

**PEMODELAN SPASIAL DINAMIKA  
PERUBAHAN TUTUPAN LAHAN DI PROVINSI PAPUA BARAT  
(STUDI KASUS KABUPATEN MANOKWARI, SORONG,  
SORONG SELATAN, MAYBRAT DAN KOTA SORONG)**

**Disertasi**

**Untuk memenuhi sebagian persyaratan  
mencapai gelar Doktor pada  
Program Studi Doktor Ilmu Kehutanan**



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Samarinda  
2018**



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Lulus Ujian Disertasi : 28 JUN 2018

Diserahkan tanggal : 06 AUG 2018

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## DAFTAR PUSTAKA

## LAMPIRAN

## ABSTRACT

Francina Frenshegty Kesaulija. Spatial dynamic modeling of land cover change in Papua Barat Province: case studies in Manokwari, Sorong, Sorong Selatan, Maybrat Regency and Sorong City. Supervised by Marlon I. Aipassa, Sumaryono and Ali Suhardiman.

Land use change is a complex phenomenon, which caused by a variety of factors and causes various effects. Modeling is a method used to study complex phenomena. The Markov chain and cellular automata (Markov-CA) approach have been applied to create the dynamics of land cover change modeling in five regions of West Papua Province. The multitype temporal of remotely sensed data, Landsat 7 ETM in 2009 and 2013, and Landsat 8 OLI in 2017 were used to create the land cover maps. The maps in 2009 and 2017 were used to create predictions and modeling land cover map with the Markov-CA approach for the year 2025. Meanwhile, the land cover map in 2017 with an accuracy of 85% based on the calculation of the Kappa Index has been used as a reference map to determine the accuracy of the Markov-CA approach to create a model of the land cover map in 2017. The dynamic of land cover changes showed that area-class forest, shrub and would be expected to experience an area decreases in the extent from the year 2017 to 2025. On the other hand, the area class of plantation and settlement would be expected to experience an area increases. Land degradation and deforestation were modeled to predict the size of protected area and management area based on regional planning scheme. Although there was decreasing number of land cover in West Papua, however, the remain forest will be more than 30% in the end year of regional planning.

Key notes: Land cover change, regional planning, dynamic model, remote sensing, Markov-CA