LANDFIRE Responds & Completes the Picture
Improving Disturbance and Downstream LANDFIRE Products

Megan Dettenmaier, TNC LF Communications Lead, Daryn Dockter, LF Technical Lead, Marcine Hyser, LF Task Manager, Jim Smith, TNC LF Program Lead

QUICK SUMMARY: As our Production Team was creating the disturbance products for LF 2022, they had the sense they were missing disturbance event data from online sources. For this reason, our team took an extra step to locate and process missing event data. This effort resulted in the addition of 6.5 million acres of disturbance events, bringing the total event data to 28 million acres within the LF 2022 Update.

TAKE HOME MESSAGE: If you downloaded LF 2022 disturbance layers for Alaska, SW or NW GeoAreas in 2023, we recommend downloading the most recent version (released in December 2023) to make sure your picture is complete and includes the additional 6.5 million acres described above.

WHY DID THIS HAPPEN? In summary, we expedited the deadline for collecting event data from our partners in 2023, moving it from November 31st to October 31st. This adjustment was necessary to align with our goal of releasing LANDFIRE Products annually, requiring us to conclude event data collection earlier than in previous years. We

recognize this expedited timeline made it difficult for contributors to finalize their disturbance information entries, leaving gaps in our events database for LF 2022.

BACKGROUND: LANDFIRE relies heavily on data contributions from federal, state, local, private, and non-profit land managers. Once submitted, these data contributions are entered into the events geodatabase, which has significant downstream effects on many LF layers. Annual disturbance layers rely on user submitted data, and without that information, LANDFIRE can't accurately label or attribute the data, making disturbance data less complete. Many downstream products such as vegetation and fuels are built from disturbance data, so completing the disturbance picture means the quality of other LF products will improve with the next annual release.

LANDFIRE RESPONDS: We responded to these gaps in the events database by (re)downloading data from our partners' Systems of Record, importing new disturbance records, and cross-checking
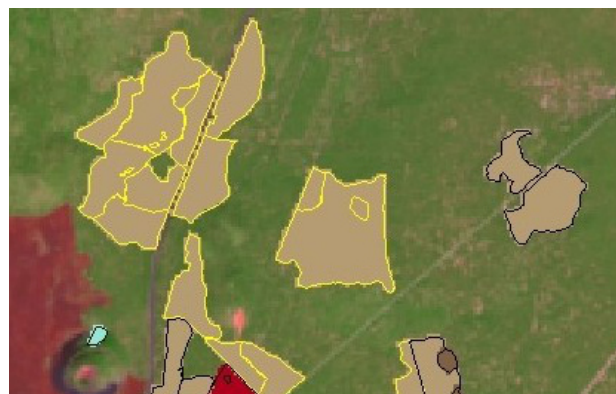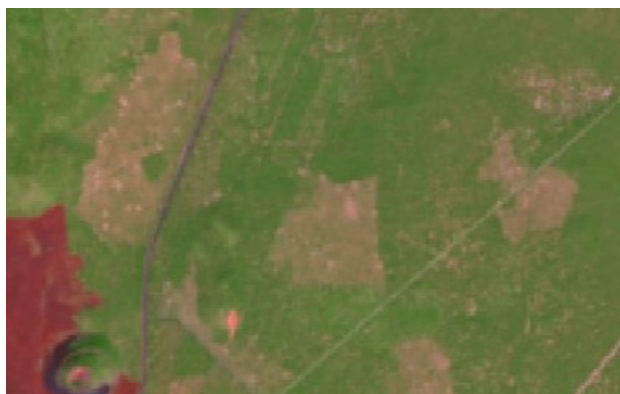
Left: LANDFIRE image detection team detected a disturbance, but lacked associated information about what kind of disturbance it was. Right: Following the data pull, we learned it was a thinning event and could provide that updated information.

them against existing new disturbance events with unattributed events. Without this additional data (and effort from the LF team), these events wouldn't have been included in the disturbance layer or would have been classified as unknown – meaning LANDFIRE detected a disturbance on the landscape but couldn't provide information about what *kind* of disturbance happened.

EVENT DATA IMPROVEMENT EXAMPLE: In the example on the left our Team detected *some kind of disturbance* in pink, however there was no event data to accompany this particular disturbance. Because we lacked metadata associated with this suspected disturbance, our Team would have had to label the disturbance as *unknown*. However, following the extra effort to collect additional event data from partners' Systems of Record, we learned this disturbance was a thinning event.

DISTURBANCE WILL LOOK DIFFERENT WITH LF 2023: To improve our disturbance products, we modified our approach to creating (and delivering) the LF 2023 Annual Disturbance Layer. The release will come in three parts: 1) Limited (Jan 2024), 2) Preliminary (multiple 2024), 3) Final (fall 2024). Staggering the release of disturbance layers allows us to get started on building and creating the most useful layers for partners that need the data quickly - namely fire managers in wildfire-prone areas - and provide a way for Systems of Record to be updated with current disturbance data as it is available. But perhaps most importantly, this schedule will ensure that our disturbance picture is as complete as possible and includes the most up-to-date, comprehensive disturbance information available, a process that has positive ripple effects on many LF products. Note: timing of available data and processes comes with its challenges; we are working to make further improvements with future disturbance and associated products.

DEADLINE TO SUBMIT EVENT DATA: The October 31 event submission deadline matters. Getting your disturbance events recorded, uploaded, and submitted before the deadline allows our team to process, attribute and deliver disturbance products on schedule. We rely on disturbance data submissions from our loyal LANDFIRE contributors to create the most accurate and current products. Thank you to those contributors that continue to submit their events - please keep it up! For a more in-depth explanation of the disturbance products, see https://landfire.gov/annualdisturbance.php.

Limited Annual Disturbance (LDist by year; e.g. LDist23) - Targeted for release by the end of January each year: This release includes all extents and includes events from four main online sources (FACTS, NFPORS, NIFC), three primary submitted sources (BLM, NPS, FWS), MTBS, BARC and RAVG national raster data.

Preliminary Annual Disturbance (PDist by year; e.g. PDist23) – Targeted for incremental release in the calendar year: This release includes additional state and local submitted events, remote sensing of landscape change and image analyst review.

Final Annual Disturbance (Dist by year; e.g. Dist23) – Targeted for release in the fall of each year: This release includes all information in PDist23 and any events submitted after the October 31, 2023 deadline.