CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

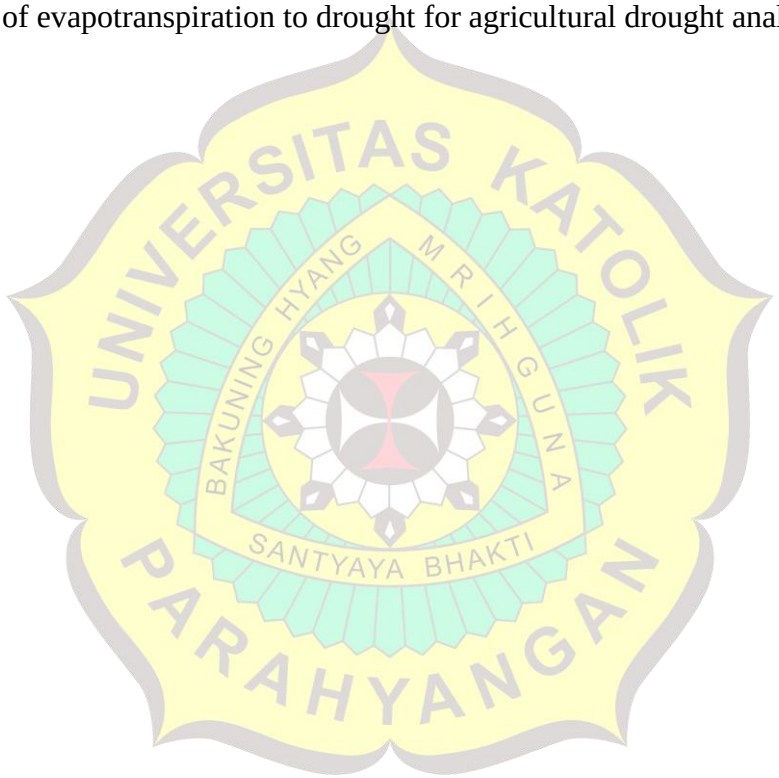
Based on the results obtained from the analyses in this study, several conclusions can be formulated as follows:

1. The SPI calculation results in 4 timescales shows that the longer timescale of the SPI, then the frequency of drought will be decreased but the dryness will be increased.
2. In this study, the SPI chosen is SPI-3 due to its strong evident on drought intensity and frequency results, and because SPI-3 is used for meteorological drought analysis.
3. Based on the SPI-3 calculations, the drought mapping in Java Island is obtained based on its intensity and frequency in each province of Java Island. Each province in Java Island is classified to its drought severity, provinces with Very High classification drought severity is Banten Province, Jakarta Province, and East Java Province.
4. East Java Province is selected for further drought analysis and based on drought validation that conducted in four cities of East Java Province, the SPI quantification results are in accordance with the drought that occurred in East Java Province. The result is East Java Province has a major indication of drought with a very large area of agricultural land and classified to a very high drought severity, with the highest drought intensity is 1.07 and the highest drought frequency is 23 times for the past 20 years related with El-Nino events or dry months and also impacted the agricultural land in East Java Province.

5.2 Recommendations

Considering the possible weakness on completing this study, further considerations and suggestions needed to improve the quality of analysis results, those are as follows:

1. To get better results for the SPI analysis, the satellite derived precipitation needs to be corrected using ground station rainfall data.
2. Further studies should analyze and validate the drought occurrence in other provinces in Java Island and in smaller scopes, such as on a district or a village level.
3. This study only conducts meteorological drought mapping. For better drought risk management and its early mitigation strategies, future studies should create a drought hazard mapping.
4. For better comparation, SPEI quantification can be conducted to know the effects of evapotranspiration to drought for agricultural drought analysis.



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