The Practchwork Critical Zone

We propose a new metaphor for the CZ based on the human social systems of this region. Beginning about 14,000 years ago, diverse groups of people with a variety of histories and origins began to arrive in areas. Acknowledging that the history features conflict and cooperation, we suggest that the present inhabitants were shaped by their individual and shared experiences of domestication, local, regional, national, and global human cultures. The story of this culture must reflect the diversity of its constituents and their ongoing interaction together. The patchwork quilt is a metaphor that has been used to describe American cultures which value all images that capture the essential features of the IML-CZO and, more broadly, the CZs and areas that experienced rapid deposition through cycles of continental glaciation.

This image of the patchwork CZ emphasizes two key characteristics of the CZ of the IML-CZO sites: (i) the mineral components of the CZ are spatially variable and have been influenced by their individual histories of transport and weathering, and (ii) CZ processes vary enormously at timescales ranging from glacial cycles to decades.

CZs of the IML-CZO are characterized by spatial variability in the mineral and geologic components. The physical and chemical properties of the sediments in the CZ vary due to differences in their source areas, prior weathering histories, processes of erosion and deposition, and postglacial alterations. The CZ is a historical body, whose history may be appreciated by understanding its present condition and function.

The CZ is a complex system, and the relationships among its components are likely to be affected by climate change, geomorphic processes, soil development, and vegetation. Understanding the CZ at different timescales is critical to understanding its present condition and function. The vegetation and soil succession at the IML-CZO sites are characteristic of the CZ of the IML-CZO sites.