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9C.2 | **How to measure and visualize emotion when using maps** (#105)

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Maps are used in various decision-making contexts, also where the influence of emotional responses to decision-making might be critical, such as under stress (i.e., real-time navigation using a mobile device, search and rescue missions, etc.), or due to varying user motivations (i.e., survival, boredom, leisure, fun, etc.). While cartographers and others have begun to systematically explore how display design, user background, and varying usage contexts might interact with spatio-temporal inference making, almost no research exists that investigates the role of human emotion in map-based decision-making (Griffin and McQuoid, in press). In this paper, we propose a methodological extension to a previously suggested framework, aimed at quantitatively capturing the effect of emotion in human-map interactions (Fabrikant et al. 2012). Specifically, we propose to visualize human emotion captured in empirical map studies, for further systematic evaluation. Our promising preliminary results suggest that first, human emotions can be systematically captured using a skin conductance sensor coupled with the eye movement data collection method, and second, quantitative emotion data can be meaningfully analyzed to investigate aesthetic effects of display design decisions, specifically when coupled with other evaluation methods (i.e., questionnaires, etc.). We additionally demonstrate that human emotion measurements can be visualized, using standard cartographic depiction methods. With this contribution we hope to provide cartographers with a sound method to capture emotional and affective aspects of human-display interactions, specifically when empirically evaluating the aesthetic qualities of visual displays used for spatio-temporal inference making. **Cited works:** Fabrikant, S.I., Christophe, S., Papastefanou, G., and Maggi, S. (2012). Emotional response to map design aesthetics. Proceedings (Extended Abstracts), GIScience 2012, Columbus, OH, Sep. 18-21, 2012. Griffin, A.L., and J. McQuoid. (in press). At the intersection of maps and emotion: The challenges of spatially representing experience. *Kartographische Nachrichten* (to appear DEC 2012).