



Long-Term Changes and Variability in Global Ecosystem Phenology From MODIS

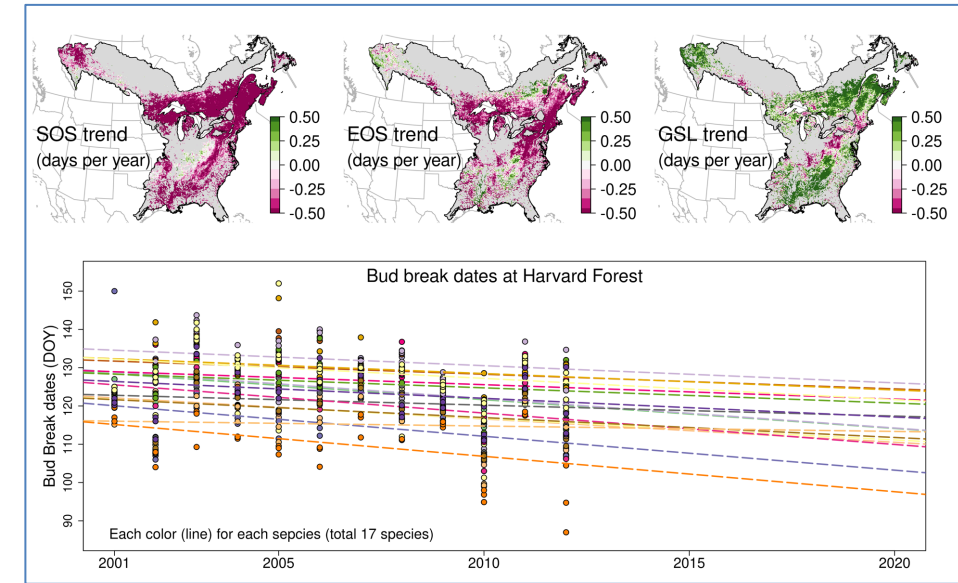
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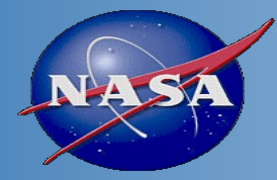
Project Description

- *How has the timing and length of growing seasons changed over the MODIS era?*
- *How do LSP anomalies and trends impact sub-seasonal and seasonal scale carbon fluxes?*
- *How can joint information from MODIS land surface temperature and land surface phenology be used to characterize the impact of droughts on ecosystems?*

Technical Challenges

- Establishing uncertainty of MCD12Q2 metrics & trends (Moon et al, in review, Scientific Data)
- Estimating models linking dynamics in terrestrial carbon & water to variation & trends in LSP (Gao et al, in review, GCB)





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Proposed Milestones

- *Year 1: Characterization of Variability and Trends in Global LSP*
- *Year 2: Develop Model of Joint Variability in LSP & Carbon Fluxes*
- *Year 3: Mapping Ecological Impacts of Droughts*

Deliverables

1. A detailed characterization of global-scale trends and changes in phenology with much higher spatial resolution and ecological interpretability than is currently available.
2. Improved understanding of seasonal-to-decadal scale joint variability in land surface phenology and ecosystem-scale carbon fluxes arising from climate variation and change.
3. Improved ability to map the extent, duration, and ecological impact of drought events.

