

DETECTION OF PADDY RICE FIELDS RECOVERED FROM TSUNAMI DAMAGE

Naoki ISHITSUKA

*National Institute for Agro-Environmental Sciences (NIAES),
3-1-3 Kannon-dai, Tsukuba, Ibaraki, Japan, isituka@affrc.go.jp*

Abstract: On March 11, 2011, a huge earthquake hits Japan. The earthquake wreaked enormous damage on a wide area of north-eastern Japan. Many farmlands also suffered much damage. Especially the Pacific coast suffered damage for the Tsunami. This study aim to evaluate which paddy rice field recovered. Paddy rice is waterlogged when early growth period in paddy fields. Therefor waterlogged paddy fields are regard as cultivation activity carried out. SAR observation carried out every year, RADARSAT-2(2011), TerraSAR-X(2012), Cosmo-SkyMed(2013), after damaged Tsunami. SAR can detect water surface easily because microwave occur specula reflection. I tried to detect paddy rice field which carried out cultivation every year using threshold. After that I tried to detect paddy rice fields recovered from comparison with the results. As results I could detect the paddy rice fields recovered and could detect expansion recover area. It is conclude that SAR is useful for monitoring paddy rice fields. However the Pacific coast area of Miyagi prefecture the ground level subsided about 50-120cm by earthquake. Therefor there are ponds which a map does not have for reasons of the influence caused by the high tide, the rise of the water table, the poor drainage. These ponds influence detection accuracy.

Keywords: SAR, Paddy rice fields, recover, monitoring, Tsunami damage