The various properties or components of environmental systems are characterized as S_i, $i = 1, 2, \ldots, n$, where n is the number of observable or inferred properties.

A first set of properties $S_1, S_2, \ldots, S_k$ are adjusted to contemporary environmental controls and soil forming factors. A second set, $S_{k+1}, S_{k+2}, \ldots, S_q$ are relaxing factors—they are in the process of adjusting to environmental controls, or recovering from disturbance, but have not yet completed it. A third group comprises durable inherited features (formed in response to previous environmental controls but which persist and do not respond to environmental change) or other permanent (relative to the time scale of interest), non-adjusting features: $S_{q+1}, S_{q+2}, \ldots S_n$. Non-adjusted features could be transient phenomena, inherited or dynamically unstable.

If k_i represents the importance or magnitude of component i, then the relative importance of the component is

$$k_i = \sum_{i=1}^{n} k_i$$

Ratios such as those below would give some index of "adjustedness" or the extent to which soil properties are semi-permanent or inherited.

$$\sum_{i=1}^{k} k_i = \sum_{i=1}^{n} k_i$$

$$\sum_{i=q+1}^{n} k_i = \sum_{i=1}^{n} k_i$$

This framework could be used in quantifying historical contingency in Earth surface systems, and in change detection and spatial analysis.