Cartographic journal, The, ISSN 0008-7041
Volume 55, number 3 (august 2018)

Abstract
The cultural gap between Europe and Asia (at first political and then religious) saw an increase with the spread of Islam, which, to the European imagination, was synonymous with 'foreign'. This separation grew after the discovery of America (1492) with the loss of the central commercial position of the Mediterranean reducing the level of contact between the countries of its basin. Traces of these changes can be recognized on historic Western maps in the transformation of their toponyms (place names). Through a comparative cartographic analysis, this paper examines some of the key changes and phases that occurred during the era.

Abstract
Stjepan Glavač (1627-1680) produced a map of Croatia dated 1673, on which two meridians appear twice, 40°/51° and 41°/52°. The only written source regarding Glavač's map is the dedication, which forms an integral part of the map. It does not say which prime meridians Glavač relied on, so in our research we attempted to establish what those prime meridians might have been. We approached the problem of the double longitudes using linear regression, through which we wanted to examine the relation of Glavač's longitudes to modern values. An essential part of the research was a comparison of Glavač's map with maps by his predecessors and contemporaries which show approximately the same prime meridians. The maps analysed, with their written values for the longitudes of certain places, indicated that the selection of prime meridians at that time was not entirely reliable. A further problem seemed to be the knowledge of the position of islands chosen as points of departure for longitudes. We concluded that the points of departure for Glavač's dual longitudes were Palma, one of the Canary Islands, and the islands of Corvo and Flores in the Azores.

Abstract
The article describes the evolution of the cartography and toponymy of the second largest geyser field in the world – the Valley of Geysers in the Kronotsky Reserve (Kamchatka Peninsula, Russia), discovered in 1941. The toponymy evolved in close connection with the development of the cartographic base that passed through the three stages from the first manual drawings to large-scale maps and to 3D models of the territory. The number of geysers with personal names increased gradually from twelve to more than one hundred. The article presents examples of diagrams and maps as well as tables of thermal features with coordinates. All main sources of literature were analysed for the period of 1941–2017, and the article presents a comprehensive historiography on the investigated topic. The evolution of instruments for the

measurement of geyser activity is also briefly overviewed with examples of data obtained using the different methods.

Teragons for Testing Implementations of Point Reduction Algorithms P. 256-272

Mahes Visvalingam

Abstract

There are several open source and commercial implementations of the Visvalingam algorithm for line generalization. The algorithm provides scope for implementation-specific interpretations, with different outcomes. This is inevitable and sometimes necessary and, it does not imply that an implementation is flawed. The only restriction is that the output must not be so inconsistent with the intent of the algorithm that it becomes inappropriate. The aim of this paper is to place the algorithm within the literature, and demonstrate the value of the teragon-test for evaluating the appropriateness of implementations; Mapshaper v 0.2.28 and earlier versions are used for illustrative purposes. Data pertaining to natural features, such as coastlines, are insufficient for establishing whether deviations in output are significant. The teragon-test revealed an unexpected loss of symmetry from both the Visvalingam and Douglas-Peucker options, making the tested versions unsuitable for some applications, especially outside of cartography. This paper describes the causes, and discusses their implications. Mapshaper 0.3.17 passes the teragon test. Other developers and users should check their implementations using contrived geometric data, such as the teragon data used in this paper, especially when the source code is not available for inspection. The teragon-test is also useful for evaluating other point reduction algorithms.

Improving the Quality of Cartographic Colour Reproduction Using the Self-Organizing Map Method P. 273-284

Mingguang Wu, A-Xing Zhu & Li He

Abstract

Colour distortion, which is caused by the unavoidable mismatch between a map's gamut and a device's gamut, negatively affects the semiotic quality of maps. Cartographic communication often suffers from undesirable colour inconsistency. This method models cartographic colour reproduction as a constrained transform problem, namely, adapting a map's gamut to fit a device's gamut while preserving the semiotic quality. First, the characteristics of the map's gamut are investigated by considering cartographic principles, and the fundamental concerns of preserving semiotic quality are proposed. Then, the self-organizing map method is introduced to iteratively optimize the cartographic colour reproduction. We implement this method and evaluate it based on a series of thematic maps. The results indicate that the proposed algorithm offers better results than two alternatives in terms of facilitating cartographic colour reproduction.

Encountering Place: Mapping and Location-Based Games in Interdisciplinary Education P. 285-297

Jiří Pánek, Alex Gekker, Sam Hind, Jana Wendler, Chris Perkins & Sybille Lammes

Abstract

In this paper we propose the use of 'Encountering' a location-based game (LBG) based on the Wherigo platform to facilitate interdisciplinary student learning about places on field courses. Deploying a mobile, digital map-based platform addresses significant challenges – such as the sacrifice of context specificity and methodological applicability and depth. It also runs the danger of 'gamifying' the fieldwork, blinding the participant to their own agency and emergent encounters. Interactive and layered digital map interfaces have affordances that can potentially overcome such challenges. We claim that one such affordance is the ability to play through the map. In other words, maps – and digital maps in particular – offer the possibility of decoupling results-orientated actions from free-form serendipitous engagement with the field. Our argument is two-fold. First, that LBG toolsets such as Wherigo can provide a 'common ground' for students engaging in place-based interdisciplinary research, by providing a material, cartographic basis for playful investigation. Second, that they can facilitate the production of 'spaces of epistemological failure', allowing students to challenge taken-for-granted