

## Drought detection in Java Island based on Standardized Precipitation and Evapotranspiration Index (SPEI)

<b>Publons ID</b>	(not set)
<b>Wos ID</b>	WOS:000654245500001
<b>Doi</b>	10.2166/wcc.2021.022
<b>Title</b>	Drought detection in Java Island based on Standardized Precipitation and Evapotranspiration Index (SPEI)
<b>First Author</b>	
<b>Last Author</b>	
<b>Authors</b>	Suroso; Nadhilah, D; Ardiansyah; Aldrian, E;
<b>Publish Date</b>	SEP 2021
<b>Journal Name</b>	JOURNAL OF WATER AND CLIMATE CHANGE
<b>Citation</b>	7
<b>Abstract</b>	<p>This study reports a drought analysis which was carried out using the Standardized Precipitation and Evapotranspiration Index (SPEI) to determine the spatial and temporal level of drought risk in Java, Indonesia. Apart from using the SPEI, this study also used the SPI (Standardized Precipitation Index) as a comparison in detecting drought and also validated with historical drought occurrences. Temporal variations of SPI and SPEI values were discussed by considering different timescales (monthly to yearly). Pearson's correlations between both drought indices were calculated to see how similar both indices were. Also, the Kolmogorov-Smirnov tests were used for the similarity test of two kinds of distributions. The results obtained from this analysis showed that the correlation coefficient between the SPI and SPEI models was relatively high on a monthly scale and consistently increased along with the increase of temporal scales but had a decreasing trend during the dry season. However, the SPI detected drought severity with an excessively high estimate in comparison with the SPEI. Greater spatial extents of drought estimation were also generated by SPI followed by SPEI in comparison to factual drought occurrences. As a consequence, SPEI becomes more moderate and SPI as a conservative approach for estimating drought events.</p>
<b>Publish Type</b>	Journal
<b>Publish Year</b>	2021
<b>Page Begin</b>	2734
<b>Page End</b>	2752
<b>Issn</b>	2040-2244
<b>Eissn</b>	2408-9354
<b>Url</b>	<a href="https://www.webofscience.com/wos/woscc/full-record/WOS:000654245500001">https://www.webofscience.com/wos/woscc/full-record/WOS:000654245500001</a>
<b>Author</b>	Dr.-Ing SUROSO, S.T, M.Sc.