

Theme	Layer	Description	REST Endpoint (RECOVER)	Authoritative Source
Fire	RECOVER Fires	Wildfire polygons created by US GIS TRec from WFIGS 2023 Interagency Fire Perimeters to Date where data packages are available for download.	https://services1.arcgis.com/z5tlnpYHokW9isdE/arcgis/rest/services/RECOVER_Fires/FeatureServer/0	NASA RECOVER
	WFIGS Interagency Fire Perimeters To Date	The Wildland Fire Interagency Geospatial Services (WFIGS) Group provides authoritative geospatial data products under the interagency Wildland Fire Data Program. Hosted in the National Interagency Fire Center ArcGIS Online Organization (The NIFC Org). WFIGS provides both internal and public facing data, accessible in a variety of formats. This service includes perimeters for wildland fire incidents that meet the following criteria: Categorized in the IRWIN (Integrated 4 Reporting of Wildland Fire Information) integration service as a Wildfire (WF) or Prescribed Fire (RX).	RECOVER uses this service directly and is not republishing it	WFIGS: https://services3.arcgis.com/T4QMspbf1g3tGWY/ArcGIS/rest/services/WFIGS_Interagency_Perimeters_YearToDate/FeatureServer
	Post Wildfire Debris Flow	Live post-fire debris-flow hazard assessments for select fires in the Western U.S. as produced by the USGS authoritative source. Geospatial data related to basin morphometry, burn severity, soil properties, and rainfall characteristics are used to estimate the probability and volume of debris flows that may occur in response to a design storm.	RECOVER uses this service directly and is not republishing it	USGS: https://earthquake.usgs.gov/arcgis/rest/services/lspw/df_2022/MapServer
	Preliminary Fire Severity	Landsat and Sentinel satellite imagery describing fire severity using pre- and post-fire normalized burn ratio (NBR) and finally, differenced NBR data (dNBR). These data have not been validated in the field and are considered a preliminary product meant to help direct field validation efforts. These data were produced by USDA Forest Service MTBS, USDA Forest Service Geospatial Technology and Applications Center (GTAC) to support Burned Area Assessment (BAA).	https://giscenter.rdc.isu.edu/server/rest/services/RECOVER/Preliminary_Fire_Severity_dNBR/ImageServer	https://burnseverity.cr.usgs.gov/baer/baer-imagery-support-data-download
	Historic Fires Since 1950	The Historic Fires Database (HFD) and specifically the Fires1950 to Present polygon feature class was initially developed to support the NASA RECOVER wildfire decision support system (DSS) at Idaho State University's GIS Training and Research Center (GIS TRec). Visit http://giscenter.isu.edu/research/Techpg/HFD/index.htm for additional details.	https://services1.arcgis.com/z5tlnpYHokW9isdE/arcgis/rest/services/HFD_HistoricFiresDatabase/FeatureServer	NASA RECOVER
Boundaries	Western US (AOI)	The 11 western states used by the NASA RECOVER post-wildfire decision support system as its area of interest (AOI). This is the area where the majority of wildfire occur and also the area where the majority of public lands exist in the contiguous United States.	https://services1.arcgis.com/z5tlnpYHokW9isdE/arcgis/rest/services/Western_United_States/FeatureServer/1	NASA RECOVER
	SMA Surface Management Agency	The Surface Management Agency (SMA) Geographic Information System (GIS) dataset has been produced to help support post wildfire decision making, and describes Federal land for the Western United States and classifies this land by its active Federal surface managing agency.	https://services1.arcgis.com/z5tlnpYHokW9isdE/arcgis/rest/services/SMA_Surface_Management_Agency/FeatureServer	BLM: https://catalog.data.gov/dataset/blm-national-surface-management-agency-area-polygons-national-geospatial-data-asset-ngda
	Wilderness	The National Wilderness Preservation System includes wilderness areas in the United States designated by the Wilderness Act of 1964 and all subsequent wilderness laws. See here for source data and additional information regarding wilderness as provided through the Wilderness Connect Project .	https://services1.arcgis.com/z5tlnpYHokW9isdE/arcgis/rest/services/Wilderness_Status/FeatureServer	Wilderness Connect: https://montana.maps.arcgis.com/home/item.html?id=52c7896cdfab4660a595e6f6a7ef0e4d
	PLSS	This data has been prepared to help support post wildfire decision making and is a way of subdividing and describing land in the United States. All lands in the public domain are subject to subdivision by this rectangular system of surveys (PLSS), which is regulated by the U.S. Department of the Interior, Bureau of Land Management (BLM).	https://giscenter.rdc.isu.edu/server/rest/services/PLSS/MapServer	BLM: https://gdp-blm-egis.hub.arcgis.com/datasets/BLM-EGIS:blm-national-public-land-survey-system-polygons/about
Structures	Roads	Roads of the 11 Western United States. Roads are symbolized by MAF/TIGER Feature Class Codes (MTFCC). This version of the USGS Roads dataset is a subset of their Transportation database package. The USGS compiles road data from authoritative sources as noted in the source attribution field .	https://giscenter.rdc.isu.edu/server/rest/services/Hotbed/Roads_and_Trails/FeatureServer/3	USGS: https://prd-ttm.s3.amazonaws.com/index.html?prefix=StagedProducts/Tran/GDB/
	Trails	Trails data acquired from the USGS Trails Database, in which the USGS compiles authoritative trail data from BLM, USFS, NPS, FWS, and State trail datasets. Trails are distinguished by snow, water, and terrain trails and maintainers. The USGS Trails data set is a subset of their Transportation database package. Data is currently on a 1 to 3-year update cycle for federal sources and 3 to 5 years for other sources. Their 2024 plans involve moving to an annual refresh cycle for federal sources and less than 3-year cycle for other sources.	https://giscenter.rdc.isu.edu/server/rest/services/Hotbed/Roads_and_Trails/FeatureServer/2	USGS: https://prd-ttm.s3.amazonaws.com/index.html?prefix=StagedProducts/Tran/GDB/
	Critical Infrastructure	A layer representing critical infrastructures and sites that are relevant to fire management and recovery decisions for use in the RECOVER database. These data were compiled from many different authoritative sources as described in the Source field.	https://services1.arcgis.com/z5tlnpYHokW9isdE/arcgis/rest/services/Critical_Infrastructure/FeatureServer	NASA RECOVER
Hydro	WBD Watershed Boundary Dataset HUC12	Watershed Boundary Dataset (WBD) defines the areal extent of surface water drainage to a point, accounting for all land and surface areas. This file contains Hydrologic Unit (HU) polygon boundaries for the western United States. The data is a seamless National representation of HU boundaries from 2 to 14 digits compiled from U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) and U.S. Department of Agriculture (USDA) National Resources Conservation Service (NRCS) Watershed Boundary Dataset (WBD)	RECOVER uses this service directly and is not republishing it	USGS: https://hydro.nationalmap.gov/arcgis/rest/services/NHDPlus_HR/MapServer/12
	NHD	The National Hydrography Dataset (NHD) is a feature-based database that interconnects and uniquely identifies the stream segments or reaches that make up the Western and Coastal area surface water drainage system and has been prepared to help support post wildfire decision making.	RECOVER uses this service directly and is not republishing it	USGS: https://hydro.nationalmap.gov/arcgis/rest/services/NHDPlus_HR/MapServer
	Wetlands	This data provides current geospatial referenced information of wetlands, riparian, deep water, and related aquatic habitats in priority areas to help support post wildfire decision making.	RECOVER uses this service directly and is not republishing it	USFWS: https://www.fws.gov/program/national-wetlands-inventory/download-state-wetlands-data
	Precipitation Accumulation Forecast	This nowCOAST map service provides maps of Quantitative Precipitation Estimates (QPEs) from NOAA/NWS.	RECOVER uses this service directly and is not republishing it	NOAA: https://mapservices.weather.noaa.gov/vector/rest/services/precip/wpc_qpf/MapServer/7
Landcover	Habitat	A map of finalized critical habitats as designated by the U.S. Fish and Wildlife Service from 1977-2023. Provided in RECOVER to help support post wildfire decision making for the Western US.	https://services1.arcgis.com/z5tlnpYHokW9isdE/arcgis/rest/services/Habitat/FeatureServer	USFWS: https://catalog.data.gov/dataset/fws-critical-habitat-for-threatened-and-endangered-species-dataset
	BPS Biophysical Setting	Raster Image produced to help support post wildfire decision making, representing the vegetation that may have been dominant on the landscape prior to Euro-American settlement. Based on the current biophysical environment and an approximation of the historical disturbance regimes.	https://giscenter.rdc.isu.edu/server/rest/services/BPS_Biophysical_Setting/ImageServer	LANDFIRE: https://www.landfire.gov/version_download.php
	EVC Existing Vegetation Cover	Raster image produced to help support post wildfire decision making, describing the vertically projected percent cover of the primary layer of the forest (live canopy layer) for a 30-m grid cell.	https://giscenter.rdc.isu.edu/server/rest/services/EVC_Existing_Vegetation_Cover/ImageServer	LANDFIRE: https://www.landfire.gov/version_download.php
	EVT Existing Vegetation Type	Raster image produced to help support post wildfire decision making, describing specific vegetation lifeform by layers.	https://giscenter.rdc.isu.edu/server/rest/services/EVT_Existing_Vegetation_Type/ImageServer	LANDFIRE: https://www.landfire.gov/version_download.php
	FVT Fuel Vegetation Type	LANDFIRE layer that represents a modified version of EVT that re-establishes pre-disturbance vegetation in disturbed areas, allowing the application of fuel model transitions to properly align with logic developed from Fuels Calibration Workshops .	https://giscenter.rdc.isu.edu/server/rest/services/FVT_Fuel_Vegetation_Type/ImageServer	LANDFIRE: https://www.landfire.gov/version_download.php
	Relative Ecosystem Resilience and Resistance RR	This layer describes the estimated ecosystem resilience and resistance to change within sagebrush ecosystems to allow managers to better predict and mitigate impacts of wildfire and invasive annual grasses.	https://giscenter.rdc.isu.edu/server/rest/services/RECOVER/Resistance_and_Resilience_RR/ImageServer	USGS: https://www.sciencebase.gov/catalog/item/5229c34e4b0270aee3cfa5
Soils and Geology	Soils gSSURGO	The SSURGO database contains soil data such as hydrological soil group and k-factor measurements as collected from in-situ observations performed by National Cooperative Soil Survey over the course of a century. This dataset is included in RECOVER as an approximated baseline to help support post wildfire recovery and decision making.	https://giscenter.rdc.isu.edu/server/rest/services/RECOVER/Soil_Layers_NRCS/FeatureServer/0	USDA: https://www.nrcs.usda.gov/resources/data-and-reports/ssurgo-portal
	Soils STATSGO	This STATSGO-based soils layer covers the Western US and was developed specifically to support the NASA RECOVER wildfire decision support system. This feature class contains spatially joined MUID for each polygon as well as K-Factor, WEG, and WEI as well as URL links to descriptive reports for each polygon.	https://giscenter.rdc.isu.edu/server/rest/services/RECOVER/Soils_STATSGO/FeatureServer/2	USDA: https://catalog.data.gov/dataset/u-s-general-soil-map-statsgo2
	Geology	Geologic information for the Western US, produced to help support post wildfire decision making.	https://services1.arcgis.com/z5tlnpYHokW9isdE/arcgis/rest/services/Geology_Western_US/FeatureServer	USGS: https://services1.arcgis.com/z5tlnpYHokW9isdE/arcgis/rest/services/Geology_/FeatureServer/4

Terrain	Elevation	Raster image describing basic elevation information for earth science studies and mapping applications for the Western US. Produced to help support post wildfire decision making. Topography of the Western US was developed using the USGS NED. It is a single, seamless TIF file originally designed to support the NASA RECOVER wildfire decision support system (DSS). Embedded within this image service are various raster function chains or templates that allow the user to easily view/analyze aspect, slope, and hillshade as well.	https://giscenter.rdc.isu.edu/server/rest/services/NED/Topography_WesternUS/ImageServer	NASA RECOVER & USGS: https://www.sciencebase.gov/catalog/item/4fcf8fd4e4b0c7fe80e81504
	Hillshade	Hillshade based on the topography of the Western US for earth science studies and mapping applications. Produced to help support post wildfire decision making.	https://giscenter.rdc.isu.edu/server/rest/services/TopographyHillshade_WesternUS/ImageServer	NASA RECOVER & USGS: https://www.sciencebase.gov/catalog/item/4fcf8fd4e4b0c7fe80e81504
	Aspect	Aspect raster layer for the western US derived from the pit-filled bare earth NED layer. This layer uses 10 meter pixel spatial resolution and was derived from the WesternUS terrain layer.	https://giscenter.rdc.isu.edu/server/rest/services/NED/TopographyAspect_WesternUS/ImageServer	NASA RECOVER & USGS: https://www.sciencebase.gov/catalog/item/4fcf8fd4e4b0c7fe80e81504
	Aspect (Cardinal Ordinal)	This layer is derived from the Aspect raster layer for the western US which is ultimately based on topographic data acquired from the USGS NED dataset. Classifies aspect values into cardinal and ordinal direction categories.	https://giscenter.rdc.isu.edu/server/rest/services/NED/Topography_Aspect_Cardinal_Ordinal_Direction/ImageServer	NASA RECOVER & USGS: https://www.sciencebase.gov/catalog/item/4fcf8fd4e4b0c7fe80e81504
	Slope (Percent)	Slope (in Percent rise) raster layer for the western US derived from the pit-filled bare earth NED layer. Slope data was derived from Shuttle Radar Topography Mission (SRTM).	https://giscenter.rdc.isu.edu/server/rest/services/TopographySlopePercentRise_WesternUS/ImageServer	NASA RECOVER & USGS: https://www.sciencebase.gov/catalog/item/4fcf8fd4e4b0c7fe80e81504
	Slope (Degrees)	Slope (in degree rise) raster layer for the western US derived from the pit-filled bare earth NED layer. Slope data was derived from Shuttle Radar Topography Mission (SRTM).	https://giscenter.rdc.isu.edu/server/rest/services/TopographySlopeDegree_WesternUS/ImageServer	NASA RECOVER & USGS: https://www.sciencebase.gov/catalog/item/4fcf8fd4e4b0c7fe80e81504
	Steep Slopes	This raster data layer identifies slopes greater than or equal to 30 percent. Slope data was derived from Shuttle Radar Topography Mission (SRTM).	https://giscenter.rdc.isu.edu/server/rest/services/REC/Over/SteepSlopes_GTE30PCT/ImageServer	NASA RECOVER & USGS: https://www.sciencebase.gov/catalog/item/4fcf8fd4e4b0c7fe80e81504
	Slope Steepness Rating	This raster data layer is a reclassification of the Slope (Percent) dataset where slopes are classified into 10 classes based on their severity. Slope data was derived from Shuttle Radar Topography Mission (SRTM).	https://giscenter.rdc.isu.edu/server/rest/services/NED/Topography_Slope_Steepness_Rating/ImageServer	NASA RECOVER & USGS: https://www.sciencebase.gov/catalog/item/4fcf8fd4e4b0c7fe80e81504
	Landslide Potential	Landslide potential classified across the Western US by the USGS.	https://services1.arcgis.com/z5tlnpYHokW9isdE/arcgis/rest/services/Landslide_Potential/FeatureServer	USGS
NDVI	NDVI Baseline	This data represents the full range of NDVI values across the Western US. To help land managers understand the pre-fire condition of vegetation, the NASA RECOVER DSS developed the NDVI Baseline, a long-term library of Landsat 8 OLI NDVI imagery across the entire western United States.	https://giscenter.rdc.isu.edu/server/rest/services/REC/Over/NDVI_Baseline/ImageServer	NASA RECOVER
	NDVI Mean	This data represents mean NDVI values across the Western US. To help land managers understand the pre-fire condition of vegetation, the NASA RECOVER DSS developed the NDVI Baseline, a long-term library of Landsat 8 OLI NDVI imagery across the entire western United States.	https://giscenter.rdc.isu.edu/server/rest/services/REC/Over/NDVI_Mean/ImageServer	NASA RECOVER
	NDVI Median	This data represents median NDVI values across the Western US. To help land managers understand the pre-fire condition of vegetation, the NASA RECOVER DSS developed the NDVI Baseline, a long-term library of Landsat 8 OLI NDVI imagery across the entire western United States.	https://giscenter.rdc.isu.edu/server/rest/services/REC/Over/NDVI_Median/ImageServer	NASA RECOVER
	NDVI Maximum	This data represents maximum NDVI values across the Western US. To help land managers understand the pre-fire condition of vegetation, the NASA RECOVER DSS developed the NDVI Baseline, a long-term library of Landsat 8 OLI NDVI imagery across the entire western United States.	https://giscenter.rdc.isu.edu/server/rest/services/REC/Over/NDVI_Maximum/ImageServer	NASA RECOVER
	NDVI Standard Deviation	This data represents the standard deviations of NDVI values across the Western US. To help land managers understand the pre-fire condition of vegetation, the NASA RECOVER DSS developed the NDVI Baseline, a long-term library of Landsat 8 OLI NDVI imagery across the entire western United States.	https://giscenter.rdc.isu.edu/server/rest/services/REC/Over/NDVI_Standard_Deviation/ImageServer	NASA RECOVER
	NDVI 95% CI Upper Bound	This data represents the NDVI values for the upper bound of the 95% confidence interval of the entire NDVI dataset across the Western US. To help land managers understand the pre-fire condition of vegetation, the NASA RECOVER DSS developed the NDVI Baseline, a long-term library of Landsat 8 OLI NDVI imagery across the entire western United States.	https://giscenter.rdc.isu.edu/server/rest/services/REC/Over/NDVI_95PCT_CI_Upper_Bound/ImageServer	NASA RECOVER
	NDVI 95% CI Lower Bound	This data represents the NDVI values for the lower bound of the 95% confidence interval of the entire NDVI dataset across the Western US. To help land managers understand the pre-fire condition of vegetation, the NASA RECOVER DSS developed the NDVI Baseline, a long-term library of Landsat 8 OLI NDVI imagery across the entire western United States.	https://giscenter.rdc.isu.edu/server/rest/services/REC/Over/NDVI_95PCT_CI_Lower_Bounds/ImageServer	NASA RECOVER