*Our landscapes are changing... Where and when is it happening?*

# Landscape Change Monitoring System (LCMS)

The Landscape Change Monitoring System (LCMS) is a remote sensing-based system for mapping and monitoring land cover change across the United States. The objective of LCMS is to develop a consistent approach using the latest technology and advancements in change detection to produce a "best available" annual map of landscape change. LCMS data are annual probability of gain and loss change, land cover and land use for every 30m Landsat cell for CONUS & Coastal Alaska.

## How can LCMS data be used?

- Forest Planning and Revision
- Broadscale Monitoring
- Vegetation Map Updates
- Restoration and Treatment Effectiveness

- Postfire Recovery
- Hydrologic Modeling
- Habitat Condition
- Landscape Condition Assessments

## What products does LCMS produce?

Annual maps depicting loss, gain, land cover and land use.
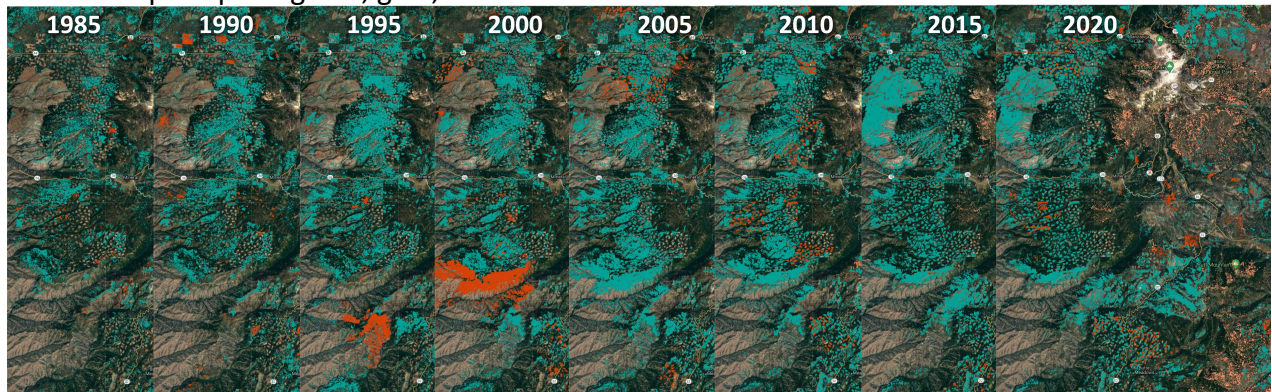


Loss (orange) and Gain (cyan) in 5 year increments (Individual years were removed for illustration purposes.

## How are LCMS data generated?

LCMS data are designed to advance and modernize our intra- and inter-agency monitoring capabilities using reference data and a series of change detection algorithms. Because no algorithm performs best in all situations, LCMS uses an ensemble model to improve map accuracy across a range of ecosystems and disturbance processes. Reference data are collected using TimeSync, a web-based tool that allows analysts to visualize and interpret the Landsat data record from 1985-present. The LCMS ensemble model yields a "best available" annual map highlighting a multitude of change processes and land cover types.

For more information please contact - LCMS Production Team @ sm.fs.lcms@usda.gov