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Stefano Furlani, Andrea Ninfo

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Is the present the key to the future?

Stefano FURLANI[1], Andrea NINFO[2]

1) Dept. Of Mathematics and Geosciences, University of Trieste, Italy

2) Dept. Of Geosciences, University of Padova, Italy

Abstract

The empirical and conceptual relationships between Earth surface processes and global changes are very complex. The concept that "the present is the key of the future" implies that we know enough the present to be able to extend our knowledge forward to focus on the future. Field and remote observations on the present-day Earth surface processes represent the methodological instruments for the forecasting. At the end of the 1980s, the scientific community predicted a significant increase of global warming followed by changes in the trends of related surface processes. Some processes, such as the Arctic and Antarctic snow melting are now accelerating and even irreversible, thus these trends show that we are now in an 'out of scale' discontinuity moment. Present-day measures and observations could be scarcely significant and may add uncertainty in the prediction of future trends. The 'out-of-scale' trend raises a fundamental question regarding the present, since it may provide a new angle of thought for contemporary theoretical approaches. The need for reducing the uncertainty in the trends of future processes requires a deep rethinking of the current paradigms in order to consider also the 'out of scale' trends.

Keywords: Theoretical geomorphology, epistemology, climate change, forecasting, predictions, uncertainty.