Arbeidskrav i MSB205

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Warning: package 'huxtable' was built under R version 4.2.2

Oppgave 1

Oppgave 2; House Sales in King County

Koordinatene til Seattle hentet fra Wikipedia: 47°36'35 N
 122°1955 V I desimaler: 47.609722, -122.333056

```
cbd <- st_sfc(st_point(c(-122.333056, 47.609722)), crs = 4326) %>%
    st_transform(2926)

kc_house_data_sf <- kc_house_data_sf %>%
    mutate(
    dist_cbd = st_distance(cbd, ., by_element= TRUE),
    dist_cbd_km = set_units(dist_cbd, km)
)
```

Oppgave 3 WADOH Environmental Health Disparities Index County

```
kc_wadoh_map <- here("Kart/WADOH_Environmental_Health_Disparities_Index_Calculated_for_Kin
    st_read() %>%
    st_transform(2926)
Reading layer `WADOH_Environmental_Health_Disparities_Index_Calculated_for_King_County___wade
  using driver `ESRI Shapefile'
Simple feature collection with 398 features and 192 fields
Geometry type: MULTIPOLYGON
Dimension:
               XY
Bounding box: xmin: -122.528 ymin: 47.08446 xmax: -121.0657 ymax: 47.78058
Geodetic CRS: WGS 84
  #Dersom jeg bruker .shp får jeg opp feilmelding om at filen ikke finnes i mappen.
  kc_wadoh_map <- kc_wadoh_map %>%
  select(
  GEO_ID_TRT,
  EHD percen, #Environmental Health Index, weighted score many vars
  linguist_2, #Pop. age 5+ speaking English less than "very well"
  poverty_pe,#Percentage people living in poverty
  POC_percen, #People of Color in percentage of pop. in tract
  transporta, #% of income spent on transportation median family in tract
  unemploy_2, #percentage unemployed
  housing_pe, #% of households in group "Unaffordable Housing" (>30% inc.)
  traffic_pe, #% of pop. near heavy traffic roadways
  diesel, # nox consentration
  ozone, # ozone consentration
  PM25, # consentration of Particulate Matter in air
  toxic rele, # Toxic release from factories
  hazardous_, # Hazardous Waste Treatment Storage and disposal Facilities
  lead_perce, # measure of Lead paint in houses
  superfund, # Proximity to contaminated sites on national list
  facilities, # Proximity to Risk Management Plan Facilities
  wastewater, # Proximity to wastewater facilities
  sen_pop_pe, # % pop. over 65
  socio_perc # score social economic determants, low best
```

```
acs_b19101_fam_inc <- read.dbf("../censusSHP/acs_b19101_familyincome.dbf")
  acs_b19101_fam_inc <- acs_b19101_fam_inc \%
    mutate(low = (E19101138 + E19101139 + E19101140 + E19101141 + E19101142 + E19101143)/E19
    mutate(mid = (E19101144 + E19101145 + E19101146 + E19101147 + E19101148 + E19101149)/E19
    mutate(high = (E19101150 + E19101151 + E19101152 + E19101153)/E19101137)
  acs_b19101_fam_inc <- acs_b19101_fam_inc %>%
    select(GEOIDTRT, low, mid, high) %>%
    rename(GEO_ID_TRT = GEOIDTRT)
  kc_wadoh map_2 <- left_join(acs_b19101 fam_inc, st_drop_geometry(kc_wadoh map), by = "GEO_
  kc_tracts10 <- here("../censusSHP/tracts10.shp") %>% st_read() %>%
    st_transform(2926)
Reading layer `tracts10' from data source
  `C:\Users\thibi\Documents\censusSHP\tracts10.shp' using driver `ESRI Shapefile'
Simple feature collection with 398 features and 22 fields
Geometry type: POLYGON
Dimension:
               XY
Bounding box: xmin: 1217085 ymin: 31406.52 xmax: 1583210 ymax: 287947.2
Projected CRS: NAD83(HARN) / Washington North (ftUS)
  kc_tracts10_shore <- here("../censusSHP/tracts10_shore.shp") %>% st_read() %>%
    st_transform(2926)
Reading layer `tracts10_shore' from data source
  `C:\Users\thibi\Documents\censusSHP\tracts10_shore.shp' using driver `ESRI Shapefile'
Simple feature collection with 398 features and 22 fields
Geometry type: MULTIPOLYGON
Dimension:
               XY
Bounding box: xmin: 1220306 ymin: 31406.52 xmax: 1583210 ymax: 287675.5
Projected CRS: NAD83(HARN) / Washington North (ftUS)
  kc_tracts10_env_data <- left_join(</pre>
    kc_tracts10, kc_wadoh_map_2,
```

```
kc_tracts10_shore_env_data <- left_join(kc_tracts10_shore, kc_wadoh_map_2, by= "GEO_ID_TRT
 summary(kc_tracts10)
 GEO_ID_TRT
                     FEATURE_ID
                                    TRACT_LBL
                                                       TRACT_STR
Length:398
                          :10153
                                   Length:398
                                                       Length:398
                   Min.
                                                       Class : character
Class :character
                   1st Qu.:25818
                                   Class :character
                   Median :44344
                                                       Mode :character
Mode :character
                                   Mode :character
                   Mean
                          :36731
                   3rd Qu.:45226
                          :45837
                   Max.
  TRACT_INT
                   TRACT_FLT
                                    TRACT_DEL
                                                        TRTLABEL_F
                       :
                                   Length:398
                                                       Length:398
Min. :
           100
                 Min.
                            1.00
1st Qu.: 9625
                 1st Qu.: 96.25
                                   Class : character
                                                       Class : character
                 Median : 241.50
Median : 24150
                                   Mode :character
                                                       Mode :character
Mean
      : 23022
                 Mean
                        : 230.22
3rd Qu.: 30077
                 3rd Qu.: 300.76
       :990100
                 Max.
                        :9901.00
 TRTLABEL_C
                    TRTLABEL_T
                                       COUNTY_STR
                                                            COUNTY_INT
Length:398
                   Length:398
                                      Length:398
                                                          Min.
                                                                 :33
Class : character
                   Class : character
                                      Class : character
                                                          1st Qu.:33
Mode :character
                   Mode :character
                                                          Median:33
                                      Mode :character
                                                          Mean
                                                                 :33
                                                          3rd Qu.:33
                                                          Max.
                                                                 :33
 STATE_STR
                     STATE_INT
                                  LEVEL_1
                                                     LEVEL_2
Length:398
                          :53
                                Length:398
                                                   Length:398
                   Min.
Class : character
                   1st Qu.:53
                                Class : character
                                                    Class : character
Mode :character
                   Median:53
                                Mode :character
                                                   Mode :character
                   Mean
                          :53
                   3rd Qu.:53
                          :53
  LEVEL_3
                     TRACT AREA
                                         TRACT_PERI
                                                           LOGRECNO
Length:398
                   Min.
                          :2.466e+06
                                       Min.
                                               : 7060
                                                         Length:398
Class : character
                                       1st Qu.: 20586
                   1st Qu.:1.933e+07
                                                         Class : character
Mode :character
                   Median :3.362e+07
                                       Median : 29573
                                                         Mode :character
                          :1.616e+08
                                       Mean : 44019
                   Mean
                                       3rd Qu.: 43667
```

by = "GEO_ID_TRT"

3rd Qu.:5.601e+07

```
Max.
                         :1.526e+10 Max.
                                               :738820
   Shape_area
                      Shape_len
                                               geometry
        :2.466e+06
                   Min. : 7060
                                     POLYGON
                                                   :398
 Min.
 1st Qu.:1.933e+07
                   1st Qu.: 20586
                                                   : 0
                                     epsg:2926
 Median :3.362e+07 Median : 29573
                                     +proj=lcc ...: 0
 Mean :1.616e+08
                          : 44019
                   Mean
 3rd Qu.:5.601e+07 3rd Qu.: 43667
 Max.
       :1.526e+10
                   Max.
                           :738820
  kc_house_env_var <- st_join(kc_house_data_sf, kc_tracts10_env_data)
  kc_tracts10_shore_env_var <- st_join(kc_house_data_sf, kc_tracts10_shore_env_data)
Oppgave 4 "Spatial join"
  st write(kc house data, "Kart/kc house data.gpkg", append = FALSE)
Deleting layer `kc_house_data' using driver `GPKG'
Writing layer 'kc house data' to data source
  `Kart/kc_house_data.gpkg' using driver `GPKG'
Writing 21436 features with 21 fields without geometries.
  st_write(kc_tracts10, "Kart/kc_tracts10.gpkg", append = FALSE)
Deleting layer `kc_tracts10' using driver `GPKG'
Writing layer `kc_tracts10' to data source `Kart/kc_tracts10.gpkg' using driver `GPKG'
Writing 398 features with 22 fields and geometry type Polygon.
  st_write(kc_tracts10_shore, "Kart/kc_tracts10_shore.gpkg", append = FALSE)
Deleting layer `kc_tracts10_shore' using driver `GPKG'
Writing layer `kc_tracts10_shore' to data source
  `Kart/kc_tracts10_shore.gpkg' using driver `GPKG'
Writing 398 features with 22 fields and geometry type Multi Polygon.
```

Deleting layer `kc_house_env_var' using driver `GPKG'
Writing layer `kc_house_env_var' to data source
 `Kart/kc_house_env_var.gpkg' using driver `GPKG'
Writing 21436 features with 65 fields and geometry type Point.

```
st_write(kc_tracts10_shore_env_var, "Kart/kc_tracts10_shore_env_var.gpkg", append = FALSE)
```

Deleting layer `kc_tracts10_shore_env_var' using driver `GPKG' Writing layer `kc_tracts10_shore_env_var' to data source `Kart/kc_tracts10_shore_env_var.gpkg' using driver `GPKG' Writing 21436 features with 65 fields and geometry type Point.

summary(kc_tracts10_env_data)

GEO_ID_TRT	FEATURE_ID	TRACT_LBL	TRACT_STR
Length:398	Min. :10153	Length:398	Length:398
Class :character	1st Qu.:25818	Class :character	Class :character
Mode :character	Median :44344	Mode :character	Mode :character
	Mean :36731		
	3rd Qu.:45226		
	Max. :45837		
TRACT_INT	TRACT_FLT	TRACT_DEL	TRTLABEL_F
Min. : 100	Min. : 1.00	Length:398	Length:398
1st Qu.: 9625	1st Qu.: 96.25	Class :character	-
Median : 24150	Median : 241.50	Mode :character	Mode :character
Mean : 23022	Mean : 230.22		
3rd Qu.: 30077	3rd Qu.: 300.76		
Max. :990100	Max. :9901.00		
TRTLABEL_C	TRTLABEL_T	COUNTY_STR	COUNTY_INT
		Length:398	
Class :character	Class :characte	r Class :characte	r 1st Qu.:33
		r Mode :characte	
			Mean :33
			3rd Qu.:33
			Max. :33
STATE_STR	STATE_INT	LEVEL 1	LEVEL_2
Length:398	_	_	ngth:398
•		•	•

Class : character 1st Qu.:53 Class : character Class : character Mode :character Median:53 Mode :character Mode :character Mean :53 3rd Qu.:53 Max. :53 LEVEL 3 TRACT AREA TRACT PERI LOGRECNO Length:398 Min. :2.466e+06 Min. : 7060 Length:398 Class : character 1st Qu.: 20586 1st Qu.:1.933e+07 Class : character Median : 29573 Mode :character Median :3.362e+07 Mode : character : 44019 :1.616e+08 Mean Mean 3rd Qu.:5.601e+07 3rd Qu.: 43667 Max. :1.526e+10 :738820 Max. Shape_area Shape_len low mid :2.466e+06 :0.009298 :0.0000 Min. Min. : 7060 Min. Min. 1st Qu.:1.933e+07 1st Qu.: 20586 1st Qu.:0.053302 1st Qu.:0.2391 Median :0.092424 Median :3.362e+07 Median : 29573 Median :0.3339 Mean :1.616e+08 Mean : 44019 Mean :0.125013 Mean :0.3327 3rd Qu.:5.601e+07 3rd Qu.: 43667 3rd Qu.:0.166534 3rd Qu.:0.4261 Max. :1.526e+10 Max. :738820 Max. :1.000000 Max. :0.6790 NA's NA's :1 :1 high EHD_percen linguist_2 poverty_pe Min. :0.0000 : 0.45 Min. : 1.00 Min. Min. : 1.97 1st Qu.:0.4006 1st Qu.: 25.00 1st Qu.: 3.88 1st Qu.:10.53 Median :0.5637 Median : 50.00 Median : 8.72 Median :16.75 Mean :0.5423 Mean : 50.38 Mean :10.62 Mean :20.42 3rd Qu.: 75.00 3rd Qu.:0.6955 3rd Qu.:15.38 3rd Qu.:27.48 :0.8816 :100.00 :46.76 :75.48 Max. Max. Max. Max. NA's :1 NA's :1 NA's :5 NA's :1 POC_percen transporta unemploy_2 housing_pe Min. : 7.54 :10.00 Min. : 1.000 :15.14 Min. Min. 1st Qu.:23.36 1st Qu.:18.00 1st Qu.: 3.350 1st Qu.:27.34 Median :36.29 Median :19.00 Median : 4.480 Median :32.26 Mean :38.64 Mean :18.97 Mean : 5.099 Mean :33.75 3rd Qu.:51.01 3rd Qu.:21.00 3rd Qu.: 6.460 3rd Qu.:39.13 Max. :92.70 Max. :26.00 Max. :24.400 Max. :81.89 NA's :1 NA's NA's :3 NA's :1 : 1 PM25 traffic_pe diesel ozone Min. : 0.00 Min. : 0.14 Min. :46.73 Min. :3.787 1st Qu.: 0.00 1st Qu.: 6.65 1st Qu.:48.91 1st Qu.:5.642 Median: 3.60 Median :12.65 Median :49.78 Median :6.180

:50.62

Mean

:6.186

Mean

:17.10

Mean

Mean

:16.07

3rd Qu.:26.17 3rd Qu.:18.99 3rd Qu.:51.28 3rd Qu.:6.872 :92.63 :62.89 :7.897 Max. :97.75 Max. Max. Max. NA's :1 NA's :1 NA's :1 NA's :1 toxic rele hazardous lead_perce superfund :0.02303 Min. : 0.24 Min. : 823.9 Min. Min. :0.03454 1st Qu.: 5180.9 1st Qu.:0.04168 1st Qu.: 6.46 1st Qu.:0.07358 Median: 10186.5 Median :0.05160 Median :13.79 Median : 0.13133 Mean : 19398.3 Mean :0.08190 Mean :17.08 Mean :0.24645 3rd Qu.: 20058.1 3rd Qu.:0.09280 3rd Qu.:26.20 3rd Qu.:0.28436 Max. :186434.6 Max. :0.63781 Max. :54.68 Max. :1.46778 NA's NA's :1 NA's NA's :1 :1 :1 facilities wastewater sen_pop_pe socio_perc Min. : 1.00 Min. :0.0523 :0.00e+00 : 1.00 Min. Min. 1st Qu.:0.1612 1st Qu.:5.50e-06 1st Qu.: 25.00 1st Qu.: 25.00 Median : 50.00 Median : 50.00 Median :0.3652 Median :5.30e-04 Mean :0.6046 Mean :2.62e-02 Mean : 50.38 Mean : 50.38 3rd Qu.:0.9119 3rd Qu.:8.70e-03 3rd Qu.: 75.00 3rd Qu.: 75.00 Max. :3.3682 Max. :6.40e-01 Max. :100.00 Max. :100.00 NA's :1 NA's :1 NA's :1 NA's :1 geometry

POLYGON :398 epsg:2926 : 0

+proj=lcc ...: 0

summary(kc_tracts10_shore_env_var)

id date price Length: 21436 :2014-05-02 00:00:00.00 Min. : 75000 Min. 1st Qu.:2014-07-22 00:00:00.00 1st Qu.: 324866 Class :character Mode :character Median :2014-10-17 00:00:00.00 Median: 450000 :2014-10-29 17:30:02.34 Mean Mean : 541650 3rd Qu.:2015-02-18 00:00:00.00 3rd Qu.: 645000 :7700000 Max. :2015-05-27 00:00:00.00 Max.

bedrooms bathrooms sqft_living sqft_lot : 0.000 :0.000 : 290 520 Min. Min. Min. : 1st Qu.: 3.000 1st Qu.: 1430 1st Qu.:1.750 1st Qu.: 5040

Median : 3.000	Median :2.250	Median: 1920	Median : 7614
Mean : 3.372	Mean :2.117	Mean : 2083	Mean : 15136
3rd Qu.: 4.000	3rd Qu.:2.500	3rd Qu.: 2550	3rd Qu.: 10696
Max. :33.000	Max. :8.000	Max. :13540	Max. :1651359
floors	waterfront	view	condition
Min. :1.000	Min. :0.000000) Min. :0.0000) Min. :1.00
1st Qu.:1.000	1st Qu.:0.000000	1st Qu.:0.0000) 1st Qu.:3.00
Median :1.500	Median :0.000000		
Mean :1.496	Mean :0.007604	l Mean :0.2351	Mean :3.41
3rd Qu.:2.000	3rd Qu.:0.000000	3rd Qu.:0.0000	3rd Qu.:4.00
Max. :3.500	Max. :1.000000		•
grade	sqft_above	sqft_basement	yr built
Min. : 1.000	Min. : 290	_	Min. :1900
1st Qu.: 7.000	1st Qu.:1200	1st Qu.: 0.0	1st Qu.:1952
Median : 7.000	Median :1560		Median :1975
Mean : 7.662	Mean :1791		Mean :1971
3rd Qu.: 8.000	3rd Qu.:2220		3rd Qu.:1997
Max. :13.000	Max. :9410		Max. :2015
			.2010
vr renovated	zipcode	sqft_living15	saft lot15
Min. : 0.00	-	-	Min. : 651
1st Qu.: 0.00			1st Qu.: 5100
Median: 0.00			Median : 7620
Mean : 84.73			Mean : 12786
3rd Qu.: 0.00			3rd Qu.: 10087
Max. :2015.00			Max. :871200
		.0210	11011
geomet	rv dist ch	od dist cbd	_km GEO_ID_TRT
	-		1.143 Length: 21436
			9.715 Class :character
		54274 Median :16	
proj roc			3.555
	3rd Qu.: 8		
			7.323
	naxzc	70000 Hax: .77	.020
FEATURE_ID	TRACT_LBL	TRACT_STR	TRACT_INT
Min. :10153	Length: 21436	Length: 21436	Min. : 100
1st Qu.:36346	Class : character	•	
Median :44764	Mode : character		•
Mean :38270	ouo .onaracoei	. How . charact	Mean :21224
3rd Qu.:45279			3rd Qu.:31202
JIU WU40219			JIU WUJIZUZ

```
Max.
       :45838
                                                                :32800
                                                         Max.
NA's
                                                         NA's
       :25
                                                                :25
  TRACT_FLT
                  TRACT_DEL
                                      TRTLABEL_F
                                                          TRTLABEL_C
Min.
       : 1.0
                Length: 21436
                                     Length: 21436
                                                         Length: 21436
1st Qu.:104.0
                                                         Class : character
                 Class : character
                                     Class :character
Median :247.0
                Mode :character
                                     Mode :character
                                                         Mode :character
Mean
       :212.2
3rd Qu.:312.0
       :328.0
Max.
NA's
       :25
                                          COUNTY_INT
 TRTLABEL_T
                     COUNTY_STR
                                                      STATE_STR
Length: 21436
                    Length: 21436
                                               :33
                                                      Length: 21436
                                        Min.
Class : character
                    Class : character
                                        1st Qu.:33
                                                      Class : character
Mode :character
                         :character
                                                      Mode :character
                    Mode
                                        Median:33
                                        Mean
                                               :33
                                        3rd Qu.:33
                                        Max.
                                               :33
                                        NA's
                                               :25
  STATE INT
               LEVEL 1
                                    LEVEL_2
                                                       LEVEL_3
Min.
       :53
             Length: 21436
                                 Length: 21436
                                                     Length: 21436
             Class : character
                                 Class : character
1st Qu.:53
                                                      Class :character
Median:53
             Mode :character
                                 Mode :character
                                                     Mode :character
Mean
       :53
3rd Qu.:53
Max.
       :53
NA's
       :25
  TRACT AREA
                       TRACT_PERI
                                         LOGRECNO
                                                             Shape_area
Min.
       :2.792e+06
                     Min.
                               8012
                                       Length: 21436
                                                           Min.
                                                                  :2.792e+06
                     1st Qu.: 23500
1st Qu.:2.485e+07
                                                           1st Qu.:2.281e+07
                                       Class : character
Median :4.123e+07
                     Median : 32920
                                       Mode :character
                                                           Median :3.445e+07
Mean
       :1.809e+08
                     Mean
                            : 48212
                                                           Mean
                                                                  :1.750e+08
3rd Qu.:7.308e+07
                     3rd Qu.: 47962
                                                           3rd Qu.:6.628e+07
Max.
       :1.526e+10
                     Max.
                            :738820
                                                           Max.
                                                                   :1.526e+10
NA's
       :25
                     NA's
                            :25
                                                           NA's
                                                                  :25
  Shape len
                       low
                                           mid
                                                              high
Min.
       : 8012
                  Min.
                         :0.009298
                                      Min.
                                             :0.06768
                                                         Min.
                                                                :0.06129
1st Qu.: 23204
                  1st Qu.:0.047091
                                      1st Qu.:0.21668
                                                         1st Qu.:0.47602
Median: 31185
                  Median :0.074766
                                      Median: 0.30219
                                                         Median: 0.61143
Mean
       : 46861
                  Mean
                         :0.100082
                                      Mean
                                             :0.31115
                                                         Mean
                                                                :0.58877
                  3rd Qu.:0.133557
                                      3rd Qu.:0.39313
                                                         3rd Qu.:0.72987
3rd Qu.: 46624
Max.
       :738820
                  Max.
                         :0.501433
                                      Max.
                                             :0.67904
                                                         Max.
                                                                :0.88162
NA's
       :25
                  NA's
                         :25
                                      NA's
                                             :25
                                                         NA's
                                                                :25
                    linguist_2
                                      poverty_pe
                                                       POC_percen
  EHD_percen
```

```
: 1.00
Min.
                  Min.
                          : 0.450
                                     Min.
                                             : 1.97
                                                       Min.
                                                               : 7.54
1st Qu.: 19.00
                  1st Qu.: 3.120
                                     1st Qu.: 8.93
                                                       1st Qu.:21.13
Median: 41.00
                  Median : 7.000
                                                       Median :33.26
                                     Median :13.60
        : 43.64
Mean
                  Mean
                          : 9.003
                                     Mean
                                             :16.65
                                                       Mean
                                                               :35.33
3rd Qu.: 67.00
                   3rd Qu.:12.730
                                     3rd Qu.:22.95
                                                       3rd Qu.:46.34
Max.
        :100.00
                  Max.
                           :40.350
                                     Max.
                                             :75.48
                                                       Max.
                                                               :92.70
NA's
        :25
                  NA's
                          :220
                                     NA's
                                             :25
                                                       NA's
                                                               :25
  transporta
                    unemploy_2
                                      housing_pe
                                                        traffic_pe
                                            :15.14
Min.
        :12.00
                         : 1.000
                                                              : 0.00
                 Min.
                                    Min.
                                                      Min.
1st Qu.:18.00
                 1st Qu.: 3.230
                                    1st Qu.:25.64
                                                      1st Qu.: 0.00
                                    Median :30.46
Median :20.00
                 Median: 4.310
                                                      Median: 0.10
Mean
        :19.77
                 Mean
                         : 4.775
                                    Mean
                                            :31.37
                                                      Mean
                                                              :11.52
3rd Qu.:21.00
                 3rd Qu.: 6.050
                                    3rd Qu.:35.73
                                                      3rd Qu.:19.14
Max.
        :26.00
                         :13.620
                                    Max.
                                            :64.87
                                                      Max.
                                                              :84.98
                 Max.
NA's
        :25
                 NA's
                         :102
                                    NA's
                                            :25
                                                      NA's
                                                              :25
    diesel
                                        PM25
                                                       toxic_rele
                      ozone
Min.
        : 0.14
                         :46.73
                                           :3.787
                                                                 823.9
                 Min.
                                   Min.
                                                     Min.
1st Qu.: 5.60
                                                     1st Qu.:
                 1st Qu.:49.24
                                   1st Qu.:5.488
                                                               4143.8
Median :10.16
                                                     Median :
                 Median :49.97
                                   Median :6.044
                                                               8827.6
                                                             : 17251.1
Mean
        :13.68
                 Mean
                         :51.17
                                   Mean
                                           :6.002
                                                     Mean
                                                     3rd Qu.: 17237.2
3rd Qu.:16.88
                  3rd Qu.:52.32
                                   3rd Qu.:6.579
Max.
        :92.63
                 Max.
                         :62.89
                                   Max.
                                           :7.897
                                                     Max.
                                                             :186434.6
NA's
        :25
                 NA's
                         :25
                                   NA's
                                           :25
                                                     NA's
                                                             :25
                      lead_perce
                                        superfund
                                                           facilities
  hazardous_
                           : 0.24
Min.
        :0.02303
                    Min.
                                     Min.
                                             :0.03454
                                                         Min.
                                                                 :0.0523
1st Qu.:0.03985
                    1st Qu.: 5.34
                                                         1st Qu.:0.1420
                                     1st Qu.:0.06595
Median :0.05160
                    Median :11.99
                                     Median :0.11046
                                                         Median : 0.2680
Mean
        :0.07409
                    Mean
                            :16.60
                                     Mean
                                             :0.21696
                                                         Mean
                                                                 :0.5248
3rd Qu.:0.07891
                    3rd Qu.:26.48
                                     3rd Qu.:0.23841
                                                         3rd Qu.:0.7588
        :0.63781
                            :54.68
                                             :1.46778
                                                                 :3.3682
Max.
                    Max.
                                     Max.
                                                         Max.
NA's
        :25
                    NA's
                            :25
                                     NA's
                                             :25
                                                         NA's
                                                                 :25
  wastewater
                       sen_pop_pe
                                         socio_perc
Min.
        :0.000000
                     Min.
                            : 1.0
                                      Min.
                                              : 1.00
                     1st Qu.: 25.0
1st Qu.:0.000003
                                      1st Qu.: 20.00
Median :0.000290
                     Median: 48.0
                                      Median: 43.00
Mean
        :0.016168
                     Mean
                             : 48.1
                                      Mean
                                              : 44.51
3rd Qu.:0.002900
                     3rd Qu.: 71.0
                                      3rd Qu.: 67.00
        :0.640000
                             :100.0
                                              :100.00
Max.
                     Max.
                                      Max.
NA's
        :25
                     NA's
                             :25
                                      NA's
                                              :25
```

###Spørsmål_ii. Forklar hvorfor vi har mange flere NA (25 flere) i tracts10_shore enn i tracts10. Ser dere nå hva som går galt med tracts10_shore?

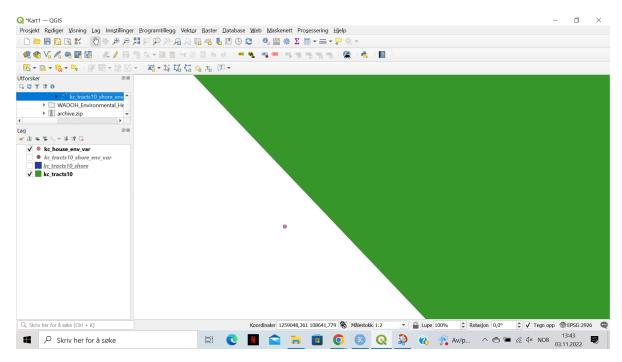


Figure 1: Figur1:Kommunegrense

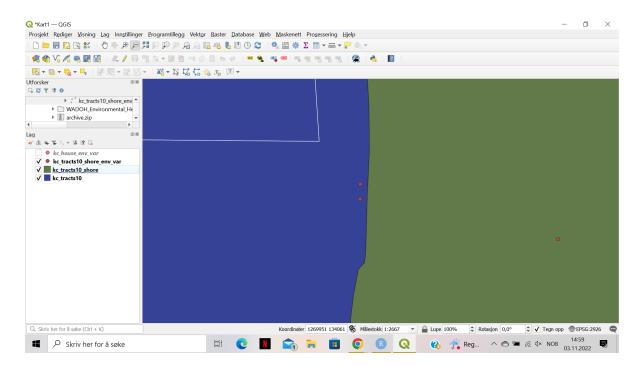


Figure 2: Figur2