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Natural-color Maps via Coloring of Bivariate Grid Data

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Abstract

Natural ground color is useful for maps where a representation of the Earth's surface matters. Natural color schemes are less likely to be misinterpreted, as opposed to hypsometric color schemes, and are generally preferred by map readers. The creation of natural-color maps was once limited to manual cartographic techniques, but they can now be created digitally with the aid of raster graphics editing software. However, the creation of natural-color maps still requires many steps, a significant time investment, and fairly detailed digital land cover information, which makes this technique impossible to apply to global web maps at medium and large scales. A particular challenge for natural-color map creation is adjusting colors with location to create smoothly blending transitions. Adjustments with location are required to show land cover transitions between climate zones with a natural appearance. This study takes the first step in automating the process in order to facilitate the creation of medium- and large-scale natural-color maps covering large areas. A coloring method based on two grid inputs is presented. Here, we introduce an algorithmic method and prototype software for

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