

Analysis of oil

2019-03-25

Data Prep

1. Dropped records with missing oil values at t1 and t2. Call the resulting data set `df`.
2. Separated `df` into two subsets:
 - `df_tiny`: oil < 1000 at t1 or t2.
 - `df_main`: oil >= 1000 at t1 and t2
3. Created long-format version:
 - `df_long`: long-format version of the full set `df`
 - `df_tiny_long`: long-format version of the subset `df_tiny`
 - `df_main_long`: long-format version of the subset `df_main`

Analyze the full set `df_tiny`

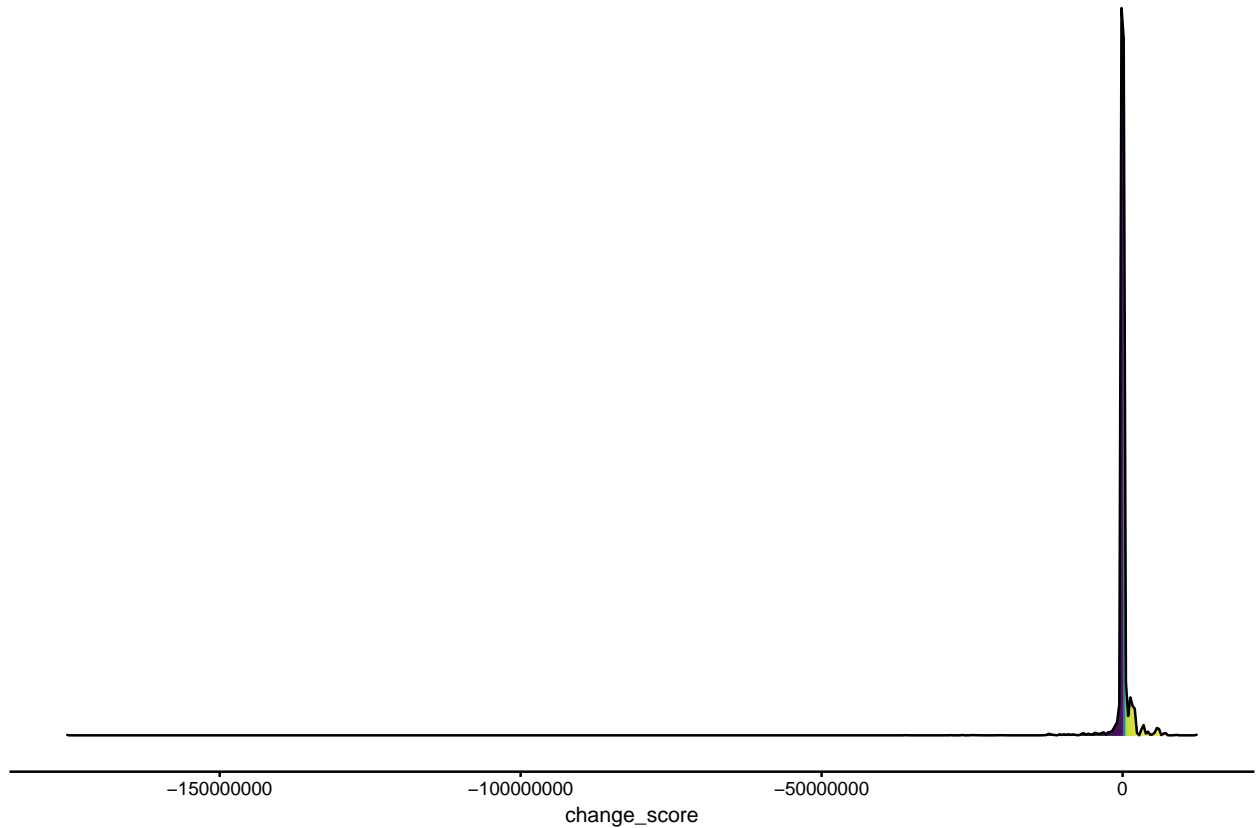
Table 1: Sample Summary Statistics of oil

time	n_tribes	n	mean	SEM
t1	179	49914	213568.6	11916.596
t2	179	49914	255272.3	3989.429

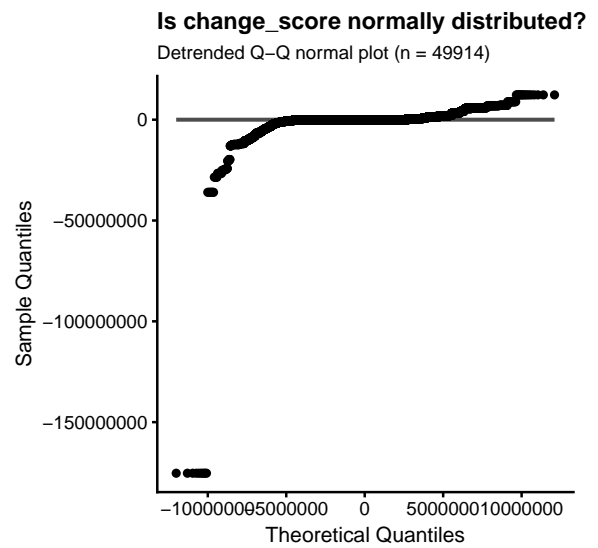
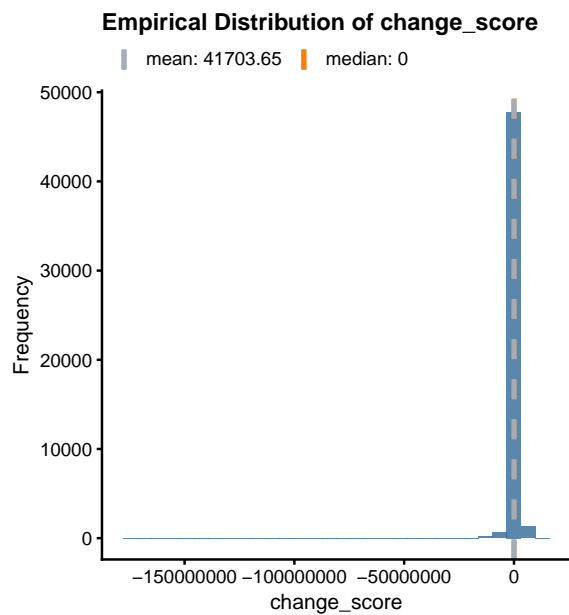
Q1. Is there a difference between t1 and t2?

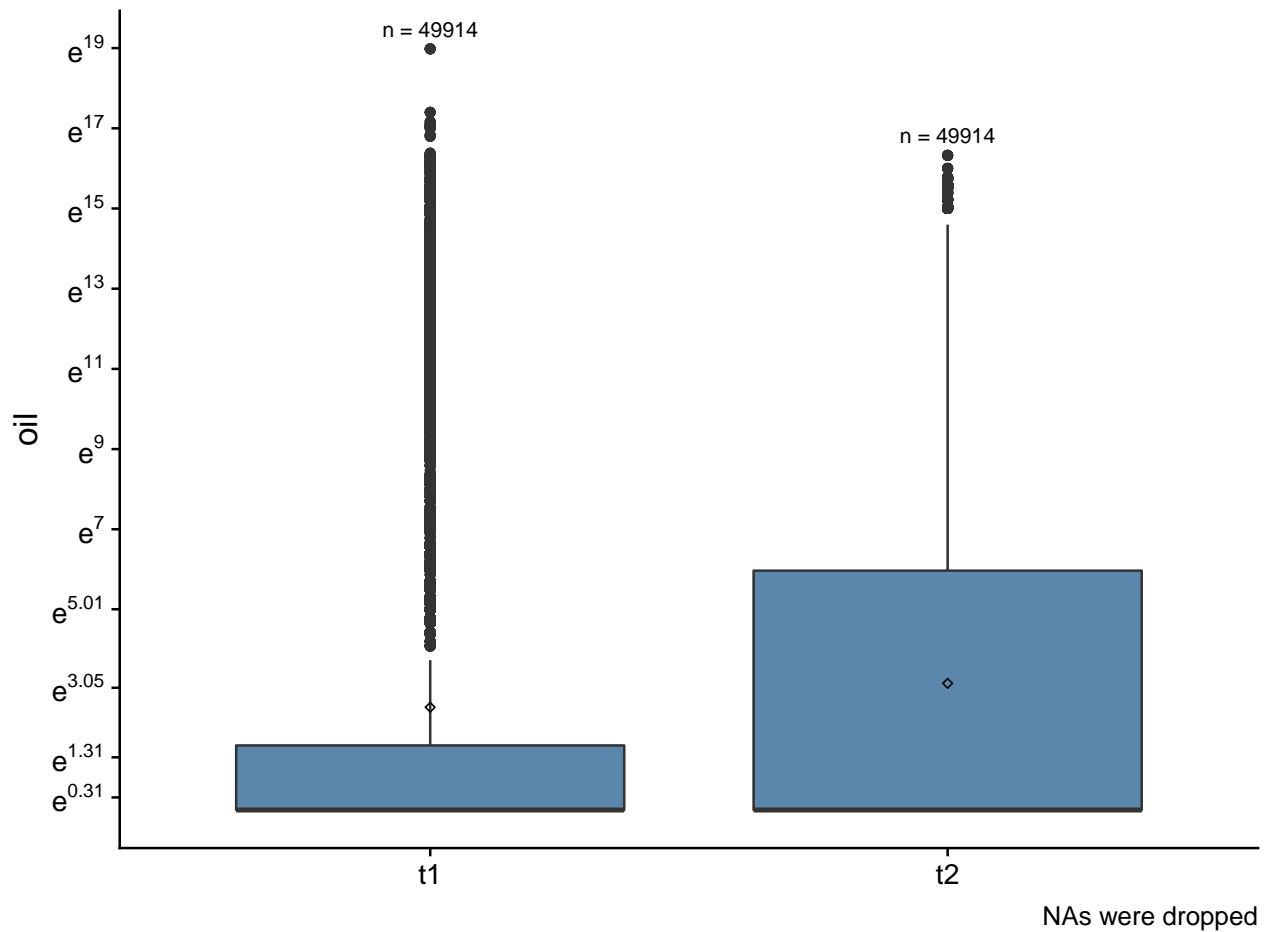
Descriptive Analysis

oil



NAs were dropped





Statistical Analysis

1-way Repeated Measure ANOVA Output:

Error: tribe

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Residuals	178	14925793296631376	83852771329390		

Error: tribe:time

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
time	1	43405073008370	43405073008370	0.542	0.463
Residuals	178	14266730602669750	80150171925111		

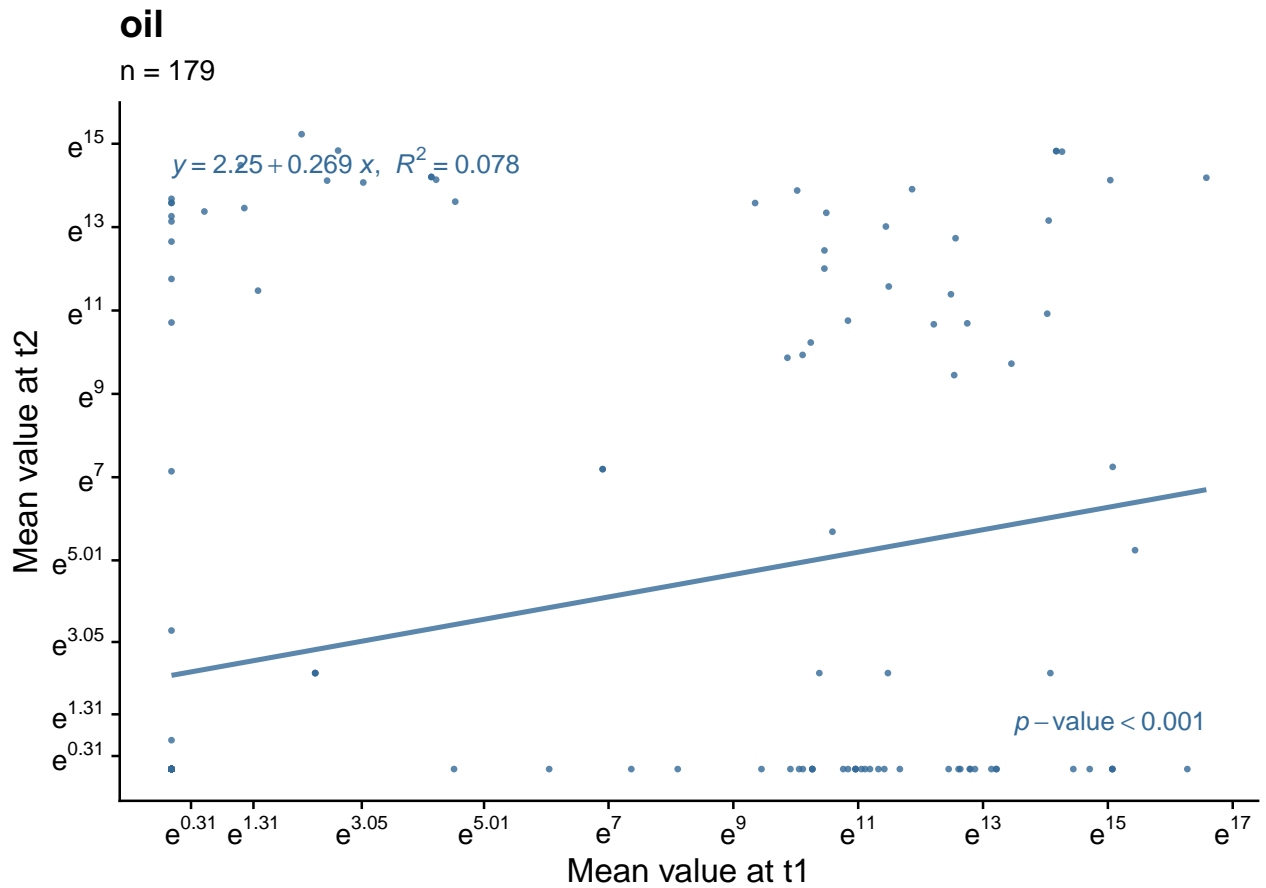
Error: Within

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Residuals	99470	364244627779095808	3661854104545		

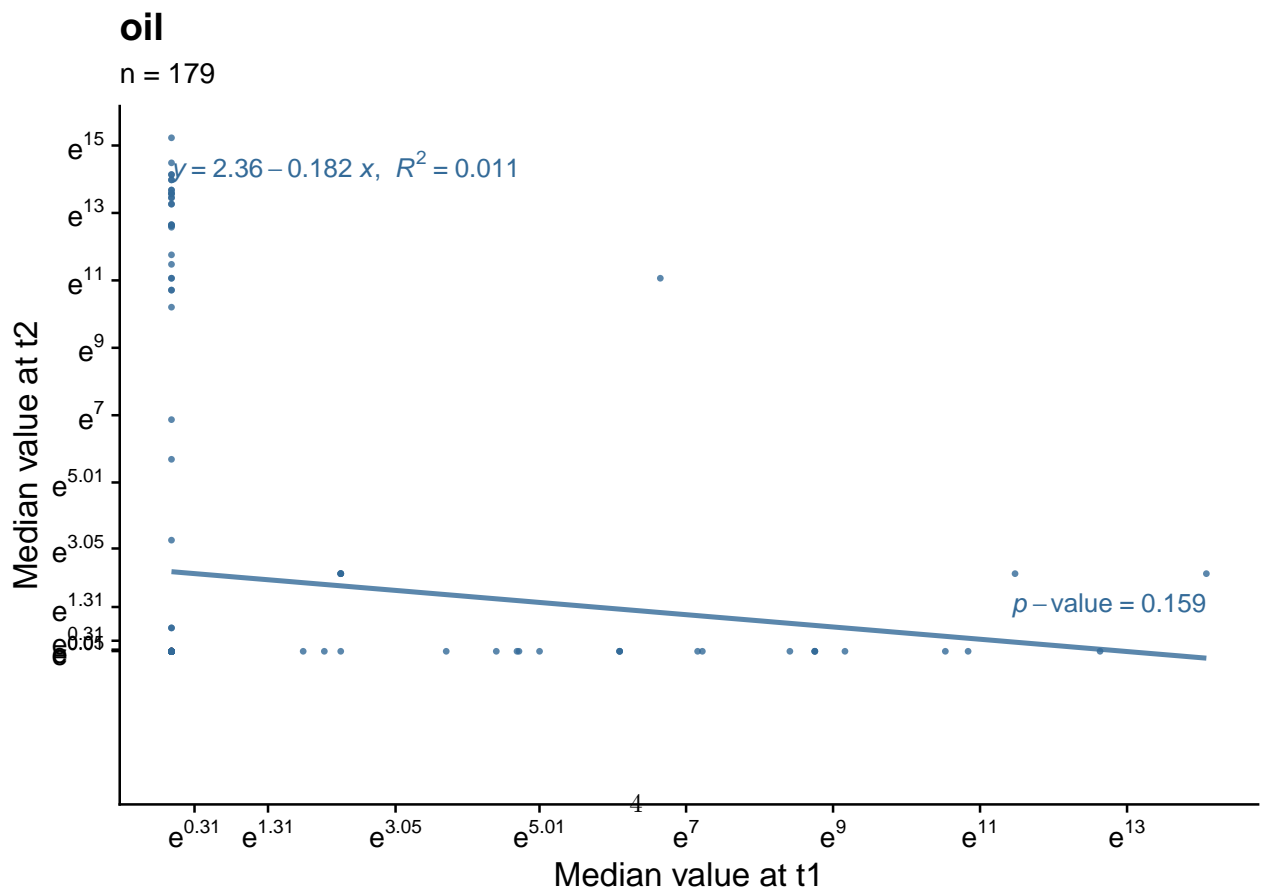
Linear Mixed Model Output:

	numDF	denDF	F-value	p-value
(Intercept)	1	99648	21.12690	<.0001
time	1	99648	11.42906	0.0007

Q2. How are t1 and t2 related?



Each dot is a tribe



Each dot is a tribe