Geophysical Research Abstracts
Vol. 12, EGU2010-1204, 2010
EGU General Assembly 2010

Scaling view by the Virtual Nature Systems

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The Actual Nature Systems (ANS) continually are under spatial-temporal governing external influences from other systems (Meteorology and Geophysics). This influences provide own spatial temporal patterns on the Earth Nature Systems, which reforms these influences by own manner and scales. These at last three systems belong to the Open Non Equilibrium Nature Systems (ONES). The Geophysics and Meteorology Systems are both governing for the ANS on the Earth. They provide as continual energetic pressure and impacts, and direct Extremes from the both systems to the ANS on Earth surface (earthquakes, storms, and others). The Geodynamics of the ANS is under mixing of influence for both systems, on their scales and on dynamics of their spatial-temporal structures, and by own ANS properties, as the ONES. To select influences of external systems on the Earth systems always is among major tasks of the Geomorphology. Mixing of the Systems scales and dynamics provide specific properties for the memory of Earth system. The memory of the ANS has practical value for their multi-purpose management. The knowledge of these properties is the key for research spatial-temporal GeoDynamics and Trends of Earth Nature Systems. Selection of the influences in time and space requires for special tool, requires elaboration and action of the Virtual Nature Systems (VNS), which are enliven computer doubles for analysis Geodynamics of the ANS. The Experience on the VNS enables to assess influence of each and both external factors on the ANS. It is source of knowledge for regional tectonic and climate oscillations, trends, and threats. Research by the VNS for spatial-temporal dynamics and structures of stochastic regimes of governing systems and processes results in stochastic GeoDynamics of environmental processes, in forming of false trends and blanks in natural records. This 'wild dance' of 2D stochastic patterns and their interaction each other and generates acting structures of river nets, and of river basins, in multi-layer, multi-scale, and multi-driven structures of surface processes. It results in the Information Loss Law for observed memory of the VNS (and of external drivers) which gradually cut off own Past and distort own history. This view on the GeoDynamics appeared after long time field measurements thousand of terrace levels, hundreds of terrace ranks, and many terrace complexes in river basins of all scales – for the purpose to recognize their deforming by climatic and tectonic spatial-temporal influences. The method for following up of terrace levels along valleys was used in the Geomorphology and Geology for a long time, by linking fragments of level to 'cycles'. It gradually linked them by heights above riverbed. The understanding of this logical mistake was happened (as insight) during observing from upstream a valley. All fragmental levels downstream were good visible, without chances for their correlation 'by height' or 'by number'. Instead of link of fragments, this explains process of river valleys' stochastic GeoDynamics by properties of the ONES (I. Prigogine et al., 1984) to generate oscillations. Is only first view, but later it turned to simple mechanic of Information Loss Law action in the GeoInformatics for Nature Systems (Klenov, 1980, et al.). The Information Loss distorts and destroys natural records (sources for data on the Past exogenous and endogenous rivers). This simple equation was received by multiple measures of terrace rank, and other natural records. It explains origin of false trend in natural records, destroys most own history by stochastic dynamics of the ONES. It prevents to restore of nature records as a memory of the Past. Non-disturbed is only small time between the Past and the Future, which looks like a peak between two non-linear losses. The history of Past (of the ANS, and of external drivers) are destroyed by the ANS. The Future becomes none determined due unknown 2D data of future external influences. However, the effect is the reliable Outstripping Monitoring for impending disasters and of other processes with satisfactory exactness. It was proved by direct validations (by use observed records). The conclusions are as follows: The ILL is mechanics for dissipation the Past and indeterminism the Future of the Nature. Moving back along the VNS' Phase Trajectory changes a view on natural records, and is chance to restore history of the ANS and its external drivers.