

IV. CONCLUSIONS

The agricultural drought has been identified through the spatial-temporal iTVDI index, which indicates the rapid agricultural drought occurs mainly on the slopes and at the foot of Mount Sindoro and Mount Sumbing. The soil moisture deficit extends gradually in line with the longer the days of rainfall deficit. High iTVDI values clustered in the west part of the study site while the low and moderate iTVDI values spread in the middle and east part of the study site.

Landform is the variable of physical land condition with the highest effect on the soil moisture deficit propagation. Furthermore, the second variable is the slope of an area.

The modeling of soil moisture deficit using land physical condition variables generates average value that is almost the same with the iTVDI value produced from pixel image calculation. Predictive modeling has the advantage of eliminating cloud elements in the calculation.

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