

Impacts Dataset - Codebook

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Impacts Dataset - Quantitative NASA Data in R

Description:

The Impacts dataset is a collection of recorded objects of interest detected and designated by NASA. These objects are determined to have *some* possibility of impacting the Earth at some point in the next 100 years (hence the name). Impacts is useful to us for two major reasons - first, it's highly quantitative, so it's easy to calculate a variety of metrics from it consistently. Second, it's automatically generated, so the data is quite clean and we're unlikely to run into issues with incorrectly coded variables or other human errors.

Variables

- Object.Name - The name of the object (or collection of objects) detected by NASA.
- Period.Start - The year that impacts begin to be possible (within the 100 year timespan of this dataset).
- Period.End - The year that impacts stop being possible (within the 100 year timespan of this dataset)
- Possible.Impacts - The number of possible impacts this object could cause.
- Cumulative.Impact.Probability - The total probability across all years of the Period that the object(s) will impact the Earth.
- Asteroid.Velocity - The velocity of the object.
- Asteroid.Magnitude - The perceived size of the object, if placed at a standardized distance from the viewer (1 AU).
- Asteroid.Diameter..km - The diameter of the object in kilometers.
- Cumulative.Palermo.Scale - The sum of the base-10 logarithm likelihood of impact of this object; i.e. a measurement of relative risk of the object.
- Maximum.Palermo.Scale - The highest log-likelihood of impact of this object across all years of the Period.
- Maximum.Torino.Scale - A generalized scale of the overall threat of an object, taking into account both its likelihood of impact and its destructive potential.

Code to Import

```
read.csv("impacts.csv")
```

```
##          Object.Name Period.Start Period.End Possible.Impacts
## 1            2006 WP1        2017      2017              1
## 2            2013 YB         2017      2046             23
## 3            2008 US         2017      2062             30
## 4            2010 VR139       2017      2076             24
## 5            2015 ME131       2017      2096             85
## 6            2010 XB73        2017      2110             55
## 7            2005 TM173       2017      2111            123
## 8            2006 SF281       2017      2111            514
## 9            2010 VP139       2017      2112            350
## 10           2014 HR197       2017      2112            187
## 11           2015 HV182       2017      2113            509
## 12           2008 SH148       2017      2113            163
## 13           2008 XK         2017      2113            171
```