

**DAMPAK KEBAKARAN LAHAN TERHADAP RESPON HIDROLOGIS  
TINGGI MUKA AIR TANAH GAMBUT DI KABUPATEN SIAK,  
PROVINSI RIAU**

Oleh :

**Dian Maulik Saputra**

**14/362296/KT/07686**

Lahan gambut yang berada di Daerah Aliran Sungai (DAS) Siak termasuk dalam kategori lahan yang kritis, terutama dalam peristiwa bencana kebakaran lahan. Peristiwa kebakaran yang terjadi dapat disebabkan oleh aktivitas manusia secara sengaja maupun secara alami yang disebabkan oleh iklim. Lokasi penelitian yang berada pada lahan bekas kebakaran di Desa Rawa Mekar Jaya mengalami penggenangan air ketika terjadi hujan dan mengalami kekeringan disaat musim kemarau. Sedangkan pada lokasi hutan primer di Taman Nasional Zamrud kondisi lahan gambut relatif stabil saat musim hujan maupun musim kemarau yaitu tetap lembab dan basah.

Penelitian ini bertujuan untuk mengetahui karakteristik tanah dan pengaruh tebal hujan terhadap tinggi muka air tanah gambut di lokasi bekas kebakaran dan hutan primer serta mengetahui dampak kebakaran lahan terhadap respon hidrologis tinggi muka air tanah gambut di Kabupaten Siak. Penelitian dilakukan selama bulan Maret-Juni 2018 dengan alat yang digunakan adalah *Sensor Rain Gauge* untuk curah hujan dan *Mini Data Logger* untuk sensor tinggi muka air tanah. Sedangkan untuk sampel tanah menggunakan sampel tanah terusik dan tidak terusik. Untuk mengetahui respon kenaikan tinggi muka air terhadap hujan dilakukan analisis statistik regresi sederhana dengan menggunakan *Microsoft Excel*.

Hasil penelitian menunjukkan bahwa kebakaran lahan dapat menyebabkan perubahan karakteristik tanah berupa meningkatnya nilai *Bulk Density*, menurunkan kemampuan gambut menyerap air, menurunnya porositas tanah, dan menyebabkan penggenangan air di atas permukaan tanah saat hujan. Selain itu, tebal hujan memiliki hubungan positif yang sangat kuat dengan besarnya kenaikan tinggi muka air tanah gambut dengan nilai  $R^2$  di lokasi bekas kebakaran 0,8737 dan nilai  $R^2$  di lokasi hutan primer 0,5982.

**Kata Kunci : Kebakaran, Tinggi Muka Air Tanah, *Bulk Density*, Porositas, Kadar Air, Lahan Gambut Siak**

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**IMPACT OF LAND FIRES ON THE HYDROLOGICAL RESPONSE TO  
THE WATER TABLE OF PEAT SOIL IN SIAK REGENCY, RIAU  
PROVINCE**

**By :**

**Dian Maulik Saputra**

**14/362296/KT/07686**

Petlands in Siak Watersheds are included in critical land categories, especially in the event of a land fire disaster. The fire event that occurs can be caused by human activities intentionally or naturally caused by the climate. The research location which was previously burnt area in Rawa Mekar Jaya village experiencing flood during rainy term and drought along the dry season. Meanwhile, in the area where primary forest is located in Zamrud National Park the condition of peatland is relatively stable during the rainy and dry season, which is still moist and wet.

The objective of this research is to study the characteristics of soil and the effects of rainfall towards the water level of the peat soil in the area where fire was previously disrupted the location concerned also in the primary forest. Furthermore, this research is purposed to analyze the impacts of land damages triggered by fire in regards to the hydrological responses to the water level of the peatlands in Siak Regency.. The research was conducted during March-June 2018 with the tools used were Rain Gauge Sensors for rainfall and Mini Data Logger for water table sensors. For soil samples, used by samples of disturbed and uninterrupted soil. To know the response of high water table rise to rain, simple regression statistical analysis was done by using Microsoft Excel.

The results of this research show that land fires can cause changes in soil characteristics in the increase of the value of Bulk Density, reducing the ability of peat to absorb water, decreasing soil porosity, and causing flooding of water above the soil surface when it rains. In addition, the rainfall has a very strong positive relationship with a high rise in the water table of peat soil with a value of  $R^2$  in the former fire location was 0.8737 and  $R^2$  in the primary forest location was 0.5982.

**Key Words : Fire Disaster, Water Table, Bulk Density, Porosity, Water Content,  
Patlands in the Watersheds Siak**

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