BIG DATA ANALYTICS (BDA) IN FORECASTING FOREST FIRE IN PERMANENT RESERVED FOREST (PRF), PENINSULAR MALAYSIA

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Abstract

Weather variations such as heat waves are among the causes of forest fire incidents in Peninsular Malaysia. The phenomenon has left adverse effects on forest ecology such as habitat loss and loss of biodiversity. Early and preventive information is vital to avoid such incident. Based on this situation, Forestry Department Peninsular Malaysia (FDPM) in collaboration with Ministry of Energy and Natural Resources (KeTSA) has developed a forest fire incident forecasting system in permanent reserved forest (PRF) in Peninsular Malaysia using Big Data Analytics (BDA). The system will enable FDPM to 1) forecast the areas of potential forest fires as early as seven days; 2) locate the relevant agencies to deal with forest fires close to the site of the fire incident that can be identified; 3) locate the nearest water resources; and 4) estimate the cost of the firefighting operations. Based on the implementation of BDA system, it is recommended for FDPM to expand further the application on other disasters such as landslides in steep areas, water head incidents in the eco-forest park areas and debris flow that usually occurred in PRF areas.

Key words: BDA, Forest Fire.