

Crop stage classification using supervised algorithm based on UAV and Landsat 8 image

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| First Author | |
| Last Author | |
| Authors | Hardanto, A; Ardiansyah; Mustofa, A; |
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| Abstract | Irrigated area has been decreasing since last decade in Indonesia. Surface irrigation scheduling performed predominantly due to water limitation and plant heterogeneity. Plant type and growth phase relate to the performance of water delivery. The research objective is to compare land use classification (LUC) from Landsat 8 and Unmanned Aerial Vehicle (UAV) with supervised algorithm. Supervised method (i.e. minimum distance algorithm) was applied. The result showed six LUC from UAV, i.e.: vegetative stage of dry crop (39%), ripening stage of dry crop (23%), vegetative stage of paddy (15%), tillage (15%), bare land (7%), and paddy nursery (6%). On the other hand, five LUC were performed by Landsat 8 image, i.e.: vegetative stage of dry crop (10%), ripening stage of dry crop (17%), vegetative stage of paddy (5%), tillage area (62%), bare land (6%). UAV's image source performed more detail and accurate than satellite image. Thus, supervised method appropriate for UAV image for crop stage classification in small irrigation district. |
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| Author | AFIK HARDANTO, S.TP, M.Sc., Ph.D |