

Package ‘CoWR’

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Title A tool for empirical analysis of countries, characteristics, & networks

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URL <https://github.com/hwalbert/CoWR>

BugReports <https://github.com/hwalbert/CoWR/issues>

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Description A tool that connects high quality data from across a variety of sources to allow creation of empirical populations that can be used to instantiate agent based and other simulation models. This package includes functions to explore important demographic, economic, social, and political characteristics about countries. It also contains functions to explore a countries position in different types of international networks.

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Encoding UTF-8

LazyData true

RoxygenNote 6.0.1

Depends dplyr, igraph, ggplot2

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CountryCodes	<i>COW Country Codes</i>
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Description

The list of states with COW abbreviations and ID numbers

Usage

```
data(CountryCodes)
```

Format

A data table with 217 rows and 3 columns

Note

Duplicates were present in the original dataset from CoW (it contained 243 observations as opposed to the 217 unique ones included in this dataset)

References

Correlates of War

CountryLookup	<i>Report the Country Identification information from the CoW Country Code list</i>
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Usage

```
CountryLookup(x, abb = TRUE)
```

Arguments

x	A number value that corresponds to a Country in the CoW country codes dataset
abb	TRUE by default. When TRUE and given a CCode it will return the country abbreviation. When FALSE and given a CCode it will return the full country name

Value

Depending on input: Country Name, Country Abbreviation, or CCode if input is CCode or abbreviation; CCode if input is Country Name

Examples

```
CountryLookup(2)
CountryLookup("China")
```

CreateNetwork	<i>Analyze defense and trade networks A function to specify, create, & visualize a year of country level alliance data or trade data</i>
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Usage

```
CreateNetwork(YEAR = 2007, Alliance_Type = "defense", visualize = TRUE,
              returnDetail = TRUE)
```

Arguments

YEAR	A number value that specifies the desired year. Default is 2007
Alliance_Type	Defaults to the value of "defense". Can take the alliance types of "neutrality", "nonaggression", "entente", "trade" or "allAlliances"
visualize	Defaults to TRUE. When FALSE the function will not create the network visualization

Value

A network graph (with summary statistics) and data frame with specified alliance data

Examples

```
AllianceNetwork()
AllianceNetwork(YEAR = 1960, Alliance_Type = "entente")
```

CreateWorld	<i>Generate empirical world for use in modeling and simulations</i>
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Usage

```
CreateWorld(YEAR = 1960, Alliance_Type = "allAlliances")
```

Arguments

YEAR	A number value that specifies the desired year. Default is 2007
Alliance_Type	Defaults to the value of "defense". Can take the alliance types of "neutrality", "nonaggression", "entente", or "allAlliances"

Value

A graphml file written to your working directory

Examples

```
CreateWorld()
CreateWorld(YEAR = 1955, Alliance_Type = "nonaggression")
```

Disputes

Map Functions

Description

Map Functions

Usage

Disputes(YEAR = 2000)

NetworksOverTime

Calculate time series network level measures of alliance and trade networks

Usage

NetworksOverTime(Alliance_Type = "entente", visualize = FALSE,
returnDetail = FALSE)

Arguments

Alliance_Type Defaults to the value of "defense". Can take the alliance types of "neutrality", "nonaggression", "entente", or "allAlliances"
visualize If set to TRUE it will take longer to run function

Value

Data frame of network level measures over the time period 1870 - 2012

Examples

```
NetworksOverTime()
NetworksOverTime(Alliance_Type = "defense")
```

NMC

National Material Capabilities (v5.0)

Description

The National Material Capabilities data set contains annual values for total population, urban population, iron and steel production, energy consumption, military personnel, and military expenditure of all state members, currently from 1816-2012. The widely-used Composite Index of National Capability (CINC) index is based on these six variables and included in the data set.

Usage

data(NMC)

Format

A data table with 15,171 rows and 11 columns

Details

- stateabb: 3 letter country Abbreviation
- ccode: COW Country Code
- year: Year of observation
- milex: Military Expenditures (For 1816-1913: thousands of current year British Pounds. For 1914+: thousands of current year US Dollars.)
- milper: Military Personnel (thousands)
- irst: Iron and steel production (thousands of tons)
- pec: Primary energy consumption (thousands of coal-ton equivalents)
- tpop Total Population (thousands)
- upop: Urban population (In thousands. For 1816-2001: population in cities w/>=100k; For 2002-2012: population in cities w/>=300k)
- cinc: Composite Index of National Capability (CINC) score
- version: Version number of the data set

References

Singer, J. David, Stuart Bremer, and John Stuckey. (1972). "Capability Distribution, Uncertainty, and Major Power War, 1820-1965." in Bruce Russett (ed) *Peace, War, and Numbers*, Beverly Hills: Sage, 19-48.

Religion

World Religion Data (v1.1) - WRP National Data

Description

This data set aims to provide detailed information about religious adherence worldwide since 1945.

Usage

```
data(Religion)
```

Format

A data table with 1,995 rows and 84 columns

Details

Detailed Code Book available here: [World Religion Codebook](#)

References

Zeev Maoz and Errol A. Henderson. 2013. "The World Religion Dataset, 1945-2010: Logic, Estimates, and Trends." *International Interactions*, 39: 265-291.

Trade

*Trade (v4.0) - International Trade (1870-2014) (v4.0)***Description**

This data set tracks total national trade and bilateral trade flows between states from 1870-2014. The trade dataset is the result of the effort to code trade flows between states (as defined by the Correlates of War project) for the period 1870-2014. The data include information on both bilateral trade flows and total national imports and exports. The dyadic trade dataset describes import and export data in current U.S. dollars for pairs of sovereign states. The National (Monadic) Trade dataset contains information on individual states import and export levels in current U.S. dollars.

Usage

```
data(Trade)
```

Format

A data table with 886,828 rows and 19 columns

Details

Detailed Code Book available here: [Bilateral Trade CoW Information](#)

References

Barbieri, Katherine and Omar M. G. Omar Keshk. 2016. Correlates of War Project Trade Data Set Codebook, Version 4.0. Online: <http://correlatesofwar.org>.

Barbieri, Katherine, Omar M. G. Keshk, and Brian Pollins. 2009. "TRADING DATA: Evaluating our Assumptions and Coding Rules." *Conflict Management and Peace Science*. 26(5): 471-491.

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