

iemiscdata: Map of the Sampled US Locations after the Fukushima Power Plant Explosions in 2011

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Creating a ggplot2 Map of the 2011 Fukushima Radiation Sample Sites

```
1 install.load::load_package("iemiscdata", "USA.state.boundaries", "data.t
2 # load needed packages using the load_package function from the install.
3 # (it is assumed that you have already installed these packages)
4
5 # load the raddata_US_Fukushima_2011 data from iemiscdata {containing th
```

```

6 # Envirofacts RadNet (Radiation in the US)}
7 data(raddata_US_Fukushima_2011, package = "iemiscdata")
8
9 # load the state_boundaries_wgs84 data from USA.state.boundaries (for th
10 data(state_boundaries_wgs84, package = "USA.state.boundaries")
11
12
13
14 # remove the missing rows with location information missing
15 raddata_US_Fukushima_2011 <-
16 raddata_US_Fukushima_2011[-which(is.na(raddata_US_Fukushima_2011$"Locati
17
18
19
20
21 ## USA
22
23 USA <- state_boundaries_wgs84
24 # create the USA object with the same data as state_boundaries_wgs84
25
26 USA_projected <- sf::st_transform(USA, "+proj=aea +lat_1=29.5 +lat_2=45.
27 +lon_0=-96 +x_0=0 +y_0=0 +datum=NAD83 +units=m +no_defs +ellps=GRS80 +to
28 # transform the coordinates to match those of the USA_state_boundaries_m
29 # USA.state.boundaries.data (formerly in USA.state.boundaries)
30
31
32 locations <- sf::st_as_sf(raddata_US_Fukushima_2011, coords = c("Locatio
33 # set the projection to longlat using sf
34
35
36 # due to an error message appearing in the tests-MKL, the following code
37 if (any(st_is_valid(locations)) == FALSE) {
38
39 locations <- st_make_valid(locations)
40
41 }
42

```

```

43
44
45 # plot the map using ggplot2
46 p <- ggplot2::ggplot() + geom_sf(data = USA, color = "black", fill = "wh
47 p <- p + geom_sf(data = locations, color = "#3591d1", size = 0.5) + coord
48 # Source 1
49 p <- p + ggplot2::labs(x = "", y = "", title = "2011 Fukushima Radiation
50 print(p)

```

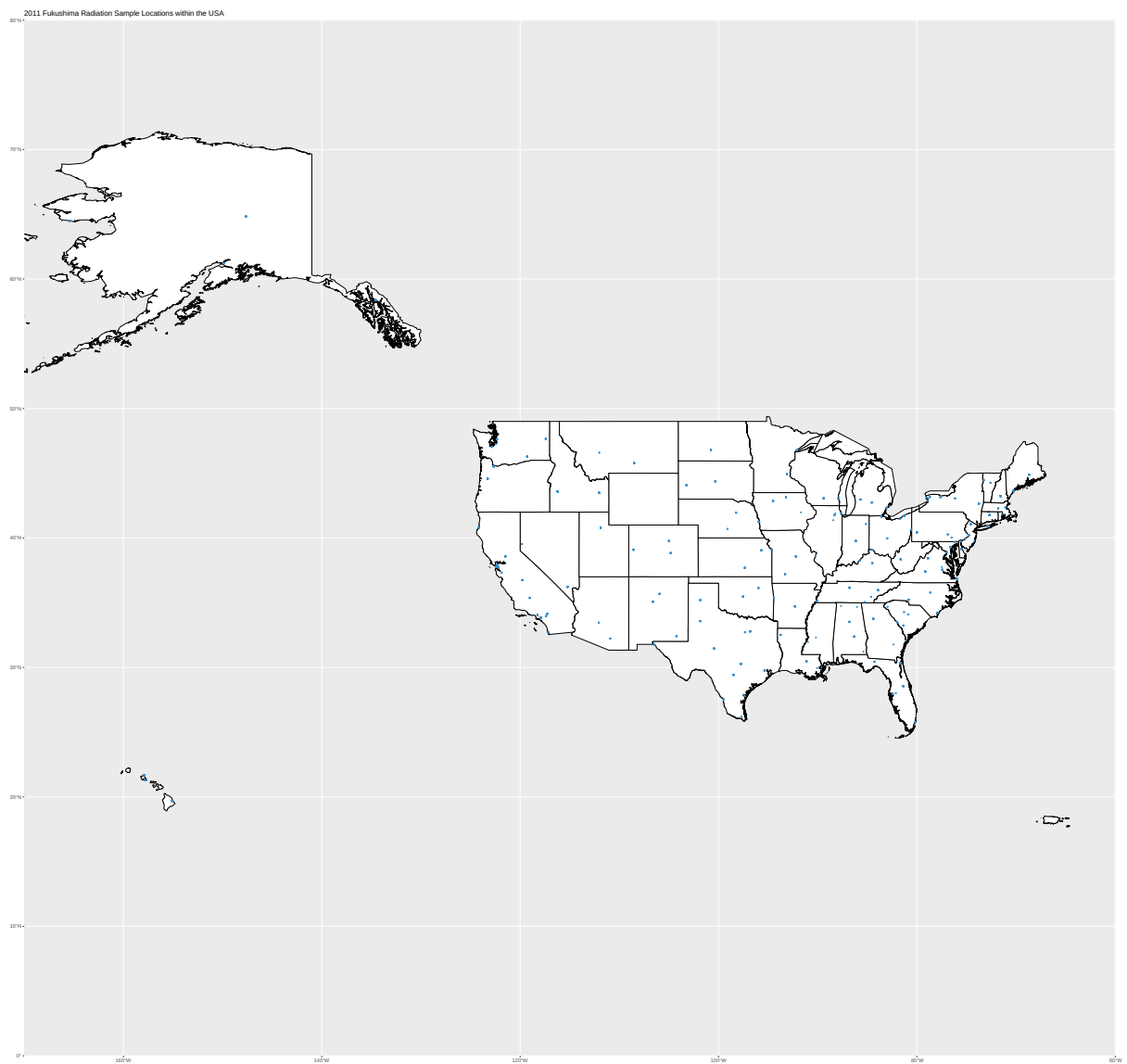


Figure 1:

R Source

How to map data with R: A hands-on tutorial to get you to start creating maps with R. By Abhinav Malasi, Jun 29, 2021. See <https://medium.com/geekculture/how-to-map-data-with-r-8333110dff5b>

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