

SeasFire DataCube version 0.3

General Information: Variables have been added since the previous version. Many variables have been updated and others fixed. Now the total number of **variables** is **59**. The changes include:

Updates (this concerns the attributes only)

- oci_nao
- Coordinates

Added variables

- Biomes(<https://ecoregions.appspot.com/>)
- Arctic Oscillation index – (<https://psl.noaa.gov/data/climateindices/list/>)
- Soil Water Levels 2, 3, 4 (swlv2, swlv3, swlv4) - (<https://cds.climate.copernicus.eu/cdsapp#!/dataset/reanalysis-era5-single-levels?tab=overview>)

Fixed

- oci_epo (corrected December months of -99.90 to nan)
- oci_pdo (corrected 2021 months of -99.90 to the valid value)
- gwis_ba_valid_mask (changed the last weeks of 2020 to non valid)
- Ssrđ (2020-2021, corrected aggregation)

Full name	DataArray name	Unit	Contact *
Dataset: ERA5 Meteo Reanalysis Data			
Mean sea level pressure	mslp	Pa	NOA
Total precipitation	tp	m	MPI
Relative humidity	rel_hum	%	MPI
Vapor Pressure Deficit	vpd	hPa	MPI
Sea Surface Temperature	sst	K	MPI
Skin temperature	skt	K	MPI
Wind speed at 10 meters	ws10	m*s-2	MPI
Temperature at 2 meters - Mean	t2m_mean	K	MPI
Temperature at 2 meters - Min	t2m_min	K	MPI
Temperature at 2 meters - Max	t2m_max	K	MPI
Surface net solar radiation	ssr	MJ m-2	MPI
Surface solar radiation downwards	ssrd	MJ m-2	MPI
Volumetric soil water level 1	swvl1	m3/m3	MPI
Volumetric soil water level 2	swvl2	m3/m3	MPI
Volumetric soil water level 3	swvl3	m3/m3	MPI
Volumetric soil water level 4	swvl4	m3/m3	MPI
Land-Sea mask	lsm	0-1	NOA
Dataset: Copernicus			

Full name	DataArray name	Unit	Contact *
CEMS			
Drought Code Maximum	drought_code_max	unitless	NOA
Drought Code Average	drought_code_mean	unitless	NOA
Fire Weather Index Maximum	fwi_max	unitless	NOA
Fire Weather Index Average	fwi_mean	unitless	NOA
Dataset: CAMS: Global Fire Assimilation System (GFAS)			
Carbon dioxide emissions from wildfires	cams_co2fire	kg/m ²	NOA
Fire radiative power	cams_frpfire	W/m ²	NOA
Dataset: FireCCI - European Space Agency's Climate Change Initiative			
Burned Areas from Fire Climate Change Initiative (FCCI)	fcci_ba	ha	NOA
Valid mask of FCCI burned areas	fcci_ba_valid_mask	0-1	NOA
Fraction of burnable area	fcci_fraction_of_burnable_area	%	NOA
Number of patches	fcci_number_of_patches	N	NOA
Fraction of observed area	fcci_fraction_of_observed_area	%	NOA
Dataset: Nasa MODIS MOD11C1, MOD13C1, MCD15A2			
Land Surface temperature at day	lst_day	K	MPI
Leaf Area Index	lai	m ² /m ²	MPI
Normalized Difference Vegetation Index	ndvi	unitless	MPI
Dataset: Nasa SEDAC Gridded Population of the World (GPW), v4			
Population density	pop_dens	persons per square kilometers	NOA
Dataset: Global Fire Emissions Database (GFED)			
Burned Areas from GFED (large fires only)	gfed_ba	hectares (ha)	MPI
Valid mask of GFED burned areas	gfed_ba_valid_mask	0-1	NOA
GFED basis regions	gfed_region	N	NOA
Dataset: Global Wildfire Information System (GWIS)			
Burned Areas from GWIS	gwis_ba	ha	NOA
Valid mask of GWIS burned areas	gwis_ba_valid_mask	0-1	NOA
Dataset: NOAA Climate Indices			
Western Pacific Index	oci_wp	unitless	NOA
Pacific North American Index	oci_pna	unitless	NOA

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North Atlantic Oscillation	oci_nao	unitless	NOA
Southern Oscillation Index	oci_soi	unitless	NOA
Global Mean Land/Ocean Temperature	oci_gmsst	unitless	NOA
Pacific Decadal Oscillation	oci_pdo	unitless	NOA
Eastern Asia/Western Russia	oci_ea	unitless	NOA
East Pacific/North Pacific Oscillation	oci_epo	unitless	NOA
Nino 3.4 Anomaly	oci_nino_34_anom	unitless	NOA
Bivariate ENSO Timeseries	oci_censo	unitless	NOA
Artic Oscillation	oci_ao	unitless	NOA
Dataset: ESA CCI			
Land Cover Class 0 - No data	lccs_class_0	%	NOA
Land Cover Class 1 - Agriculture	lccs_class_1	%	NOA
Land Cover Class 2 - Forest	lccs_class_2	%	NOA
Land Cover Class 3 - Grassland	lccs_class_3	%	NOA
Land Cover Class 4 - Wetlands	lccs_class_4	%	NOA
Land Cover Class 5 - Settlement	lccs_class_5	%	NOA
Land Cover Class 6 - Shrubland	lccs_class_6	%	NOA
Land Cover Class 7 - Sparse vegetation, bare areas, permanent snow and ice	lccs_class_7	%	NOA
Land Cover Class 8 - Water Bodies	lccs_class_8	%	NOA
Dataset: Calculated			
Grid Area in square meters	area	m ²	NOA
Others			
Biomes	biome	N	NOA