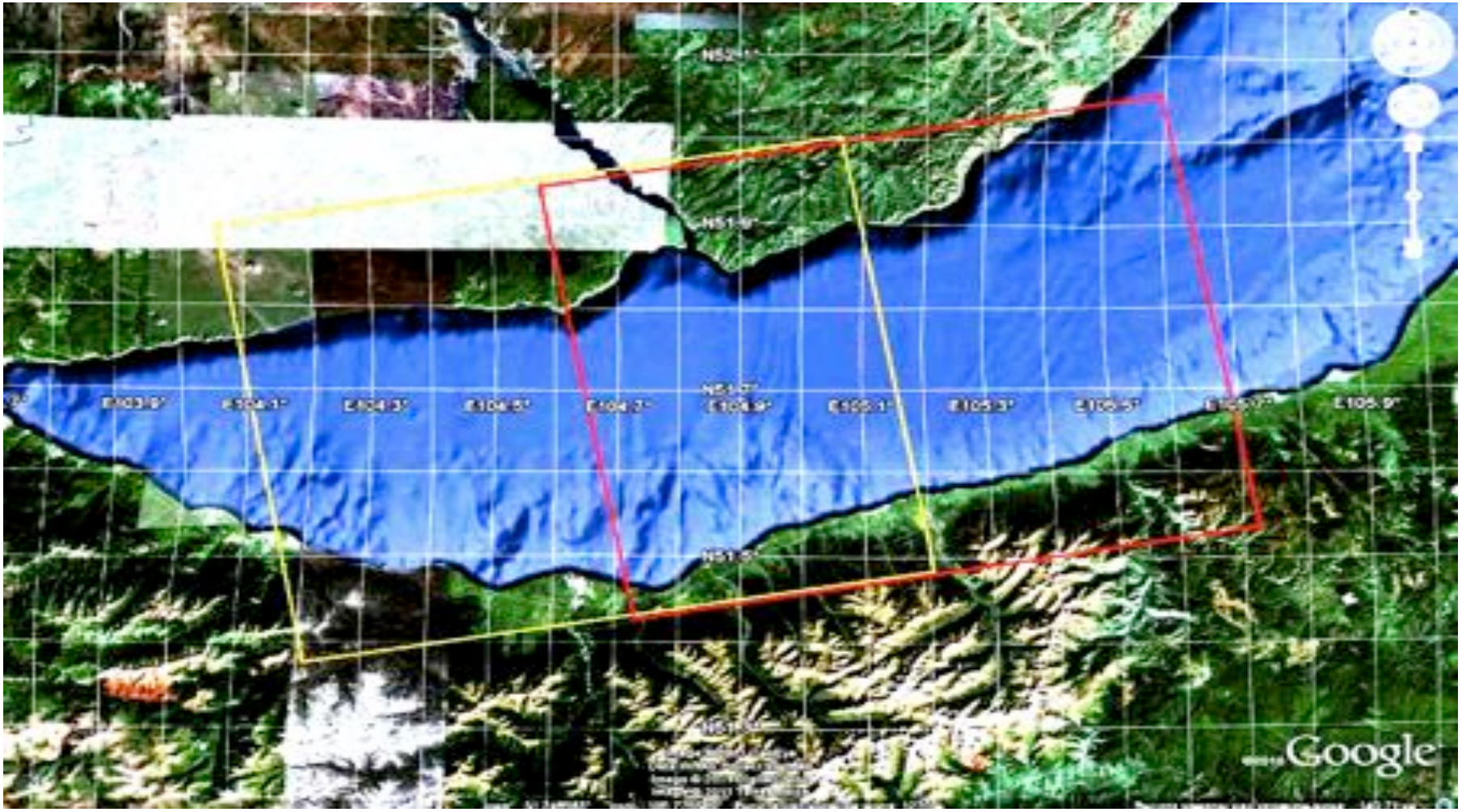
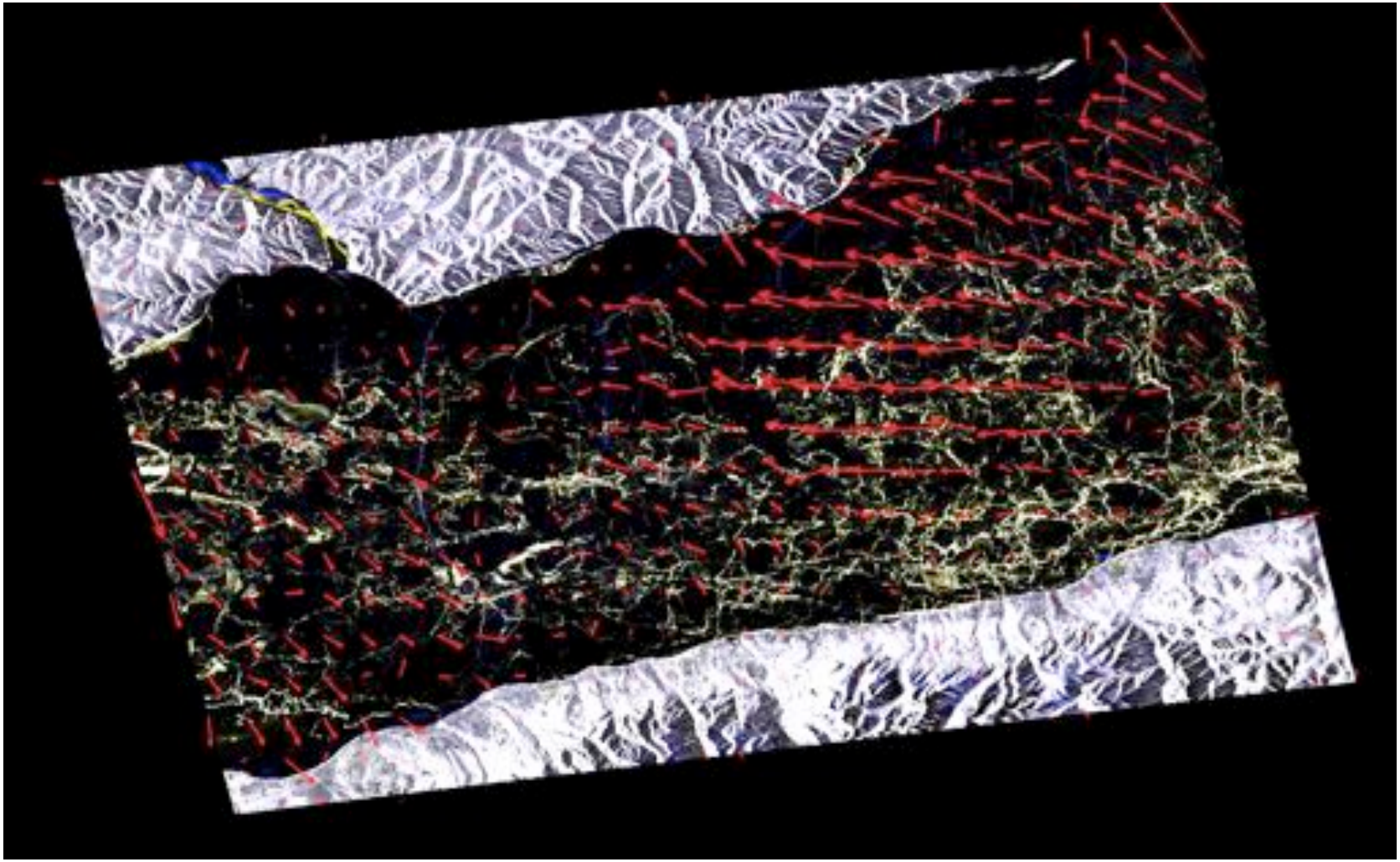
Objective: Measuring horizontal ground deformations from radar satellite images using speckle interferometry method

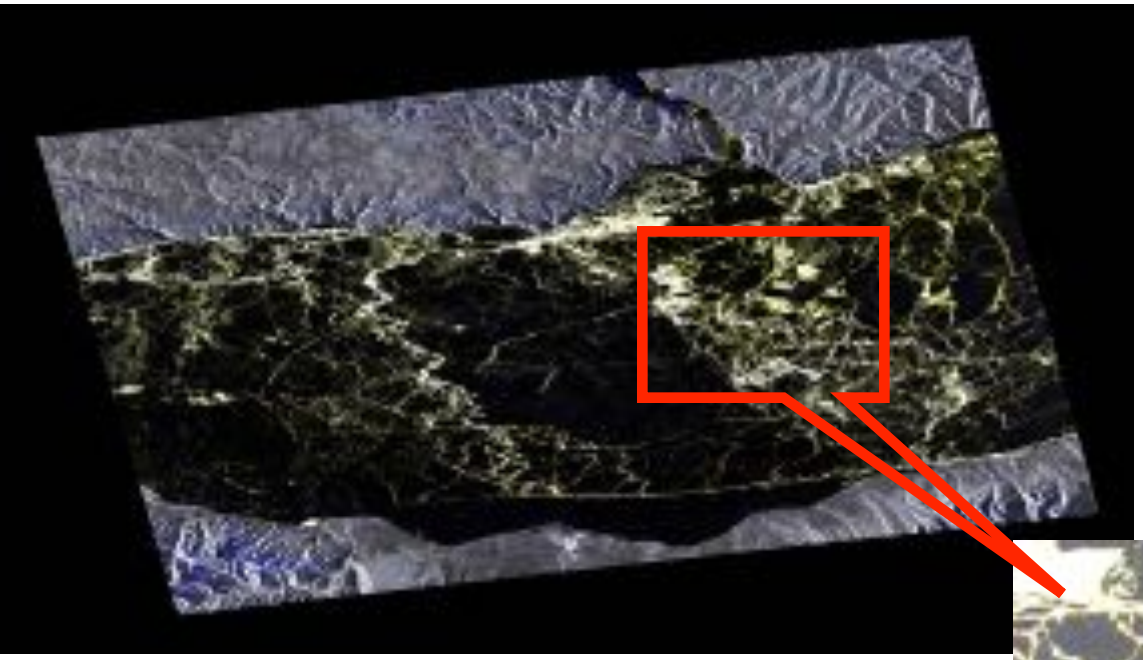
Study area



In Speckle-interferometry algorithm, the offset or displacement between location of two co-registred and corresponding pixels is measured from two remotely sensed images taken in different dates, and is usually expressed in the form of a vector field. While the magnitude of displacement is proportional to length of the vectors, the direction in indicated by the vectors orientation

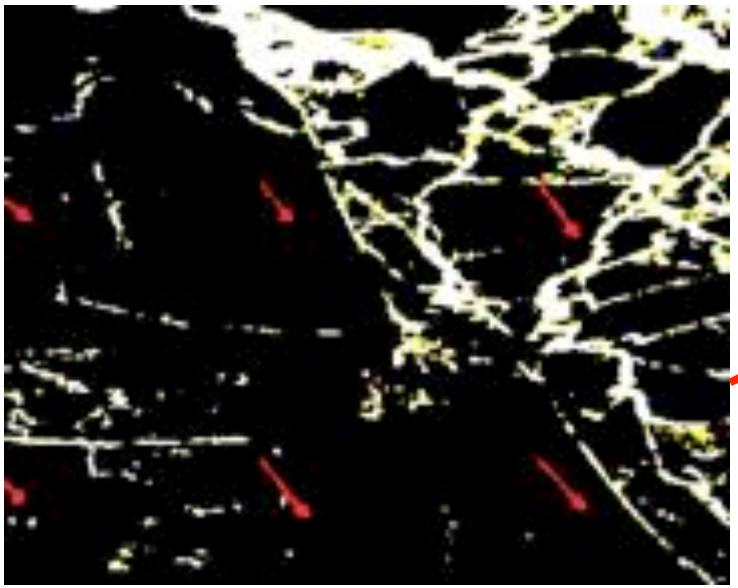


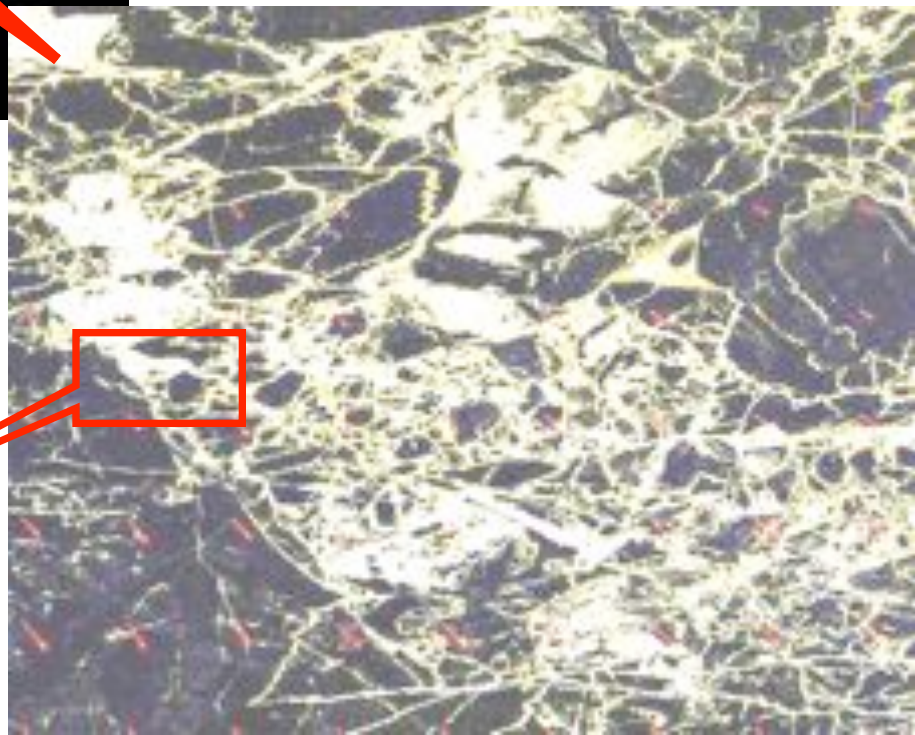
Vector field deriving from speckle interferometry 21 January - 8 March 2010



Vector field deriving from speckle interferometry 2 February – 19 March 2008г.

The magnitude of Ice blocks movements is 7-10 m.





Conclusions:

The results of qualitative and quantitative evaluation of the horizontal displacements of the ice cover south of the lake Baikal, according to ALOS PALSAR radar data are presented.

It is shown that amplitude of ice blocks displacement of Baikal Lake is about 7-10 m

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Thanks for your attention!