



# MySQL Project

**California Wildfire Damage**





# California Wildfire Damage

I chose this topic because California Wildfire Damage dataset for an SQL project is highly beneficial due to its relevance and depth. Wildfires in California have profound environmental, economic, and social impacts, making this dataset a valuable source for analysis. It includes detailed information on damages, which allows for a comprehensive exploration of patterns and trends. This real-world dataset provides an opportunity to apply SQL skills to significant issues, facilitating practical learning in data cleaning, transformation, and visualization. Additionally, the analysis can yield insights useful for disaster management and policy-making, contributing to public awareness and preparedness. Working on this topic can also demonstrate your ability to handle complex datasets and derive meaningful conclusions, making it a strong addition to your portfolio.





# Three levels of Queries



01

Easy

02

Moderate

03

Difficult








# 1. List wildfires that occurred in sonoma country

select \* from california wildfires damage where location = 'Sonoma Country'





Incident_ID	Date	Location	Area_Burned (Acres)	Homes_Destroyed	Businesses_Destroyed	Vehicles_Damaged	Injuries	Fatalities
INC1000	2020-11-22	Sonoma County	14048	763	474	235	70	19
INC1001	2021-09-23	Sonoma County	33667	1633	4	263	100	2
INC1003	2021-05-17	Sonoma County	20004	1220	128	34	28	0
INC1004	2021-09-22	Sonoma County	40320	794	469	147	0	15
INC1008	2023-12-08	Sonoma County	20418	299	264	208	33	4
INC1012	2020-02-08	Sonoma County	9544	382	244	24	32	19
INC1017	2014-04-16	Sonoma County	25094	1014	288	269	30	12
INC1033	2018-10-06	Sonoma County	16772	1736	371	122	16	4
INC1044	2021-05-25	Sonoma County	17272	504	381	297	27	13
INC1045	2014-05-13	Sonoma County	21703	735	279	294	3	1






2. retrieve incident id and  
date where the cause of damage was  
lightening

Result Grid |   Filter Rows

incident_id	date
INC1035	2023-10-27
INC1036	2015-09-05
INC1037	2014-11-10
INC1038	2014-03-16
INC1039	2018-12-29
INC1041	2017-07-05
INC1044	2021-05-25
INC1050	2022-06-25



select incident\_id, date,  
from california wildfire damage  
where cause='Lightning'





### 3. List the location & area burned for each wildfire

**select Location ,Area\_burned(acres)'  
from california wildfire damage**

	location	area_burned(Acres)
▶	Sonoma County	area_burned(Acres)
	Sonoma County	area_burned(Acres)
	Shasta County	area_burned(Acres)
	Sonoma County	area_burned(Acres)
	Sonoma County	area_burned(Acres)
	Butte County	area_burned(Acres)
	San Diego County	area_burned(Acres)
	Napa Valley	area_burned(Acres)
	Sonoma County	area_burned(Acres)
	Butte County	area_burned(Acres)
	Riverside County	area_burned(Acres)
	Santa Barbara C...	area_burned(Acres)
	Sonoma County	area_burned(Acres)
	San Diego County	area_burned(Acres)
	Monterey County	area_burned(Acres)





4.Find the wildfire  
with Incident\_id ‘INC1088’

Select \* from  
California Wildfire Damage  
wher Incident\_id  
= ‘INC1088’

Result Grid										
Filter Rows:										
Export:   Wrap Cell Content:										
	Incident_ID	Date	Location	Area_Burned (Acres)	Homes_Destroyed	Businesses_Destroyed	Vehicles_Damaged	Injuries	Fatalities	Esti (Mil
▶	INC1088	2023-08-22	Orange County	44484	1093	438	51	16	12	1096





## 5. Count the total number of wildfires in the dataset



Select count(\*) As  
TotalWildFires  
from California  
Wildfire Damage

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	TotalWildFires			
▶	100			



## 6. Find the earliest wildfire date

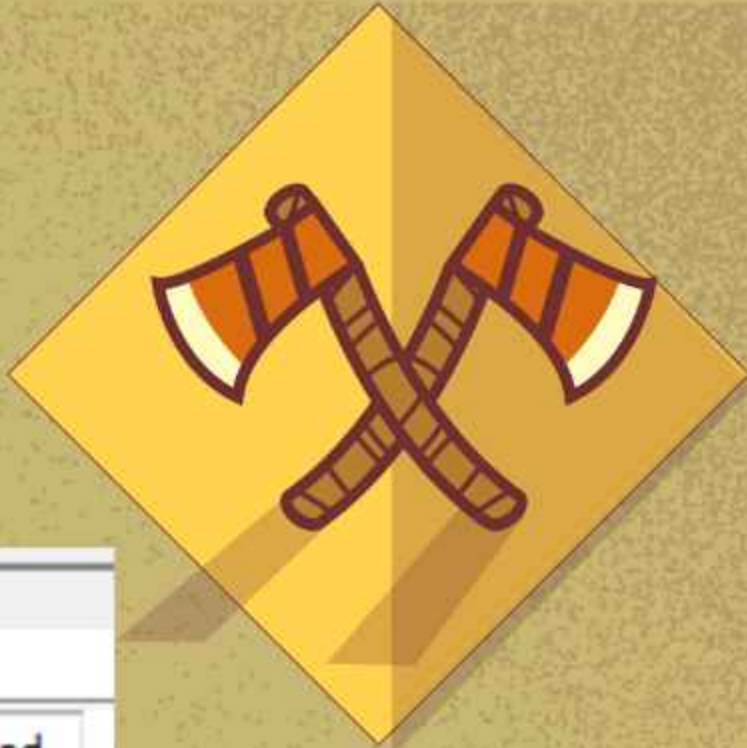
Select Min(Date) AS  
EarliestWildfireDate from California  
Wildfir Damage



Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	EarliestWildFireDate			
▶	2014-02-03			



7.Retrieve the location & Homes destroyed for wildfires with more than 500 homes destroyed







Select Location, homes destroyed from california Wildfire Damage Where homes destryoed > 500;

Result Grid			Filter Rows:
	location	homes_destroyed	
▶	Sonoma County	763	
	Sonoma County	1633	
	Shasta County	915	
	Sonoma County	1220	
	Sonoma County	794	
	San Diego County	1404	
	Riverside County	623	
	Santa Barbara County	1739	
	San Diego County	505	
	Napa Valley	1161	
	Riverside County	1766	
	Sonoma County	1014	
	Mendocino County	1212	
	Mendocino County	1812	
	Riverside County	1066	
	Butte County	1760	
	Riverside County	1296	
	Butte County	1819	
	Los Angeles County	1966	
	Shasta County	1285	



## 8. List the unique locations of Wildfire



Result Grid |   Filter Rows

	location
▶	Sonoma County
	Shasta County
	Butte County
	San Diego County
	Napa Valley
	Riverside County
	Santa Barbara County
	Los Angeles County
	Mendocino County
	Orange County

Select distinct Location  
from California Wildfire  
Damage



9. Find the total number of homes destroyed by all wildfires



Select `sum(Homes destroyed)` as `TotalHomesDestroyed` from `California Wildfire damage`

Result Grid		Filter Rows:
	TotalHomesDestroyed	
▶	94189	



# 10.List wildfires sorted by Area\_burned

in descending order

Select \* from California  
Wildfire Damage order by  
'Area\_burned(Acres)') desc

	Incident_ID	Date	Location	Area_Burned (Acres)	Homes_Destroyed	Businesses_Destroyed	Vehides_Damaged	Injuries
•	INC1000	2020-11-22	Sonoma County	14048	763	474	235	70
	INC1001	2021-09-23	Sonoma County	33667	1633	4	263	100
	INC1002	2022-02-10	Shasta County	26394	915	291	31	50
	INC1003	2021-05-17	Sonoma County	20004	1220	128	34	28
	INC1004	2021-09-22	Sonoma County	40320	794	469	147	0
	INC1005	2023-05-17	Butte County	48348	60	205	21	58
	INC1006	2018-04-29	San Diego County	16038	1404	137	64	13
	INC1007	2015-08-23	Napa Valley	24519	121	28	125	0
	INC1008	2023-12-08	Sonoma County	20418	299	264	208	33
	INC1009	2018-12-01	Butte County	21351	275	196	153	41
	INC1010	2018-10-30	Riverside County	34157	623	41	143	58
	INC1011	2021-09-30	Santa Barbara C...	20800	1739	183	78	12
	INC1012	2020-02-08	Sonoma County	9544	382	244	24	32
	INC1013	2016-06-27	San Diego County	14737	505	434	247	16
	INC1014	2016-03-22	Napa Valley	17421	1161	319	300	97
	INC1015	2022-06-08	Los Angeles County	3668	142	493	32	26
	INC1016	2018-02-22	Riverside County	13416	1766	441	223	13
	INC1017	2014-04-16	Sonoma County	25094	1014	288	269	30



# 11.List wildfires that occurred in 2023



Select \* from California  
Wildfire Damage where  
year='2023';

Result Grid    Filter Rows:   Export:    Wrap Cell Content:							
	Incident_ID	Date	Location	Area_Burned (Acres)	Homes_Destroyed	Businesses_Destroyed	Vehicles_Damaged
▶	INC1005	2023-05-17	Butte County	48348	60	205	21
	INC1008	2023-12-08	Sonoma County	20418	299	264	208
	INC1027	2023-08-01	Riverside County	44280	1296	158	173
	INC1035	2023-10-27	Shasta County	39532	1021	359	120
	INC1052	2023-05-30	San Diego County	23777	18	222	190
	INC1062	2023-02-24	Sonoma County	24600	1598	406	98
	INC1078	2023-02-08	Napa Valley	45821	763	371	145
	INC1079	2023-08-23	Santa Barbara County	41584	1609	12	212
	INC1081	2023-11-14	Napa Valley	40299	731	151	42
	INC1087	2023-06-18	Santa Barbara County	18789	1883	281	220
	INC1088	2023-08-22	Orange County	44484	1093	438	51





## 12. Find the wildfire with most homes destroyed



Select \* from California Wildfire  
Damage order by  
homes\_destroyed desc  
limit 1

	Incident_ID	Date	Location	Area_Burned (Acres)	Homes_Destroyed	Businesses_Destroyed	Vehicles_Damaged
▶	INC1005	2023-05-17	Butte County	48348	60	205	21
	INC1008	2023-12-08	Sonoma County	20418	299	264	208
	INC1027	2023-08-01	Riverside County	44280	1296	158	173
	INC1035	2023-10-27	Shasta County	39532	1021	359	120
	INC1052	2023-05-30	San Diego County	23777	18	222	190
	INC1062	2023-02-24	Sonoma County	24600	1598	406	98
	INC1078	2023-02-08	Napa Valley	45821	763	371	145
	INC1079	2023-08-23	Santa Barbara County	41584	1609	12	212
	INC1081	2023-11-14	Napa Valley	40299	731	151	42
	INC1087	2023-06-18	Santa Barbara County	18789	1883	281	220
	INC1088	2023-08-22	Orange County	44484	1093	438	51





# 13. Calculate the total number of businesses destroyed by wildfires in Mendocino county

Select `*sum(businesses_destroyed)` as  
TotalBusinessDestroyed  
from California Wildfire Damage  
where Location = "Mendocino county"

Result Grid		Filter Rows:
	TotalBusinessesDestroyed	
▶	2450	











# 14. List the top 3 wildfires with the largest Area\_burned

## Select \* from California Wildfire Damage order b Area\_burned desc limit 5



Result Grid    Filter Rows: <input type="text"/>   Export:    Wrap Cell Content:    Fetch rows: 									
	Incident_ID	Date	Location	Area_Burned (Acres)	Homes_Destroyed	Businesses_Destroyed	Vehicles_Damaged	Injuries	Fatalities
▶	INC1000	2020-11-22	Sonoma County	14048	763	474	235	70	19
	INC1001	2021-09-23	Sonoma County	33667	1633	4	263	100	2
	INC1002	2022-02-10	Shasta County	26394	915	291	31	50	6





# 15. Find the wildfire with the fewest vehicles damaged

Select \* from California Wildfire Damage order by vehicle damaged asc limit 1



Result Grid     Filter Rows: <input type="text"/>   Export:    Wrap Cell Content:    Fetch rows:						
Incident_ID	Date	Location	Area_Burned (Acres)	Homes_Destroyed	Businesses_Destroyed	Vehicles_Damaged
INC1000	2020-11-22	Sonoma County	14048	763	474	235
INC1001	2021-09-23	Sonoma County	33667	1633	4	263
INC1002	2022-02-10	Shasta County	26394	915	291	31
INC1003	2021-05-17	Sonoma County	20004	1220	128	34
INC1004	2021-09-22	Sonoma County	40320	794	469	147



16. Calculate a running total of homes destroyed for each wildfire, ordered by date



Select date, Homesdestroyed,  
sum(homes destroyed)  
OVER (order by date)as  
RunningTotalHomesDestroyed  
from California Wildfire  
Damage

Result Grid    Filter Rows:   Export:    Wrap Cell Content:    Fetch rows:										
	Incident_ID	Date	Location	Area_Burned (Acres)	Homes_Destroyed	Businesses_Destroyed	Vehicles_Damaged	Injuries	Fatalities	
▶	INC1000	2020-11-22	Sonoma County	14048	763	474	235	70	19	2
	INC1001	2021-09-23	Sonoma County	33667	1633	4	263	100	2	1
	INC1002	2022-02-10	Shasta County	26394	915	291	31	50	6	2
	INC1003	2021-05-17	Sonoma County	20004	1220	128	34	28	0	3
	INC1004	2021-09-22	Sonoma County	40320	794	469	147	0	15	1





17. Find the wildfires that had the highest % of homes destroyed compared to the total number of structures destroyed (homes+businesses

```
select* from
California Wildfire Damage
order by (cast(homes destroyed as
Real)/(homes destroyed + businesses
destroyed)) Desc
Limit 1
```

Result Grid       Filter Rows: <input type="text"/>   Export:    Wrap Cell Content:						
	Incident_ID	Date	Location	Area_Burned (Acres)	Homes_Destroyed	Businesses_Destroyed
▶	INC1001	2021-09-23	Sonoma County	33667	1633	4



**18. List the wildfires where the number of businesses destroyed is greater than 50% of the number of homes destroyed**



**Select \* from California Wldfire Damage  
where businesses destroyed > 0.5\*  
homs destroyed**

	Incident_ID	Date	Location	Area_Burned (Acres)	Homes_Destroyed	Businesses_Destroyed	Vehicles_Damaged	Injuries	Fatalities
►	INC1000	2020-11-22	Sonoma County	14048	763	474	235	70	19
	INC1004	2021-09-22	Sonoma County	40320	794	469	147	0	15
	INC1005	2023-05-17	Butte County	48348	60	205	21	58	2
	INC1008	2023-12-08	Sonoma County	20418	299	264	208	33	4
	INC1009	2018-12-01	Butte County	21351	275	196	153	41	2
	INC1012	2020-02-08	Sonoma County	9544	382	244	24	32	19
	INC1013	2016-06-27	San Diego County	14737	505	434	247	16	8
	INC1015	2022-06-08	Los Angeles County	3668	142	493	32	26	19
	INC1022	2022-09-30	San Diego County	16346	429	279	228	88	12
	INC1025	2016-12-14	Shasta County	30226	477	427	131	42	17
	INC1029	2015-10-18	San Diego County	39768	65	75	211	7	14
	INC1034	2015-02-20	Riverside County	49008	665	399	238	37	3
	INC1043	2015-05-22	Los Angeles County	44006	189	113	38	35	5
	INC1044	2021-05-25	Sonoma County	17272	504	381	297	27	13
	INC1046	2021-08-27	Butte County	1409	345	263	275	75	4





THANKS!



Do you have any questions?

feelfree to ask