FAA Temporary Flight Restrictions (TFR) Dataset

This dataset snapshot delivers a csv file named `tfrData-export-memory.csv` and the directory `shapefiles`. These contain data collected from the FAA's TFR webpage (link) between Sept. 20, 2017 and June 20, 2019.

Each directory in the `shapefiles` folder holds the ESRI shapefiles for its corresponding TFR. The FAA does not provide shapefiles for all TFRs, but it does for most. The directory names in `shapefiles` match a unique `guid` in the CSV. You can use a open source GIS software like QGIS to analyze the shapefiles.

Load the Dataset into R

```
setwd("/path/to/working-directory")
tfrData <- read.table("tfrData-export-memory.csv", head=T, sep=",", na.strings = "")
```

Reading the Dataset

The CSV file `tfrData-export-memory.csv` is derived from the text of the NOTAM ("Notice to Airmen") issued by the FAA when it announces a temporary flight restriction. The columns are:

- **guid** (37-character unique identifier for each row, used to match the text of TFR to its shapefiles folder)
- **notam** (shorter ID for FAA NOTAM, *not unique*)
- **timestamp** (machine-generated timestamp indicating hour at which TFR was first picked up by the web crawler, formatted YYYYMMDDHH (year, month, day, hour) and set to UTC)
- **timestamp_expire** (machine-generated timestamp indicating hour at which TFR was removed from the active TFR website, formatted YYYYMMDDHH (year, month, day, hour) and set to UTC)
- **type** (descriptive text categorizing the TFR, corresponds with value of `code_type`, see Table 1)
- **code_type** (legal authority cited by FAA for issuing TFR, all of which are under Title 14 of the Code of Federal Regulations; refer to Cornell LLI (link) for the full text)
- **facility** (Air Route Traffic Control Center, or ARTCC, (link to map) managing air traffic in area affected by TFR. *Not shown in the map are ZAN (Anchorage), ZHN (Honolulu), ZSU (San Juan, Puerto Rico), and ZUA (Barrigada, Guam). In this sample, 10 TFRs have facility "FDC," which is not an ARTCC.*)
- **city**
- **state**
- **landarea** (empty column to be populated by analysis of shapefiles)
- **code_timezone**
- **date_issued**
- **date_effective**
- **date_expire**
- **description** (short string with location, dates, and timezone of the TFR)
- **purpose** (short string explaining reason for TFR, *not provided for all TFRs*)
- **notam_fulltext** (full text of Notice to Airmen, describing affected area, start and end dates, and who is placed in control of the airspace affected by the TFR)

Table 1: TFR Type by TFR Code (n = 5,646 TFRs)

	91.137(a)(1)	91.137(a)(2)	91.137(a)(3)	91.141	91.143	91.145	99.7	SPECIAL
AIR SHOWS/SPORTS	0	0	0	0	0	449	1	0
HAZARDS	1,093	1,558	50	0	0	0	0	0
SECURITY	0	0	0	0	0	0	1,416	0
SPACE OPERATIONS	0	0	0	0	410	0	0	0
SPECIAL	0	0	0	0	0	0	0	10
VIP	0	0	0	659	0	0	0	0

Why Scrape TFRs?

The FAA lists only active TFRs online. Unfortunately no public repository exists for expired TFRs, precluding analysis of temporary flight restrictions. To address this issue, I built a webscraping tool with R that scrapes the TFR webpage each hour to identify and collect data on new TFRs issued by the TFR. The tool has run since Sept 2017 and collected over five thousand TFRs to date.

Download Up-to-Date TFR Data

You can download my copy of the TFR data and shapefiles at my personal website (link). I am actively running a webscraping tool that collects FAA TFRs each hour.

Contribute to the FAA Temporary Flight Restrictions Dataset Project

Do You Have Ideas for Improving the Dataset?

Please fork the Github project (link) and submit a pull request.

Are You Having Issues with the Dataset?

Please submit an issue to the Github repo (link).

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