

# Package ‘christmas’

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**Type** Package

**Title** Generation of Christmas Cards

**Version** 1.0.0

**Depends** R (>= 3.4)

**Imports** animation (>= 2.6), grDevices, graphics, stats, methods

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**Description** Generates a number of Christmas cards, most of them being animated. The name of each card includes the year in which it was created.

**License** GPL-2

**URL** <https://sites.google.com/view/josebarrera/>

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| christmas | <i>christmas: A package for creating a number of Christmas cards.</i> |
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### Description

This is a collection of Christmas cards, mostly of them being animated. The name of each card includes the year in which it was created.

### Author(s)

Jose Barrera-Gomez <jose.barrera@isglobal.org>

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|              |                             |
|--------------|-----------------------------|
| xmas2008tree | <i>Christmas card 2008.</i> |
|--------------|-----------------------------|

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### Description

Christmas card 2008: a random Christmas tree.

### Usage

```
xmas2008tree(year = 2009, language = c("english", "spanish",
    "catalan"), seed = NULL)
```

### Arguments

|          |   |
|----------|---|
| year     | Year to be printed. Default is 2009.  |
| language | Language to be used in the card. One of c("english", "spanish", "catalan"). Default is "english". |
| seed     | Seed for reproducibility of the card. Default is NULL (no seed).                                  |

### Value

A Christmas card plot including a random tree.

### Author(s)

Jose Barrera-Gomez.

## Examples

```
xmas2008tree()  
xmas2008tree(year = 2020, language = "catalan")  
xmas2008tree(year = 2020, language = "spanish", seed = 666)
```

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|                 |                             |
|-----------------|-----------------------------|
| xmas2009caganer | <i>Christmas card 2009.</i> |
|-----------------|-----------------------------|

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## Description

Christmas card 2009: a 'caganer'. Caganer is a figurine depicted in the act of defecation appearing in nativity scenes in Catalonia and neighbouring areas with Catalan culture such as Andorra, Valencia, and Northern Catalonia (in southern France). It is most popular and widespread in these areas, but can also be found in other areas of Spain (Murcia), Portugal, and southern Italy (Naples). Further details can be found at <https://en.wikipedia.org/wiki/Caganer>. This caganer won the annual contest of sustainable caganers at CREAL (now ISGlobal, <https://www.isglobal.org/en/>) in 2009.

## Usage

```
xmas2009caganer(seed = NULL)
```

## Arguments

|      |  |
|------|--|
| seed | Seed for reproducibility of the card. Default is NULL (no seed). |
|------|--|

## Value

A Christmas card plot with a caganer.

## Author(s)

Jose Barrera-Gomez.

## Examples

```
xmas2009caganer()
```

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|              |                             |
|--------------|-----------------------------|
| xmas2010text | <i>Christmas card 2010.</i> |
|--------------|-----------------------------|

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**Description**

Christmas card 2010: random allocation of repetitions of the Christmas message.

**Usage**

```
xmas2010text(year = 2011, language = c("english", "spanish",
  "catalan"), seed = NULL)
```

**Arguments**

|          |   |
|----------|---|
| year     | Year to be printed. Default is 2011.  |
| language | Language to be used in the card. One of c("english", "spanish", "catalan"). Default is "english". |
| seed     | Seed for reproducibility of the card. Default is NULL (no seed).                                  |

**Value**

A Christmas card plot including the repetition of the same message randomly allocated.

**Author(s)**

Jose Barrera-Gomez.

**Examples**

```
xmas2010text()
xmas2010text(year = 2020, language = "spanish", seed = 666)
```

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|                |                             |
|----------------|-----------------------------|
| xmas2011health | <i>Christmas card 2011.</i> |
|----------------|-----------------------------|

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**Description**

Christmas card 2011: some epidemiological jokes about potential effects of Christmas on health.

**Usage**

```
xmas2011health(seed = NULL)
```

**Arguments**

seed                    Seed for reproducibility of the card. Default is NULL (no seed).

**Value**

A Christmas card plot including boxplots and OR estimates.

**Author(s)**

Jose Barrera-Gomez.

**Examples**

```
xmas2011health()
```

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`xmas2012snowkoch`            *Christmas card 2012.*

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**Description**

Christmas card 2012: Koch snowflakes ([https://en.wikipedia.org/wiki/Koch\\_snowflake](https://en.wikipedia.org/wiki/Koch_snowflake)) are used to print the Christmas message in three languages (English, Catalan and Spanish).

**Usage**

```
xmas2012snowkoch(year = 2013, seed = NULL)
```

**Arguments**

year                    Year to be printed. Default is 2013.

seed                    Seed for reproducibility of the card. Default is NULL (no seed).

**Value**

A Christmas card plot including Koch snowflakes.

**Author(s)**

Jose Barrera-Gomez.

**Examples**

```
xmas2012snowkoch()
```

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`xmas2013neon`*Christmas card 2013.*

---

**Description**

Christmas card 2013: a neon sign.

**Usage**

```
xmas2013neon(language = c("english", "spanish", "catalan"),  
             nflash = 30, pause = 0.1, seed = NULL)
```

**Arguments**

|                       |   |
|-----------------------|---|
| <code>language</code> | Language to be used in the card. One of <code>c("english", "spanish", "catalan")</code> . Default is "english". |
| <code>nflash</code>   | Number of flashes shown in the neon sign. Default is 30.  |
| <code>pause</code>    | Pause, in seconds, between two consecutive flashes shown in the neon sign. Default is 0.1.                      |
| <code>seed</code>     | Seed for reproducibility of the card. Default is NULL (no seed).  |

**Value**

A Christmas card plot including a message and then a simulations of a neon sign.

**Author(s)**

Jose Barrera-Gomez.

**Examples**

```
xmas2013neon()  
xmas2013neon(language = "catalan", nflash = 10, pause = 0.3)  
xmas2013neon(language = "spanish", nflash = 8, pause = 1)  
xmas2013neon(nflash = 100, pause = 0.02)
```

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|                 |                             |
|-----------------|-----------------------------|
| xmas2014snowman | <i>Christmas card 2014.</i> |
|-----------------|-----------------------------|

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**Description**

Christmas card 2014: a snowman.

**Usage**

```
xmas2014snowman(year = 2015, language = c("english", "spanish",  
      "catalan"), seed = NULL)
```

**Arguments**

|          |   |
|----------|---|
| year     | Year to be printed. Default is 2015.  |
| language | Language to be used in the card. One of c("english", "spanish", "catalan"). Default is "english". |
| seed     | Seed for reproducibility of the card. Default is NULL (no seed).                                  |

**Value**

A Christmas card plot including a snowman.

**Author(s)**

Jose Barrera-Gomez.

**Examples**

```
xmas2014snowman()  
xmas2014snowman(year = 2020, language = "catalan")  
xmas2014snowman(year = 2020, language = "spanish")
```

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|              |                             |
|--------------|-----------------------------|
| xmas2015flag | <i>Christmas card 2015.</i> |
|--------------|-----------------------------|

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**Description**

Christmas card 2015: a flag

**Usage**

```
xmas2015flag(year = 2016, language = c("english", "spanish",  
      "catalan"), seed = NULL)
```

**Arguments**

|          |   |
|----------|---|
| year     | Year to be printed. Default is 2016.  |
| language | Language to be used in the card. One of c("english", "spanish", "catalan"). Default is "english". |
| seed     | Seed for reproducibility of the card. Default is NULL (no seed).                                  |

**Value**

A Christmas card plot including a message in a flag.

**Author(s)**

Jose Barrera-Gomez.

**Examples**

```
xmas2015flag()
xmas2015flag(year = 2020, language = "catalan")
xmas2015flag(year = 2020, language = "spanish")
```

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xmas2016epi

*Christmas card 2016.*

---

**Description**

Christmas card 2016: a statistical/epidemiological Christmas tree. This tree is built using a random subset of statistical and epidemiological words.

**Usage**

```
xmas2016epi(year = 2017, seed = NULL)
```

**Arguments**

|      |  |
|------|--|
| year | Year to be printed. Default is 2017.                             |
| seed | Seed for reproducibility of the card. Default is NULL (no seed). |

**Value**

A Christmas card plot including a tree made of nice words.

**Author(s)**

Jose Barrera-Gomez.



## Examples

```
xmas2016epi()  
xmas2016epi(year = 2020)
```

---

|               |                             |
|---------------|-----------------------------|
| xmas2017trees | <i>Christmas card 2017.</i> |
|---------------|-----------------------------|

---

## Description

Christmas card 2017: Christmas trees with different shapes.

## Usage

```
xmas2017trees(year = 2018, language = c("english", "spanish",  
    "catalan"), shape = c("piramidal", "oval", "vshaped", "round",  
    "columnar"), nballs = 15, ballscolor = NULL, seed = NULL)
```

## Arguments

|            |  |
|------------|--|
| year       | Year to be printed. Default is 2018.   |
| language   | Language to be used in the card. One of c("english", "spanish", "catalan"). Default is "english".  |
| shape      | The shape of the tree. One of c("piramidal", "oval", "vshaped", "round", "columnar"). Default is "piramidal".  |
| nballs     | The number of balls in the tree. Default is 15.  |
| ballscolor | The colors to be used for the balls in the tree. It must be a vector with names of colors included in colors(), or NULL (default). If NULL, then colors are randomly selected. |
| seed       | Seed for reproducibility of the card. Default is NULL (no seed).   |

## Value

A Christmas card plot including a christmas tree.

## Author(s)

Jose Barrera-Gomez.

## Examples

```
xmas2017trees()
xmas2017trees(shape = "oval", language = "catalan", ballscolor = "blue")
xmas2017trees(shape = "vshaped", nballs = 15, ballscolor = c("sienna2", "yellow2", "tomato"),
  seed = 1111)
xmas2017trees(shape = "round", language = "spanish")
xmas2017trees(shape = "columnar", nballs = 20, ballscolor = "red")
```

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xmas2018galton

*Christmas card 2018.*


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## Description

Christmas card 2018: a Christmas tree in the Galton board. This is an adaptation of `quincunx()` in package `animation`, which simulates the Galton board ([https://en.wikipedia.org/wiki/Bean\\_machine](https://en.wikipedia.org/wiki/Bean_machine)).

## Usage

```
xmas2018galton(year = 2019, language = c("english", "spanish",
  "catalan"), balls = 240, layers = 15, onlyBoard = FALSE,
  treeballs = 15, time = 0.02, seed = NULL)
```

## Arguments

|                        |   |
|------------------------|---|
| <code>year</code>      | Year to be printed. Default is 2019.  |
| <code>language</code>  | Language to be used in the card. One of <code>c("english", "spanish", "catalan")</code> . Default is "english". |
| <code>balls</code>     | The number of balls in the board. Default is 240.   |
| <code>layers</code>    | The number of layers in the board. Default is 15.   |
| <code>onlyBoard</code> | Logical. If FALSE (default), an empirical Christmas normal tree estimated from data is added to the histogram.  |
| <code>treeballs</code> | The number of balls to be added to the Christmas normal tree. Default is 15.                                    |
| <code>time</code>      | Elapsed time, in seconds, between two consecutive balls in the board. Default is 0.02.                          |
| <code>seed</code>      | Seed for reproducibility of the card. Default is NULL (no seed).  |

## Value

A Christmas tree in a Galton board.

## Author(s)

Jose Barrera-Gomez.

## Examples

```
xmas2018galton()  
# more balls, less layers:  
xmas2018galton(balls = 300, layers = 9)  
# no balls in the gaussian christmas tree:  
xmas2018galton(balls = 400, layers = 11, time = 0.005, treeballs = 0)
```

---

xmas2019regression      *Christmas card 2019.*

---

## Description

Christmas card 2019: a Christmas regression model.

## Usage

```
xmas2019regression(year = 2020, language = c("english", "spanish",  
      "catalan"), time = 12, seed = NULL)
```

## Arguments

|          |   |
|----------|---|
| year     | Year to be printed. Default is 2020.  |
| language | Language to be used in the card. One of c("english", "spanish", "catalan"). Default is "english". |
| time     | Total time, in seconds, for the card generation. Default is 12.                                   |
| seed     | Seed for reproducibility of the card. Default is NULL (no seed).                                  |

## Value

An illustration of the Christmas regression model.

## Author(s)

Jose Barrera-Gomez.

## Examples

```
xmas2019regression()  
xmas2019regression(year = 2021, language = "catalan", time = 5)
```

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