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Major accomplishments of MCM4

New research on ecological connectivity-highlights:

1. Episodic periods of high hydrologic connectivity control spatial and temporal patterns of soil biota (**pdf. pg. 13-14**)
2. Metacommunity dynamics in the MDV can be simulated based on niche-based species sorting and dispersal dynamics (**pdf. pg. 2**)
3. Daily pulses of microbial mat material are transported from streams to the lakes (**pdf. pg. 4**)
4. Increased streamflow following the end of the cooling trend has driven increases in biomass and distribution of stream microbial mats (**pdf pg. 4**)
5. Distinct microbial communities occur in major components of the MDV landscape (pdf pg. 16)
6. Loss of perennial ice-cover on the lakes could occur within the next 50 years (pdf pg. 11)

New proposed experiments:

1. Completion of the LakeICE experiments demonstrating microbial responses to inputs during periods of enhanced transport of water and sediment (pdf pg. 8)
2. Installation of the Pulse-Press soil wetting experiment (pdf. pg. 5-6)
3. Collection of samples of aeolian materials to inform design of sediment on ice experiment (pdf pg.10)

Enhancement of monitoring programs:

1. Integration of historical perspectives into understanding lake level change and species distributions of benthic diatoms (pdf pg. 19)
2. Continuous telemetry of met station, stream gauge, and limnological stations using a hub
   and spoke approach (pdf pg. 15)
3. Expansion of monitoring program to Miers and Garwood Valleys (pdf pg. 18)
4. Implementation of aeolian sample collection in collaboration with New Zealand program (pdf pg. 10)
5. Development of new continuous biological monitoring and sampling technology for lakes to potentially track wintertime processes (pdf pg. 7)