Graphic representations: keys to disclose the codex of nature

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Undergraduate and university level students present some difficulties to understand and interpret many of the geosciences concepts, in particular those represented by vector and scalar fields. Our experience reveals that these difficulties are associated with a lack in the development of their abstraction and mental picturing abilities.
On the other hand, these students have easy access to communication and information technology software which can be used to built graphic representations of experimental data, time series and vector and scalar fields. This transformation allows an easiest extraction, interpretation and summary of the most important characteristics in the data. There is already commercial and open source software with graphical tools that can be used for this purpose but commercial software packs with user friendly interfaces but their price is not negligible. Open source software can circumvent this difficulty even if, in general, their graphical user interface hasn't reached the desirable level of the commercial ones. We will show a simple procedure to generate an image from the data that characterizes the generation of the suitable images illustrating the key concepts in study, using a freeware code, exactly as it is presented to the students in our open teaching sessions to the general student community. Our experience demonstrated that the students are very enthusiastic using this approach. Furthermore, the use of this software can easily be adopted by teachers and students of secondary schools as part of curricular activities.