

International Tundra Experiment (ITEX) Phenocam Synthesis: Call for Participation and Feedback

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Repeat photography using inexpensive digital cameras (Phenocams) has become an effective tool that provides low-cost monitoring of plot to landscape phenological changes in Arctic tundra ecosystems. Plant phenology is sensitive to climate variability and is recognized as an important indicator of ecosystem change in the Arctic. The US-led ITEX team proposes to build an international synthesis of phenocam time series across arctic tundra landscapes using imagery from existing and new locations. We aim to collaborate and synthesize phenocam data across 200+ sites that represent the complexity and variability of change occurring in the Arctic. The goals of this collaborative effort are to explore what vegetation cover types are most/ least phenologically variable over time (e.g. time of snow melt, greening and senescence rates, long-term index anomalies) and how such proximal trends scale to satellite imagery. Here we present a case study of two tundra sites in Northern Alaska to detail our workflow for image acquisition, management, and time series analysis. We welcome collaboration and feedback from international researchers interested in participating in the synthesis.