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DETECTION OF FLOODED AREAS USING ALOS/PALSAR IMAGES FOR THE 2008 IWATE-MIYAGI INLAND EARTHQUAKE

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ABSTRACT: Detection of flooded areas is carried out using ALOS/PALSAR images acquired before and after the 2008 Iwate-Miyagi Inland earthquake. Because the backscattering echo of SAR shows the condition of the earth surface, the changes of the echo in two images are used to detect the areas covered by water and those dried up after the earthquake. Since many small noises are also extracted from the SAR images, an open-close-scale filter is employed to remove them. The extracted results are compared with the visual detection results from ALOS/AVNIR-2 images and then the accuracy of the proposed method is verified.

Key Words: the 2008 Iwate-Miyagi Inland Earthquake, Flooded Area, ALOS/PALSAR, Backscattering Intensity, Open-Close-Scale Filter