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"Spatio-temporal Visualisation and Data Exploration of Traditional Ecological Knowledge/Indigenous Knowledge"

Mackenzie, Kierin, Willington Siabato, Femke Reitsma, and Christophe Claramunt

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Traditional Ecological Knowledge (TEK) has been at the centre of mapping efforts for decades. Indigenous knowledge (IK) is a critical subset of TEK, and Indigenous peoples utilise a wide variety of techniques for keeping track of time. Although techniques for mapping and visualising the temporal aspects of TEK/IK have been utilised, the spatio-temporal dimensions of TEK are not well explored visually outside of seasonal data and narrative approaches. Existing spatio-temporal models can add new visualisation approaches for TEK but are limited by ontological constraints regarding time, particularly the poor support for multi-cyclical data and localised timing. For TEK to be well represented, flexible systems are needed for modelling and mapping time that correspond well with traditional conceptions of time and space being supported. These approaches can take cues from previous spatio-temporal visualisation work in the Geographic(al) Information System(s)/Science(s) GIS community, and from temporal depictions extant in existing cultural traditions. (Text from authors' abstract)

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- https://doi.org/10.4103/0972-4923.201391

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