

Obtaining Climate Records

Marc Los Huertos

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1 Terrestrial Meteorological Data

1.1 Selected History of Meteorology

The Korean's are first to develop weather records by measuring rainfall that would could be used to evaluate climate—they invited the first standardized range gauges, and even more impressively, a coordinated network of rain gauges and records to assist in rice planting with goals to improve food security.

In 1607, Galileo Galilei constructed a thermoscope, but it wasn't until 1654, that Ferdinando II de Medici established the first weather observing network, consisting of meteorological stations in Florence, Cutigliano, Vallombrosa, Bologna, Parma, Milan, Innsbruck, Osnabrck, Paris and Warsaw. The collected data were sent to Florence at regular time intervals. In 1714, Gabriel Fahrenheit created a reliable scale for measuring temperature with a mercury-type thermometer. In 1742, Anders Celsius, a Swedish astronomer, proposed the “centigrade” temperature scale, the predecessor of the current Celsius scale.

The arrival of the electrical telegraph in 1837 afforded, for the first time, a practical method for quickly gathering surface weather observations from a wide area. This data could be used to produce maps of the state of the atmosphere for a region near the Earth's surface and to study how these states evolved through time.

To make frequent weather forecasts based on these data required a reliable network of observations, but it was not until 1849 that the Smithsonian Institution began to establish an observation network across the United States under the leadership of Joseph Henry. Similar observation networks were established in Europe at this time.

1.2 Purpose

This document is a guide for getting started on the climate data analysis project. Here you will find:

- different sources for climate data
- a description of how to download/access the data

1.3 Climate Data Online (CDO) system

Climate Data Online (CDO) provides free access to the National Climate Data Center's archive of global historical weather and climate data in addition to station history information. These data include quality controlled daily, monthly, seasonal, and yearly measurements of temperature, precipitation, wind, and degree days as well as radar data and 30-year Climate Normals.

There are several ways to obtain online climate data and the CDO-web interface is probably the easiest, using the following URL: <https://www.ncdc.noaa.gov/cdo-web/>.

Climate data, such as temperature and precipitation are recorded at each station – so these are the observational units we will generally be interested in for our analyses. Even if you don't have a location of interest nailed down, this interface can help you find sites and evaluate the length of their records. For the purpose of our project we recommend picking a site that has data going back at least into the the 1940's as it might be difficult to come up with insightful observations about sites with less data.

Below is a description of the steps to get data from the site:

Follow Link Click on the following link to reach the CDO website:

<https://www.ncdc.noaa.gov/cdo-web/>

Click Browse Datasets after clicking the icon you should see a list of available data sets by type

Expand Link Daily Summaries

Select the Search Tool additionally, you can use the mapping tool to evaluate which areas of the globe have available datasets but if you have a particular area in mind it might be easiest to search for it using the search tool

Specify Parameters

- ensure that “Daily Summaries” is selected from the dropdown menu in **Select Weather Observation Type/Dataset**
- in **Select Data Range** use the calendar tool change the start date to earliest date available (It should be January 1, 1763) and the end date to the most recently available date. This will enable you to see how far back the data record for the station goes.
- in the drop down menu **Search For** select whether you want to search for climate data by country, state, county, zip code etc. Select the appropriate option for the search term that you will enter in the box below.

For example if you want to search for climate data in your hometown, you might consider searching by state or county and then typing in the name below

- in the **Enter a Search Term** box, type in the name of the county, state or other possible identifier of the place for which you would like to find a climate record.

Start Search Once you have initiated a search, the next window will give a list of records – click in these records to see what they might be composed of. Then decide which station you will want to evaluate.

Add to Cart Don't worry, there is no charge.

View All items Once you have added the climate record to your cart you should see an orange box pop up on the top right corner that says “Cart (Free Data) 1 item.” Mouse over the box after which you should have the option to click “view all items”.

Select Cart Options in **Select the Output Format** be sure to click the button for **Custom GHCN-Daily CSV** to ensure that the data file is delivered as a .csv file (comma separated values)

Click ‘Continue’ Button

Station Detail & Data Flag Options Change to metric

Select Data Types be sure to check the boxes for precipitation and air temperature to include these in the data sets. If fact, I suggest you click on the + button and select maximum and minimum temperatures, which usually have the longest records.

Click ‘Continue’ Button NOTE: Common Errors: Error – *Text order size is 3,948 Station Years, which exceeds our capacity of 1,000 Station Years. Please select fewer stations/locations, or reduce the date range.

If you get this error, you need to reduce the number of stations selected or make the date range smaller. NOTE: it's not always obvious that you have selected more than one station. When you are looking at the cart, follow the "View Full Details" link and then "Show all Stations". I generally sort by earliest records and find a station that is still collecting data and has nearly 100% data coverage.

Complete Order Type in your email address and you will get a confirmation email relativley soon... the data may take up to a couple days to be delivered but are usually delivered within a couple hours.

1.3.1 Evaluating the Data

Once you get the data, we'll need to evaluate what we have and format it for our purposes. Often you'll find problems when you begin analyzing it, but it's good to understand the structure of the data before you run into problems.

The CHCND documentation helps us to understand the data format, https://www1.ncdc.noaa.gov/pub/data/cdo/documentation/GHCND_documentation.pdf.

2 Advanced User Access – Terrestrial Temperature

2.1 Historical Climatology Network-Daily (GHCND) data

Alternatively, one can use the FTP site to access the data in a different format (e.g. dyl). The site's url is <ftp://ftp.ncdc.noaa.gov/pub/data/ghcn/daily/gsn/>.

In addition, the CHCND documentation, as noted above, is very helpful in understanding the data format, https://www1.ncdc.noaa.gov/pub/data/cdo/documentation/GHCND_documentation.pdf.

2.2 rnoaa library tools

There is a relatively new tool to access NOAA data using an R package, called **rnoaa**. To use the tool, several dependent packages need to be installed and loaded, including **rNOAA**. Next users need to get an API code, which can be easily done by following the instructions described by this link: <https://www.ncdc.noaa.gov/cdo-web/token>.

Using the **rnoaa** package is relatively strait forward, although I have been getting timeout errors that I can't solve. I will be working to fix this in 2020.

Here's a URL for a tutorial: https://ropensci.org/tutorials/rnoaa_tutorial.html.

```
library(plyr)
library(rnoaa)
```

2.2.1 List of Cities

rNOAA has a simple function to list the cities:

Commented out – takes forever and errors out!

```
#ncdc_locs(locationcategoryid='CITY', sortfield='name', sortorder='desc')
```

The function queries the NOAA website and retrieves city names and the dates of the climate records. Importantly, the records include the station ID, which can be used to college the data for that city.

NOTE2: It would be nice to make a map of how concentrated the stations spatially.

2.2.2 Getting Data

```
#ncdc_stations(datasetid='GHCND', locationid='FIPS:12017', stationid='GHCND:USC00084289')
```

2.3 Evaluating Records

TBD

2.4 Export Options

TBD

3 Sea Surface Temperature Data

In contrast to terrestrial data, sea surface temperature (SST) is quite difficult to obtain and process. There are numerous tools to access the data, but they often require knowledge of complex software tools that are not easy to set up or programming experience with python or others.

<https://climexp.knmi.nl/select.cgi?id=someone@somewhere&field=ersstv5>

There are, however, a few tools build for R users that seem to accomplish all that we need.

https://rda.ucar.edu/index.html?hash=data_user&action=register

<https://rda.ucar.edu/datasets/ds277.9/>

Alternatively, we can download flat ascii tables of gridded data:

<https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/>

```
library(chron)
library(RColorBrewer)
library(lattice)
library(ncdf)

## Error in library(ncdf):  there is no package called 'ncdf'

library(ncdf4)
library(greenbrown) # for gridded trend analysis

## Error in library(greenbrown):  there is no package called 'greenbrown'

ersst.nc = "/home/CAMPUS/mwl04747/github/Climate_Change_Narratives/Data/FA19/ersst.v5.185401
Y1854 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.1854.asc"
Y1864 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.1864.asc"
Y1874 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.1874.asc"
Y1884 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.1884.asc"
Y1894 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.1894.asc"
Y1904 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.1904.asc"
Y1914 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.1914.asc"
Y1924 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.1924.asc"
Y1934 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.1934.asc"
Y1944 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.1944.asc"
Y1954 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.1954.asc"
Y1964 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.1964.asc"
```

```

Y1974 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.1974.asc"
Y1984 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.1984.asc"
Y1994 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.1994.asc"
Y2004 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.2004.asc"
Y2014 = "https://www1.ncdc.noaa.gov/pub/data/cmb/ersst/v5/ascii/ersst.v5.2014.asc"

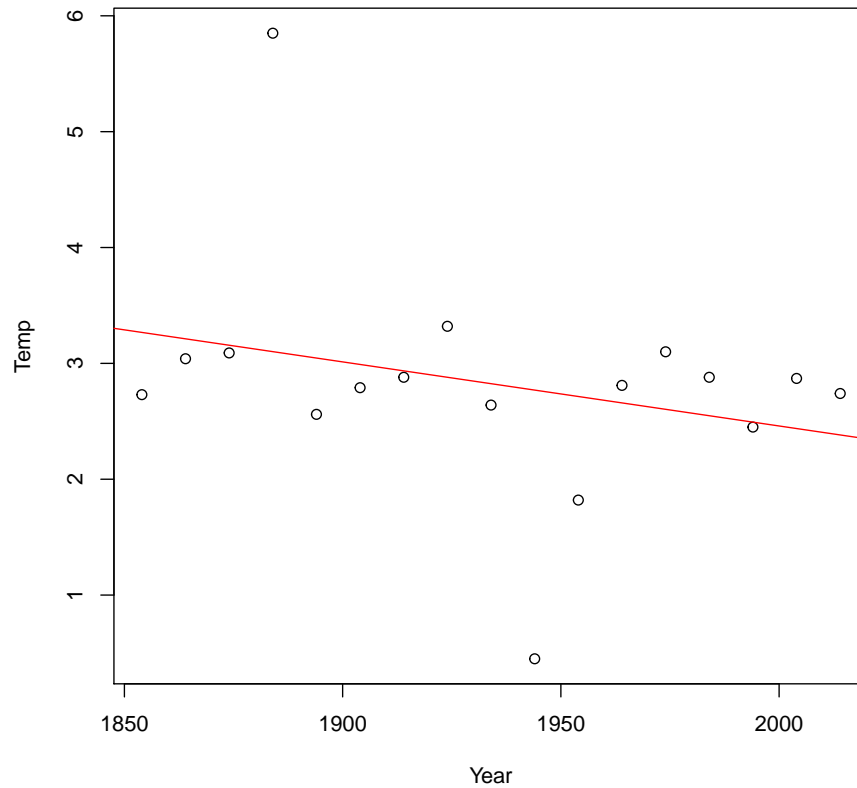
temp = rbind(read.table(Y1854)[75,67], read.table(Y1864)[75,67], read.table(Y1874)[75,67],
read.table(Y1884)[75,67], read.table(Y1894)[75,67], read.table(Y1904)[75,67],
read.table(Y1914)[75,67], read.table(Y1924)[75,67], read.table(Y1934)[75,67],
read.table(Y1944)[75,67], read.table(Y1954)[75,67], read.table(Y1964)[75,67],
read.table(Y1974)[75,67], read.table(Y1984)[75,67], read.table(Y1994)[75,67],
read.table(Y2004)[75,67], read.table(Y2014)[75,67])

temp.df = data.frame(Temp = as.vector(temp)/100); temp.df

##      Temp
## 1  2.73
## 2  3.04
## 3  3.09
## 4  5.85
## 5  2.56
## 6  2.79
## 7  2.88
## 8  3.32
## 9  2.64
## 10 0.45
## 11 1.82
## 12 2.81
## 13 3.10
## 14 2.88
## 15 2.45
## 16 2.87
## 17 2.74

temp.df$Year = seq(1854, 2014, 10)
plot(Temp~ Year, temp.df)
abline(coef(lm(Temp~Year, data=temp.df)), col="red")

```



```
#automating this process!

directory = "/pub/data/cmb/ersst/v5/ascii"

B195401 = nc_open(ersst.nc)

str(B195401)

## List of 14
## $ filename : chr "/home/CAMPUS/mwl04747/github/Climate_Change_Narratives/Data/FA19/ers
## $ writable : logi FALSE
## $ id       : int 65536
## $ safemode : logi FALSE
## $ format   : chr "NC_FORMAT_CLASSIC"
## $ is_GMT   : logi FALSE
```

```

## $ groups      :List of 1
## ..$ :List of 7
## .. ..$ id    : int 65536
## .. ..$ name  : chr ""
## .. ..$ ndims : int 4
## .. ..$ nvars : int 6
## .. ..$ natts : int 38
## .. ..$ dimid : int [1:4(1d)] 0 1 2 3
## .. ..$ fqgn  : chr ""
## .. ..- attr(*, "class")= chr "ncgroup4"
## $ fqgn2Rindex:List of 1
## ..$ : int 1
## $ ndims      : num 4
## $ natts      : num 38
## $ dim        :List of 4
## ..$ lat :List of 10
## .. ..$ name      : chr "lat"
## .. ..$ len       : int 89
## .. ..$ unlim     : logi FALSE
## .. ..$ group_index : int 1
## .. ..$ group_id   : int 65536
## .. ..$ id        : int 0
## .. ..$ dimvarid   :List of 5
## .. .. ..$ id      : int 0
## .. .. ..$ group_index: int 1
## .. .. ..$ group_id  : int 65536
## .. .. ..$ list_index : num -1
## .. .. ..$ isdimvar  : logi TRUE
## .. .. ..- attr(*, "class")= chr "ncid4"
## .. ..$ units      : chr "degrees_north"
## .. ..$ vals       : num [1:89(1d)] -88 -86 -84 -82 -80 -78 -76 -74 -72 -70 ...
## .. ..$ create_dimvar: logi TRUE
## .. ..- attr(*, "class")= chr "ncdim4"
## ..$ lev :List of 10
## .. ..$ name      : chr "lev"
## .. ..$ len       : int 1
## .. ..$ unlim     : logi FALSE
## .. ..$ group_index : int 1
## .. ..$ group_id   : int 65536
## .. ..$ id        : int 1
## .. ..$ dimvarid   :List of 5
## .. .. ..$ id      : int 1
## .. .. ..$ group_index: int 1
## .. .. ..$ group_id  : int 65536
## .. .. ..$ list_index : num -1

```



```

## .. ..$ isdimvar : logi TRUE
## .. ..- attr(*, "class")= chr "ncid4"
## .. ..$ units : chr "meters"
## .. ..$ vals : num [1(1d)] 0
## .. ..$ create_dimvar: logi TRUE
## .. ..- attr(*, "class")= chr "ncdim4"
## ..$ lon :List of 10
## .. ..$ name : chr "lon"
## .. ..$ len : int 180
## .. ..$ unlim : logi FALSE
## .. ..$ group_index : int 1
## .. ..$ group_id : int 65536
## .. ..$ id : int 2
## .. ..$ dimvarid :List of 5
## .. .. ..$ id : int 2
## .. .. ..$ group_index: int 1
## .. .. ..$ group_id : int 65536
## .. .. ..$ list_index : num -1
## .. .. ..$ isdimvar : logi TRUE
## .. .. ..- attr(*, "class")= chr "ncid4"
## .. ..$ units : chr "degrees_east"
## .. ..$ vals : num [1:180(1d)] 0 2 4 6 8 10 12 14 16 18 ...
## .. ..$ create_dimvar: logi TRUE
## .. ..- attr(*, "class")= chr "ncdim4"
## ..$ time:List of 11
## .. ..$ name : chr "time"
## .. ..$ len : int 1
## .. ..$ unlim : logi FALSE
## .. ..$ group_index : int 1
## .. ..$ group_id : int 65536
## .. ..$ id : int 3
## .. ..$ dimvarid :List of 5
## .. .. ..$ id : int 4
## .. .. ..$ group_index: int 1
## .. .. ..$ group_id : int 65536
## .. .. ..$ list_index : num -1
## .. .. ..$ isdimvar : logi TRUE
## .. .. ..- attr(*, "class")= chr "ncid4"
## .. ..$ units : chr "minutes since 1854-01-01 00:00"
## .. ..$ calendar : chr "360_day"
## .. ..$ vals : num [1(1d)] 0
## .. ..$ create_dimvar: logi TRUE
## .. ..- attr(*, "class")= chr "ncdim4"
## $ unlimdimid : num -1
## $ nvars : num 2

```

```

## $ var :List of 2
## ..$ sst :List of 24
## ...$ id :List of 5
## ...$ id : num 3
## ...$ group_index: num -1
## ...$ group_id : int 65536
## ...$ list_index : num 1
## ...$ isdimvar : logi FALSE
## ...- attr(*, "class")= chr "ncid4"
## ...$ name : chr "sst"
## ...$ ndims : int 4
## ...$ natts : int 8
## ...$ size : int [1:4] 180 89 1 1
## ...$ dimids : int [1:4] 2 0 1 3
## ...$ prec : chr "float"
## ...$ units : chr "degree_C"
## ...$ longname : chr "Extended reconstructed sea surface temperature"
## ...$ group_index : int 1
## ...$ chunksizes : logi NA
## ...$ storage : num 1
## ...$ shuffle : logi FALSE
## ...$ compression : logi NA
## ...$ dims : list()
## ...$ dim :List of 4
## ...$ :List of 10
## ...$ name : chr "lon"
## ...$ len : int 180
## ...$ unlim : logi FALSE
## ...$ group_index : int 1
## ...$ group_id : int 65536
## ...$ id : int 2
## ...$ dimvarid :List of 5
## ...$ id : int 2
## ...$ group_index: int 1
## ...$ group_id : int 65536
## ...$ list_index : num -1
## ...$ isdimvar : logi TRUE
## ...- attr(*, "class")= chr "ncid4"
## ...$ units : chr "degrees_east"
## ...$ vals : num [1:180(1d)] 0 2 4 6 8 10 12 14 16 18 ...
## ...$ create_dimvar: logi TRUE
## ...- attr(*, "class")= chr "ncdim4"
## ...$ :List of 10
## ...$ name : chr "lat"
## ...$ len : int 89

```

```

## .. .. ..$ unlim      : logi FALSE
## .. .. ..$ group_index : int 1
## .. .. ..$ group_id    : int 65536
## .. .. ..$ id          : int 0
## .. .. ..$ dimvarid     :List of 5
## .. .. ..$ id          : int 0
## .. .. ..$ group_index: int 1
## .. .. ..$ group_id    : int 65536
## .. .. ..$ list_index  : num -1
## .. .. ..$ isdimvar     : logi TRUE
## .. .. ..$ - attr(*, "class")= chr "ncid4"
## .. .. ..$ units       : chr "degrees_north"
## .. .. ..$ vals        : num [1:89(1d)] -88 -86 -84 -82 -80 -78 -76 -74 -72 -70 ...
## .. .. ..$ create_dimvar: logi TRUE
## .. .. ..$ - attr(*, "class")= chr "ncdim4"
## .. .. ..$ :List of 10
## .. .. ..$ name        : chr "lev"
## .. .. ..$ len         : int 1
## .. .. ..$ unlim       : logi FALSE
## .. .. ..$ group_index : int 1
## .. .. ..$ group_id    : int 65536
## .. .. ..$ id          : int 1
## .. .. ..$ dimvarid     :List of 5
## .. .. ..$ id          : int 1
## .. .. ..$ group_index: int 1
## .. .. ..$ group_id    : int 65536
## .. .. ..$ list_index  : num -1
## .. .. ..$ isdimvar     : logi TRUE
## .. .. ..$ - attr(*, "class")= chr "ncid4"
## .. .. ..$ units       : chr "meters"
## .. .. ..$ vals        : num [1(1d)] 0
## .. .. ..$ create_dimvar: logi TRUE
## .. .. ..$ - attr(*, "class")= chr "ncdim4"
## .. .. ..$ :List of 11
## .. .. ..$ name        : chr "time"
## .. .. ..$ len         : int 1
## .. .. ..$ unlim       : logi FALSE
## .. .. ..$ group_index : int 1
## .. .. ..$ group_id    : int 65536
## .. .. ..$ id          : int 3
## .. .. ..$ dimvarid     :List of 5
## .. .. ..$ id          : int 4
## .. .. ..$ group_index: int 1
## .. .. ..$ group_id    : int 65536
## .. .. ..$ list_index  : num -1

```

```

## .. ..$ isdimvar : logi TRUE
## .. ..$ attr(*, "class")= chr "ncid4"
## .. ..$ units : chr "minutes since 1854-01-01 00:00"
## .. ..$ calendar : chr "360_day"
## .. ..$ vals : num [1(1d)] 0
## .. ..$ create_dimvar: logi TRUE
## .. ..$ attr(*, "class")= chr "ncdim4"
## .. ..$ varsize : int [1:4] 180 89 1 1
## .. ..$ unlim : logi FALSE
## .. ..$ make_missing_value: logi TRUE
## .. ..$ missval : num -999
## .. ..$ hasAddOffset : logi TRUE
## .. ..$ addOffset : num 0
## .. ..$ hasScaleFact : logi TRUE
## .. ..$ scaleFact : num 1
## .. ..$ attr(*, "class")= chr "ncvar4"
## ..$ ssta:List of 24
## .. ..$ id :List of 5
## .. ..$ id : num 5
## .. ..$ group_index: num -1
## .. ..$ group_id : int 65536
## .. ..$ list_index : num 2
## .. ..$ isdimvar : logi FALSE
## .. ..$ attr(*, "class")= chr "ncid4"
## .. ..$ name : chr "ssta"
## .. ..$ ndims : int 4
## .. ..$ natts : int 7
## .. ..$ size : int [1:4] 180 89 1 1
## .. ..$ dimids : int [1:4] 2 0 1 3
## .. ..$ prec : chr "float"
## .. ..$ units : chr "degree_C"
## .. ..$ longname : chr "Extended reconstructed SST anomalies"
## .. ..$ group_index : int 1
## .. ..$ chunksizes : logi NA
## .. ..$ storage : num 1
## .. ..$ shuffle : logi FALSE
## .. ..$ compression : logi NA
## .. ..$ dims : list()
## .. ..$ dim :List of 4
## .. ..$ :List of 10
## .. ..$ name : chr "lon"
## .. ..$ len : int 180
## .. ..$ unlim : logi FALSE
## .. ..$ group_index : int 1
## .. ..$ group_id : int 65536

```

```

## .. .. .. ..$ id          : int 2
## .. .. .. ..$ dimvarid     :List of 5
## .. .. .. ..$ id          : int 2
## .. .. .. ..$ group_index: int 1
## .. .. .. ..$ group_id    : int 65536
## .. .. .. ..$ list_index  : num -1
## .. .. .. ..$ isdimvar    : logi TRUE
## .. .. .. ..$- attr(*, "class")= chr "ncid4"
## .. .. .. ..$ units       : chr "degrees_east"
## .. .. .. ..$ vals        : num [1:180(1d)] 0 2 4 6 8 10 12 14 16 18 ...
## .. .. .. ..$ create_dimvar: logi TRUE
## .. .. .. ..$- attr(*, "class")= chr "ncdim4"
## .. .. ..$ :List of 10
## .. .. .. ..$ name        : chr "lat"
## .. .. .. ..$ len         : int 89
## .. .. .. ..$ unlim       : logi FALSE
## .. .. .. ..$ group_index : int 1
## .. .. .. ..$ group_id    : int 65536
## .. .. .. ..$ id          : int 0
## .. .. .. ..$ dimvarid     :List of 5
## .. .. .. ..$ id          : int 0
## .. .. .. ..$ group_index: int 1
## .. .. .. ..$ group_id    : int 65536
## .. .. .. ..$ list_index  : num -1
## .. .. .. ..$ isdimvar    : logi TRUE
## .. .. .. ..$- attr(*, "class")= chr "ncid4"
## .. .. .. ..$ units       : chr "degrees_north"
## .. .. .. ..$ vals        : num [1:89(1d)] -88 -86 -84 -82 -80 -78 -76 -74 -72 -70 ...
## .. .. .. ..$ create_dimvar: logi TRUE
## .. .. .. ..$- attr(*, "class")= chr "ncdim4"
## .. .. ..$ :List of 10
## .. .. .. ..$ name        : chr "lev"
## .. .. .. ..$ len         : int 1
## .. .. .. ..$ unlim       : logi FALSE
## .. .. .. ..$ group_index : int 1
## .. .. .. ..$ group_id    : int 65536
## .. .. .. ..$ id          : int 1
## .. .. .. ..$ dimvarid     :List of 5
## .. .. .. ..$ id          : int 1
## .. .. .. ..$ group_index: int 1
## .. .. .. ..$ group_id    : int 65536
## .. .. .. ..$ list_index  : num -1
## .. .. .. ..$ isdimvar    : logi TRUE
## .. .. .. ..$- attr(*, "class")= chr "ncid4"
## .. .. .. ..$ units       : chr "meters"

```

```

## .. .. ..$ vals          : num [1(1d)] 0
## .. .. ..$ create_dimvar: logi TRUE
## .. .. ..$- attr(*, "class")= chr "ncdim4"
## .. .. ..$ :List of 11
## .. .. ..$ name          : chr "time"
## .. .. ..$ len           : int 1
## .. .. ..$ unlim         : logi FALSE
## .. .. ..$ group_index   : int 1
## .. .. ..$ group_id      : int 65536
## .. .. ..$ id            : int 3
## .. .. ..$ dimvarid      :List of 5
## .. .. ..$ id            : int 4
## .. .. ..$ group_index   : int 1
## .. .. ..$ group_id      : int 65536
## .. .. ..$ list_index    : num -1
## .. .. ..$ isdimvar      : logi TRUE
## .. .. ..$- attr(*, "class")= chr "ncid4"
## .. .. ..$ units         : chr "minutes since 1854-01-01 00:00"
## .. .. ..$ calendar      : chr "360_day"
## .. .. ..$ vals          : num [1(1d)] 0
## .. .. ..$ create_dimvar: logi TRUE
## .. .. ..$- attr(*, "class")= chr "ncdim4"
## .. ..$ varsize          : int [1:4] 180 89 1 1
## .. ..$ unlim            : logi FALSE
## .. ..$ make_missing_value: logi TRUE
## .. ..$ missval          : num -999
## .. ..$ hasAddOffset     : logi TRUE
## .. ..$ addOffset        : num 0
## .. ..$ hasScaleFact     : logi TRUE
## .. ..$ scaleFact        : num 1
## .. ..$- attr(*, "class")= chr "ncvar4"
## - attr(*, "class")= chr "ncdf4"

print(B195401)

## File /home/CAMPUS/mwl04747/github/Climate_Change_Narratives/Data/FA19/ersst.v5.185401.nc
##
##      2 variables (excluding dimension variables):
##      float sst[lon,lat,lev,time]
##      _FillValue: -999
##      long_name: Extended reconstructed sea surface temperature
##      standard_name: sea_surface_temperature
##      units: degree_C
##      add_offset: 0
##      scale_factor: 1
##      valid_min: -3

```

```

##         valid_max: 45
##         float ssta[lon,lat,lev,time]
##         _FillValue: -999
##         long_name: Extended reconstructed SST anomalies
##         units: degree_C
##         add_offset: 0
##         scale_factor: 1
##         valid_min: -12
##         valid_max: 12
##
##     4 dimensions:
##         lat  Size:89
##             units: degrees_north
##             long_name: Latitude
##             standard_name: latitude
##             axis: Y
##             comment: Uniform grid from -88 to 88 by 2
##         lev  Size:1
##             units: meters
##             long_name: Depth of sea surface temperature measurements
##             standard_name: depth
##             axis: Z
##             positive: down
##             _CoordinateAxisType: Height
##             comment: Actual measurement depth of in situ sea surface temperature varies 1
##         lon  Size:180
##             units: degrees_east
##             long_name: Longitude
##             standard_name: longitude
##             axis: X
##             comment: Uniform grid from 0 to 358 by 2
##         time  Size:1
##             long_name: Start time of month
##             standard_name: time
##             axis: T
##             delta_t: 0000-01-00
##             avg_period: 0000-01-00
##             calendar: 360_day
##             units: minutes since 1854-01-01 00:00
##
##     38 global attributes:
##         Conventions: CF-1.6, ACDD-1.3
##         metadata_link: https://doi.org/10.7289/V5T72FNM
##         id: ersst.v5.185401
##         naming_authority: gov.noaa.ncei

```

```

##      title: NOAA ERSSTv5 (in situ only)
##      summary: ERSST.v5 is developed based on v4 after revisions of 8 parameters using
##      institution: NOAA/NESDIS/NCEI/CCOG
##      creator_name: Boyin Huang
##      creator_email: boyin.huang@noaa.gov
##      date_created: 2017-06-30T12:18:00Z
##      date_modified: 2017-06-30T12:18:00Z
##      product_version: Version 5
##      history: Fri Jun 30 12:22:38 2017: ncatted -O -a _FillValue,ssta,o,f,-999.0 ssta
## Version 5 based on Version 4
##      creator_url: https://www.ncei.noaa.gov
##      license: No constraints on data access or use
##      time_coverage_start: 1854-01-01T00:00:00Z
##      time_coverage_end: 1854-02-01T00:00:00Z
##      geospatial_lon_min: -1
##      geospatial_lon_max: 359
##      geospatial_lat_min: -89
##      geospatial_lat_max: 89
##      geospatial_lat_units: degrees_north
##      geospatial_lat_resolution: 2
##      geospatial_lon_units: degrees_east
##      geospatial_lon_resolution: 2
##      spatial_resolution: 2.0 degree grid
##      cdm_data_type: Grid
##      processing_level: NOAA Level 4
##      standard_name_vocabulary: CF Standard Name Table (v40, 25 January 2017)
##      keywords: Earth Science > Oceans > Ocean Temperature > Sea Surface Temperature
##      keywords_vocabulary: NASA Global Change Master Directory (GCMD) Science Keywords
##      project: NOAA Extended Reconstructed Sea Surface Temperature (ERSST)
##      platform: Ship and Buoy SSTs from ICOADS R3.0 and NCEP GTS
##      instrument: Conventional thermometers
##      source: In situ data: ICOADS R3.0 before 2015, NCEP in situ GTS from 2016 to pres
##      comment: SSTs were observed by conventional thermometers in Buckets (in sulated o
##      references: Huang et al, 2017: Extended Reconstructed Sea Surface Temperatures Ve
##      climatology: Climatology is based on 1971-2000 SST, Xue, Y., T. M. Smith, and R.

ncin = B195401

print(ncin)

## File /home/CAMPUS/mwl04747/github/Climate_Change_Narratives/Data/FA19/ersst.v5.185401.nc
##
##      2 variables (excluding dimension variables):
##          float sst[lon,lat,lev,time]
##              _FillValue: -999
##              long_name: Extended reconstructed sea surface temperature

```



```

##         standard_name: sea_surface_temperature
##         units: degree_C
##         add_offset: 0
##         scale_factor: 1
##         valid_min: -3
##         valid_max: 45
##     float ssta[lon,lat,lev,time]
##         _FillValue: -999
##         long_name: Extended reconstructed SST anomalies
##         units: degree_C
##         add_offset: 0
##         scale_factor: 1
##         valid_min: -12
##         valid_max: 12
##
##     4 dimensions:
##         lat  Size:89
##             units: degrees_north
##             long_name: Latitude
##             standard_name: latitude
##             axis: Y
##             comment: Uniform grid from -88 to 88 by 2
##         lev  Size:1
##             units: meters
##             long_name: Depth of sea surface temperature measurements
##             standard_name: depth
##             axis: Z
##             positive: down
##             _CoordinateAxisType: Height
##             comment: Actual measurement depth of in situ sea surface temperature varies 1
##         lon  Size:180
##             units: degrees_east
##             long_name: Longitude
##             standard_name: longitude
##             axis: X
##             comment: Uniform grid from 0 to 358 by 2
##         time  Size:1
##             long_name: Start time of month
##             standard_name: time
##             axis: T
##             delta_t: 0000-01-00
##             avg_period: 0000-01-00
##             calendar: 360_day
##             units: minutes since 1854-01-01 00:00
##

```

```

##      38 global attributes:
##          Conventions: CF-1.6, ACDD-1.3
##          metadata_link: https://doi.org/10.7289/V5T72FNM
##          id: ersst.v5.185401
##          naming_authority: gov.noaa.ncei
##          title: NOAA ERSSTv5 (in situ only)
##          summary: ERSST.v5 is developped based on v4 after revisions of 8 parameters using
##          institution: NOAA/NESDIS/NCEI/CCOG
##          creator_name: Boyin Huang
##          creator_email: boyin.huang@noaa.gov
##          date_created: 2017-06-30T12:18:00Z
##          date_modified: 2017-06-30T12:18:00Z
##          product_version: Version 5
##          history: Fri Jun 30 12:22:38 2017: ncatted -O -a _FillValue,ssta,o,f,-999.0 ssta
## Version 5 based on Version 4
##          creator_url: https://www.ncei.noaa.gov
##          license: No constraints on data access or use
##          time_coverage_start: 1854-01-01T00:00:00Z
##          time_coverage_end: 1854-02-01T00:00:00Z
##          geospatial_lon_min: -1
##          geospatial_lon_max: 359
##          geospatial_lat_min: -89
##          geospatial_lat_max: 89
##          geospatial_lat_units: degrees_north
##          geospatial_lat_resolution: 2
##          geospatial_lon_units: degrees_east
##          geospatial_lon_resolution: 2
##          spatial_resolution: 2.0 degree grid
##          cdm_data_type: Grid
##          processing_level: NOAA Level 4
##          standard_name_vocabulary: CF Standard Name Table (v40, 25 January 2017)
##          keywords: Earth Science > Oceans > Ocean Temperature > Sea Surface Temperature
##          keywords_vocabulary: NASA Global Change Master Directory (GCMD) Science Keywords
##          project: NOAA Extended Reconstructed Sea Surface Temperature (ERSST)
##          platform: Ship and Buoy SSTs from ICOADS R3.0 and NCEP GTS
##          instrument: Conventional thermometers
##          source: In situ data: ICOADS R3.0 before 2015, NCEP in situ GTS from 2016 to pres
##          comment: SSTs were observed by conventional thermometers in Buckets (in sulated o
##          references: Huang et al, 2017: Extended Reconstructed Sea Surface Temperatures Ve
##          climatology: Climatology is based on 1971-2000 SST, Xue, Y., T. M. Smith, and R.

lon <- ncvar_get(ncin, "lon")
nlon <- dim(lon)
head(lon)

## [1]  0  2  4  6  8 10

```

```

lat <- ncvar_get(ncin, "lat", verbose = F)
nlat <- dim(lat)
head(lat)

## [1] -88 -86 -84 -82 -80 -78

print(c(nlon, nlat))

## [1] 180 89

t <- ncvar_get(ncin, "time")
tunits <- ncatt_get(ncin, "time", "units")
nt <- dim(t); nt

## [1] 1

lat.sel = 67; lon.set = 75

#ncvar_get(ncin, sst) #object 'sst' not found

#ncvar_get(ncin, var$sst) object of type 'closure' is not subsettable
#ncvar_get(ncin, var) second argument to ncvar_get must be an object of type ncvar or ncdim

ncvar_get(ncin, "sst") #spits out the temperatures. but why the negative numbers!

##           [,1] [,2] [,3] [,4] [,5] [,6]           [,7]           [,8]           [,9]           [,10]
## [1,]      NA   NA   NA   NA   NA   NA           NA           NA           NA           NA
## [2,]      NA   NA   NA   NA   NA   NA           NA           NA           NA -1.774563
## [3,]      NA   NA   NA   NA   NA   NA           NA           NA           NA -1.761915
## [4,]      NA   NA   NA   NA   NA   NA           NA           NA           NA -1.777754
## [5,]      NA   NA   NA   NA   NA   NA           NA           NA           NA -1.797741
## [6,]      NA   NA   NA   NA   NA   NA           NA           NA           NA -1.800000
## [7,]      NA   NA   NA   NA   NA   NA           NA           NA           NA -1.800000
## [8,]      NA   NA   NA   NA   NA   NA           NA           NA           NA -1.800000
## [9,]      NA   NA   NA   NA   NA   NA           NA           NA           NA -1.800000
## [10,]     NA   NA   NA   NA   NA   NA           NA           NA           NA           NA
## [11,]     NA   NA   NA   NA   NA   NA           NA           NA           NA           NA
## [12,]     NA   NA   NA   NA   NA   NA           NA           NA           NA -1.800000
## [13,]     NA   NA   NA   NA   NA   NA           NA           NA           NA -1.800000
## [14,]     NA   NA   NA   NA   NA   NA           NA           NA           NA -1.800000
## [15,]     NA   NA   NA   NA   NA   NA           NA           NA           NA           NA
## [16,]     NA   NA   NA   NA   NA   NA           NA           NA           NA           NA
## [17,]     NA   NA   NA   NA   NA   NA           NA           NA           NA           NA
## [18,]     NA   NA   NA   NA   NA   NA           NA           NA           NA           NA
## [19,]     NA   NA   NA   NA   NA   NA           NA           NA           NA           NA
## [20,]     NA   NA   NA   NA   NA   NA           NA           NA           NA           NA
## [21,]     NA   NA   NA   NA   NA   NA           NA           NA           NA           NA

```

##	[22,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[23,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[24,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[25,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[26,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[27,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[28,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[29,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[30,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[31,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[32,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[33,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[34,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[35,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[36,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[37,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[38,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[39,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[40,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[41,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[42,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[43,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[44,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[45,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[46,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[47,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[48,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[49,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[50,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[51,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[52,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[53,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[54,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[55,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[56,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[57,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[58,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[59,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[60,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[61,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[62,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[63,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[64,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[65,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[66,]	NA	NA	NA	NA	NA	NA	NA	NA

##	[67,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	[68,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	[69,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	[70,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	[71,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	[72,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	[73,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	[74,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	[75,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	[76,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	[77,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	[78,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	[79,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	[80,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	[81,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
##	[82,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	-1.800000	
##	[83,]	NA	NA	NA	NA	NA	NA	-1.3823640	-1.3553008	NA	-1.800000	
##	[84,]	NA	NA	NA	NA	NA	NA	-1.4658120	-1.4681550	NA	-1.800000	
##	[85,]	NA	NA	NA	NA	NA	NA	-1.4675065	-1.3775620	NA	-1.800000	
##	[86,]	NA	NA	NA	NA	NA	NA	-1.2986207	-1.0522863	-1.1539867	-1.780159	
##	[87,]	NA	NA	NA	NA	NA	NA	-1.0085876	-0.7656991	-0.8586679	-1.649944	
##	[88,]	NA	NA	NA	NA	NA	NA	-0.7082278	-0.6050857	-0.6645930	-1.427400	
##	[89,]	NA	NA	NA	NA	NA	NA	-0.6305463	-0.5804463	-0.6170229	-1.275276	
##	[90,]	NA	NA	NA	NA	NA	NA	-0.6876397	-0.6160794	-0.6417975	-1.159300	
##	[91,]	NA	NA	NA	NA	NA	NA	-0.6463790	-0.6289601	-0.6683286	-1.101668	
##	[92,]	NA	NA	NA	NA	NA	NA	-0.5920110	-0.6490372	-0.6915598	-1.099731	
##	[93,]	NA	NA	NA	NA	NA	NA	-0.6471776	-0.7400604	-0.7267473	-1.268403	
##	[94,]	NA	NA	NA	NA	NA	NA	-0.7893848	-0.9085203	-0.8812240	-1.419770	
##	[95,]	NA	NA	NA	NA	NA	NA	-0.9564446	-1.1081464	-1.3161048	-1.416283	
##	[96,]	NA	NA	NA	NA	NA	NA	-1.0945399	-1.2604827	-1.5359139	-1.392840	
##	[97,]	NA	NA	NA	NA	NA	NA	-1.1845996	-1.4367696	-1.6084646	-1.387178	
##	[98,]	NA	NA	NA	NA	NA	NA	-1.2509415	-1.5882766	-1.6373754	-1.439806	
##	[99,]	NA	NA	NA	NA	NA	NA	-1.3189645	-1.6578734	-1.6322598	-1.602350	
##	[100,]	NA	NA	NA	NA	NA	NA	-1.3896363	-1.6930406	-1.6513615	-1.800000	
##	[101,]	NA	NA	NA	NA	NA	NA	-1.4620957	-1.7278277	-1.6616565	-1.800000	
##	[102,]	NA	NA	NA	NA	NA	NA	-1.6450576	-1.7534049	-1.6679649	-1.745751	
##	[103,]	NA	NA	NA	NA	NA	NA	-1.7840648	-1.7639176	-1.6580732	-1.627074	
##	[104,]	NA	NA	NA	NA	NA	NA	-1.7786868	-1.7677531	-1.6652715	-1.588073	
##	[105,]	NA	NA	NA	NA	NA	NA	-1.7715869	-1.7645566	-1.6922376	-1.595789	
##	[106,]	NA	NA	NA	NA	NA	NA	-1.7818247	-1.7675724	-1.7438329	-1.647877	
##	[107,]	NA	NA	NA	NA	NA	NA	-1.7830735	-1.7783417	-1.8000000	-1.738328	
##	[108,]	NA	NA	NA	NA	NA	NA	-1.5550464	-1.7855439	-1.8000000	-1.764546	
##	[109,]	NA	NA	NA	NA	NA	NA	NA	-1.7859449	-1.7950387	-1.756223	
##	[110,]	NA	NA	NA	NA	NA	NA	NA	-1.7828929	-1.8000000	-1.746073	
##	[111,]	NA	NA	NA	NA	NA	NA	NA	-1.7763654	-1.8000000	-1.751676	

## [112,]	NA	NA	NA	NA	NA	NA	NA	-1.6637352	-1.7485516	-1.746756
## [113,]	NA	NA	NA	NA	NA	NA	NA	-1.5481538	-1.7768693	-1.753121
## [114,]	NA	NA	NA	NA	NA	NA	NA	-1.4680281	-1.8000000	-1.800000
## [115,]	NA	NA	NA	NA	NA	NA	NA	-1.5891438	-1.8000000	-1.800000
## [116,]	NA	NA	NA	NA	NA	NA	NA	-1.6165535	-1.8000000	-1.800000
## [117,]	NA	NA	NA	NA	NA	NA	NA	-1.6309192	-1.7809601	-1.800000
## [118,]	NA	NA	NA	NA	NA	NA	NA	-1.3334661	-1.7766134	-1.789582
## [119,]	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.7941852	-1.770766
## [120,]	NA	NA	NA	NA	NA	NA	NA	-1.7808244	-1.8000000	-1.791356
## [121,]	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.800000
## [122,]	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.800000
## [123,]	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.800000
## [124,]	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.800000
## [125,]	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.768973
## [126,]	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.774175
## [127,]	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.800000
## [128,]	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.800000
## [129,]	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.800000
## [130,]	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.800000
## [131,]	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.800000
## [132,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.800000
## [133,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.800000
## [134,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.800000
## [135,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.800000
## [136,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.800000
## [137,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.800000
## [138,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.800000
## [139,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.800000
## [140,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.800000
## [141,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.800000
## [142,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.800000
## [143,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.800000
## [144,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.800000
## [145,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.800000
## [146,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	NA
## [147,]	NA	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.800000
## [148,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
## [149,]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
## [150,]	NA	NA	NA	NA	NA	NA	-1.8000000	NA	NA	NA
## [151,]	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.8000000	-1.800000
## [152,]	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.8000000	-1.800000
## [153,]	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.8000000	-1.800000
## [154,]	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.8000000	-1.800000
## [155,]	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.8000000	-1.800000
## [156,]	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.8000000	-1.800000

##	[157,]	NA	NA	NA	NA	NA	NA	-1.8000000	-1.8000000	-1.8000000	-1.8000000
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##	[170,]	NA	NA	NA	NA	NA	NA	NA	-1.8000000	-1.7946647	-1.722925
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##	[7,]	-1.79999995	-0.98037457	-0.53704518	-0.39419085	-0.41182774	-0.159325004				
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##	[12,]	-1.79421329	-1.00179040	-0.60308361	-0.15301442	-0.10761821	0.117772698				
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##	[19,]	-1.79999995	-1.79999995	-0.12659973	0.19805151	0.30707318	0.509751678				
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## [156,] -1.79999995 -1.79999995 -1.16026890 -0.04621547 1.08020544 2.524641991
## [157,] -1.79999995 -1.79999995 -1.58163214 -0.08025739 0.98072505 2.323866844
## [158,] -1.79999995 -1.79999995 -1.79999995 -0.16789132 0.87016994 2.079214573
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## [160,] -1.79999995 -1.79999995 -1.79999995 -1.72182989 0.36662740 1.400934696
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## [165,] -1.79999995 -1.75285101 -1.68220532 -1.79999995 -1.09745789 0.717952669
## [166,] -1.77922225 -1.56156158 -1.30686295 -1.67444098 -1.52078176 0.669208288
## [167,] -1.73389566 -1.41135216 -1.25390255 -1.46587491 -1.45430577 0.639495313
## [168,] -1.65737963 -1.41788614 -1.22135031 -0.84437692 -1.34455371 0.513382614
## [169,] -1.59811735 -1.38914263 -1.15509796 -0.67588341 -1.01165390 0.906477273
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## [171,] -1.41890943 -1.30082655 -1.08077466 -0.59684229 0.17418045 0.934768438
## [172,] -1.37973559 -1.25813580 -1.07682729 -0.67028904 -0.02548492 0.861618280
## [173,] -1.34808922 -1.21155977 -1.06527293 -0.73140436 -0.17057779 0.692843020
## [174,] -1.33229840 -1.16971016 -1.03338516 -0.74679160 -0.24182308 0.552058220
## [175,] -1.33888185 -1.13673997 -0.98064607 -0.70920348 -0.32646680 0.372132719
## [176,] -1.35502136 -1.10390079 -0.92158014 -0.64887023 -0.34584171 0.159908175
## [177,] -1.35619140 -1.04910505 -0.84952724 -0.59157395 -0.51746356 -0.071789026
## [178,] -1.33594191 -0.96438199 -0.76365709 -0.54125011 -0.70614809 -0.072269261
## [179,] -1.52390420 -0.86247432 -0.67802310 -0.58973408 -0.96526372 -0.018185318
## [180,] -1.59468985 -0.77287078 -0.60279143 -0.33380905 -1.23619223 0.014124418
##      [,17]      [,18]      [,19]      [,20]      [,21]      [,22]      [,23]
##      [1,] 0.2935454 0.8408802 1.874332 3.467425 5.301629 7.317644 9.567365
##      [2,] 0.2046294 0.8040764 1.838070 3.424333 5.296442 7.352928 9.614157
##      [3,] 0.1886381 0.7934632 1.821373 3.344620 5.185613 7.250438 9.514045
##      [4,] 0.1799294 0.7895502 1.882911 3.330203 5.078367 7.098190 9.353427
##      [5,] 0.1698834 0.7690263 1.917050 3.334505 5.070839 7.054043 9.269240
##      [6,] 0.1348056 0.6995937 1.798606 3.313416 5.157058 7.187194 9.407710
##      [7,] 0.1436291 0.6389180 1.648852 3.254615 5.255680 7.436274 9.818203
##      [8,] 0.1947837 0.6989441 1.605277 3.220884 5.293554 7.631973 10.338408
##      [9,] 0.2716138 0.7807196 1.642703 3.180324 5.242540 7.672757 10.713604
##     [10,] 0.3185981 0.7674297 1.617844 3.060112 5.058910 7.523896 10.835920
##     [11,] 0.3003461 0.6564553 1.477322 2.875290 4.831402 7.333446 10.776504
##     [12,] 0.2812479 0.5467629 1.325194 2.710803 4.647601 7.246295 10.700337
##     [13,] 0.3639948 0.5821878 1.303035 2.644425 4.568442 7.200278 10.634176
##     [14,] 0.5365841 0.7866215 1.455340 2.721397 4.628520 7.253254 10.652018
##     [15,] 0.7125841 1.0366709 1.712634 2.931339 4.862315 7.456143 10.721313
##     [16,] 0.8145559 1.2381488 1.958028 3.213669 5.154458 7.645130 10.650483
##     [17,] 0.8460225 1.3565812 2.146396 3.404656 5.281398 7.611235 10.341637
##     [18,] 0.8410226 1.4127849 2.207907 3.378841 5.077035 7.253035 9.866982
##     [19,] 0.8004704 1.4033177 2.142365 3.174385 4.703585 6.747590 9.388052

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##	[20,]	0.6918751	1.2844923	2.007226	2.969863	4.436190	6.394790	9.011528
##	[21,]	0.5205404	1.0611001	1.861678	2.910503	4.383946	6.214017	8.746674
##	[22,]	0.3438326	0.8347459	1.741058	2.927725	4.408333	6.089749	8.541720
##	[23,]	0.2618206	0.7017070	1.687961	2.940399	4.351342	5.885911	8.309508
##	[24,]	0.2864882	0.7445351	1.750381	2.950509	4.206462	5.618227	8.031121
##	[25,]	0.3715417	0.9061306	1.958978	3.027283	4.089313	5.417658	7.833837
##	[26,]	0.5170159	1.1287475	2.197491	3.173413	4.096665	5.389254	7.855313
##	[27,]	0.6567481	1.3223373	2.372948	3.339284	4.254574	5.633744	8.226545
##	[28,]	0.7700107	1.4792641	2.506554	3.530408	4.581356	6.186400	8.982515
##	[29,]	0.8799603	1.6235870	2.635778	3.710454	5.002358	6.991993	9.984574
##	[30,]	0.9965122	1.7670885	2.752309	3.849595	5.369297	7.759891	10.906407
##	[31,]	1.1320467	1.9159745	2.859899	3.904756	5.500142	8.158751	11.410839
##	[32,]	1.2856622	2.0685558	2.936184	3.875792	5.418674	8.148226	11.452693
##	[33,]	1.4463794	2.1950030	2.986491	3.842323	5.264551	7.895082	11.182255
##	[34,]	1.5895796	2.3049808	3.019680	3.873986	5.193090	7.693092	10.929667
##	[35,]	1.6767740	2.3848624	3.030107	3.863320	5.207947	7.686160	10.899810
##	[36,]	1.6959547	2.3911026	2.943531	3.762606	5.242355	7.852780	11.037353
##	[37,]	1.6474760	2.3029847	2.794777	3.661754	5.358059	8.113157	11.182195
##	[38,]	1.4882383	2.0812688	2.641765	3.665593	5.570507	8.360213	11.186175
##	[39,]	1.2088914	1.7082334	2.426366	3.706370	5.771461	8.424129	11.013525
##	[40,]	0.9594533	1.3604579	2.195151	3.723439	5.852463	8.321252	10.789762
##	[41,]	1.0041006	1.3342285	2.201083	3.847365	5.926193	8.233082	10.670182
##	[42,]	1.3736330	1.6995180	2.573195	4.210670	6.168585	8.340959	10.701470
##	[43,]	1.8445070	2.2819583	3.137658	4.688517	6.544569	8.592688	10.790289
##	[44,]	2.1214108	2.7003453	3.599071	5.072524	6.820126	8.706012	10.725730
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##	[98,]	7.4858522	8.9298964	10.343992	11.490186	12.373801	13.104484	13.789447
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##	[145,]	7.2540727	8.0447474	NA	NA	NA	NA	NA
##	[146,]	7.3716774	8.3074160	9.132433	NA	NA	NA	NA
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##	[148,]	6.9955125	8.3092861	9.627064	10.910633	12.421230	13.758368	NA
##	[149,]	6.5989041	8.0060549	9.457115	10.973909	12.433447	13.916461	15.460808
##	[150,]	6.2091804	7.7127256	9.201586	10.592524	11.785063	13.128120	14.791732
##	[151,]	5.9034281	7.5193748	8.875729	9.950346	10.861396	12.037046	13.632454
##	[152,]	5.5935750	7.2236662	8.378041	9.269620	10.328275	11.723352	13.117101
##	[153,]	5.2361207	6.7981873	7.779569	8.778427	10.432994	12.414474	13.809836
##	[154,]	4.8500228	6.3284488	7.224906	8.524337	10.778346	13.244260	14.881114

##	[155,]	4.4608855	5.7812290	6.719174	8.352083	10.889531	13.407466	15.238142	
##	[156,]	4.0830045	5.1962838	6.226969	8.125173	10.763264	13.063190	14.810116	
##	[157,]	3.6856947	4.6000767	5.676143	7.780928	10.478219	12.538615	14.040148	
##	[158,]	3.1980100	3.9848852	5.113050	7.294151	10.000838	11.932807	13.268722	
##	[159,]	2.7072701	3.4318035	4.513853	6.718678	9.432279	11.330405	12.648929	
##	[160,]	2.2673085	2.9233065	3.965355	6.099598	8.835497	10.818272	12.182737	
##	[161,]	1.8262277	2.5215154	3.532528	5.582990	8.281916	10.360696	11.840870	
##	[162,]	1.6789804	2.3120644	3.103930	5.231501	7.886630	9.913705	11.537310	
##	[163,]	1.5194113	2.1217475	3.189232	5.279399	7.722281	9.582601	11.277523	
##	[164,]	1.3768554	1.8660491	2.993935	5.071332	7.411081	9.274385	11.074432	
##	[165,]	1.1267720	1.6070821	2.745432	4.760054	6.955307	8.862332	10.826734	
##	[166,]	0.9451079	1.5251329	2.728889	4.573985	6.522589	8.397783	10.518572	
##	[167,]	0.9771729	1.7756262	3.052078	4.627278	6.274401	8.091702	10.327936	
##	[168,]	1.2752829	2.1323452	3.369521	4.715116	6.118346	7.988351	10.264338	
##	[169,]	1.7401202	2.4695044	3.511720	4.654562	6.096982	8.049099	10.317430	
##	[170,]	1.9059750	2.5489254	3.570984	4.634845	6.121029	8.138459	10.348711	
##	[171,]	1.8132294	2.6666462	3.582924	4.602742	6.099340	8.092947	10.223902	
##	[172,]	1.4792356	2.4950497	3.413943	4.480132	5.993334	7.856898	9.947016	
##	[173,]	1.2987640	2.2717707	3.216021	4.303599	5.728082	7.498256	9.721031	
##	[174,]	1.0601345	1.9551320	2.925227	3.986611	5.343858	7.195542	9.674086	
##	[175,]	0.8109810	1.5965433	2.513057	3.532148	4.911519	6.976141	9.727778	
##	[176,]	0.6199817	1.3204157	2.128896	3.125637	4.560364	6.818792	9.742828	
##	[177,]	0.4245486	1.0603528	1.849131	2.904945	4.437636	6.784220	9.664912	
##	[178,]	0.3368904	0.8949399	1.728867	2.919606	4.611745	6.900345	9.573993	
##	[179,]	0.3066961	0.8443554	1.764570	3.167285	4.945205	7.082374	9.522894	
##	[180,]	0.3075625	0.8552865	1.847922	3.399573	5.216336	7.227442	9.514512	
##		[,24]	[,25]	[,26]	[,27]	[,28]	[,29]	[,30]	[,31]
##	[1,]	11.96902	14.44473	16.93146	19.10774	20.72120	21.85008	22.59992	22.92760
##	[2,]	11.99610	14.49071	17.01807	19.18612	20.71638	21.71173	22.31297	22.52926
##	[3,]	11.92703	14.48167	17.02514	19.16819	20.62582	21.49494	21.95963	22.08086
##	[4,]	11.81417	14.41740	16.95102	19.05071	20.43747	21.19037	21.54565	21.61604
##	[5,]	11.74278	14.37079	16.89536	18.94468	20.23636	20.87842	21.14054	21.20176
##	[6,]	11.89922	14.56457	17.06942	19.01944	20.17516	20.67467	20.83583	20.81583
##	[7,]	12.48885	15.24434	17.65672	19.38795	20.30068	20.59185	20.53053	20.20562
##	[8,]	13.39962	16.32863	18.55881	19.87682	20.35890	20.27719	19.90189	19.36443
##	[9,]	14.23823	17.40055	19.41171	20.17994	20.07968	19.55215	19.00147	18.73167
##	[10,]	14.74065	18.13458	20.00817	20.34710	19.82335	18.97167	18.44060	NA
##	[11,]	14.87018	18.43687	20.38523	20.70148	20.24295	NA	NA	NA
##	[12,]	14.76968	18.34930	20.51134	21.18408	21.09254	NA	NA	NA
##	[13,]	14.54162	17.98155	20.32145	21.51995	21.91439	NA	NA	NA
##	[14,]	14.40265	17.67065	20.04115	21.63696	22.49586	NA	NA	NA
##	[15,]	14.30674	17.47655	19.81434	21.56361	22.79101	NA	NA	NA
##	[16,]	14.01858	17.17028	19.54818	21.32794	22.81559	23.89755	NA	NA
##	[17,]	13.59075	16.82706	19.31576	21.09401	22.64314	24.09546	25.13664	NA
##	[18,]	13.18927	16.62217	19.22070	20.97585	22.49538	24.04099	25.39038	26.42624

##	[19,]	12.85064	16.45882	19.10386	20.83197	22.36003	23.94083	25.32934	26.35658
##	[20,]	12.54881	16.20150	18.82508	20.52177	22.07249	23.68501	25.09902	26.15441
##	[21,]	12.30150	15.95068	18.50252	20.11649	21.61133	23.23770	24.73828	25.93820
##	[22,]	12.18130	15.88025	18.33453	19.78469	21.16959	22.78177	24.39549	25.78284
##	[23,]	12.10355	15.91354	18.30622	19.66111	21.00065	22.59514	24.24715	25.69518
##	[24,]	11.91839	15.83084	18.26710	19.69246	21.12263	22.72679	24.33471	25.71548
##	[25,]	11.73526	15.65714	18.16069	19.71602	21.27660	22.93537	24.53620	25.83269
##	[26,]	11.73027	15.53718	18.00190	19.60201	21.24521	23.00443	24.68145	25.97131
##	[27,]	12.04616	15.59565	17.86267	19.40357	21.07439	22.93031	24.67897	25.97749
##	[28,]	12.67858	15.83491	17.82603	19.29061	20.95051	22.82211	24.55408	25.86028
##	[29,]	13.41102	16.08009	17.83526	19.29841	20.96940	22.78287	24.45983	25.78789
##	[30,]	13.98503	16.19583	17.81735	19.37529	21.09559	22.86593	24.54296	25.88299
##	[31,]	14.21179	16.13445	17.76859	19.51274	21.34924	23.14401	24.80830	26.11751
##	[32,]	14.10575	15.95671	17.75859	19.73170	21.69851	23.52717	25.14759	26.36242
##	[33,]	13.85380	15.79768	17.78571	19.94689	22.01550	23.84204	25.38615	26.47827
##	[34,]	13.68400	15.73493	17.80145	20.05728	22.17628	23.96314	25.41820	26.39818
##	[35,]	13.67779	15.76521	17.83004	20.08825	22.17251	23.90782	25.27188	26.16437
##	[36,]	13.73920	15.80492	17.87059	20.09218	22.11834	23.77762	25.04980	25.86736
##	[37,]	13.70578	15.77085	17.89116	20.09556	22.04729	23.61209	24.78755	25.53576
##	[38,]	13.52674	15.65029	17.88062	20.09530	21.96997	23.42157	24.47674	25.16048
##	[39,]	13.29745	15.51400	17.81924	20.02074	21.83403	23.19145	24.13672	24.75881
##	[40,]	13.14355	15.41872	17.68644	19.82918	21.59785	22.91632	23.80220	24.37677
##	[41,]	13.08266	15.33412	17.49813	19.54643	21.28133	22.60155	23.47407	24.01918
##	[42,]	13.05052	15.22077	17.28033	19.25264	20.96542	22.28346	23.16920	23.68387
##	[43,]	12.98460	15.04418	17.03988	18.98538	20.68484	22.02540	22.88301	23.34170
##	[44,]	12.77169	14.78396	16.79178	18.72025	20.40594	21.75249	22.55461	22.97567
##	[45,]	12.45259	14.52951	16.53899	18.41173	20.05437	21.32524	22.09212	22.53211
##	[46,]	12.21442	14.29554	16.24719	18.03707	19.56789	20.72580	21.47640	21.99252
##	[47,]	12.10399	14.10403	15.92394	17.59902	19.01547	20.10016	20.86522	21.46072
##	[48,]	12.02770	13.89059	15.57875	17.17059	18.53981	19.60563	20.39074	21.02863
##	[49,]	12.00012	13.70879	15.28642	16.82434	18.19064	19.27122	20.06732	20.71345
##	[50,]	11.98664	13.53206	15.01368	16.50757	17.86687	18.98040	19.80296	20.47108
##	[51,]	11.87338	13.27719	14.70061	16.16287	17.50807	18.64793	19.52504	20.25563
##	[52,]	11.68692	13.00342	14.39758	15.83786	17.16821	18.32305	19.24549	20.03831
##	[53,]	11.58941	12.86779	14.23071	15.63437	16.93192	18.06122	19.00377	19.83175
##	[54,]	11.61534	12.92273	14.27987	15.62549	16.83592	17.88907	18.80454	19.67507
##	[55,]	11.75494	13.14561	14.53610	15.81603	16.89327	17.81301	18.69411	19.67074
##	[56,]	11.93216	13.42952	14.88305	16.13295	17.08965	17.87226	18.77626	19.88727
##	[57,]	12.12823	13.72803	15.28681	16.59204	17.51159	18.19969	19.06985	20.25271
##	[58,]	12.32593	14.04375	15.70827	17.11731	18.10993	18.69901	19.36074	20.47873
##	[59,]	12.48916	14.23488	15.90002	17.30921	18.37707	18.90842	NA	NA
##	[60,]	12.65397	14.35050	15.90598	17.15804	NA	NA	NA	NA
##	[61,]	12.87821	14.52133	15.99853	17.11897	17.58988	NA	NA	NA
##	[62,]	13.09915	14.72571	16.18513	17.29452	17.87320	NA	NA	NA
##	[63,]	13.28421	14.93317	16.43947	17.63827	18.41689	NA	NA	NA

##	[64,]	13.43726	15.10462	16.65824	17.95762	18.93633	19.46167	NA	NA
##	[65,]	13.60406	15.26935	16.79105	18.08436	19.11928	19.75118	NA	NA
##	[66,]	13.77141	15.42236	16.87919	18.10492	19.19662	19.95360	NA	NA
##	[67,]	13.96447	15.59114	16.97032	18.15091	19.26038	20.03963	NA	NA
##	[68,]	14.22745	15.80417	17.14025	18.35274	19.39360	20.01789	NA	NA
##	[69,]	14.53884	16.00832	17.36187	18.68114	19.64041	NA	NA	NA
##	[70,]	14.76905	16.15578	17.49399	18.81967	19.71800	NA	NA	NA
##	[71,]	14.86945	16.17610	17.34781	18.41842	NA	NA	NA	NA
##	[72,]	15.05095	16.24294	17.02487	NA	NA	NA	NA	NA
##	[73,]	15.48090	16.77348	NA	NA	NA	NA	NA	NA
##	[74,]	16.07701	17.69887	18.57093	NA	NA	NA	NA	NA
##	[75,]	NA	18.52449	19.21840	NA	NA	NA	NA	NA
##	[76,]	17.22270	18.83492	19.90865	NA	NA	NA	NA	NA
##	[77,]	16.84201	18.62622	20.21294	21.64168	22.55027	NA	NA	NA
##	[78,]	16.39126	18.24231	19.96512	21.45507	22.55147	23.33451	24.01430	24.55714
##	[79,]	16.10020	17.82772	19.50410	21.05185	22.25572	23.05553	23.65727	24.16775
##	[80,]	15.81436	17.39179	18.98805	20.54286	21.80102	22.62704	23.17398	23.62519
##	[81,]	15.47108	16.92039	18.42842	19.96144	21.25795	22.13708	22.68462	23.11475
##	[82,]	15.12721	16.42692	17.82084	19.29188	20.62403	21.57846	22.16940	22.64804
##	[83,]	14.86610	15.98451	17.25329	18.61477	19.92711	20.96206	21.67448	22.18685
##	[84,]	14.84614	15.75517	16.84758	18.08435	19.31909	20.37916	21.20099	21.81288
##	[85,]	14.98897	15.66654	16.59035	17.66901	18.74916	19.83221	20.77765	21.54406
##	[86,]	14.97689	15.63124	16.38997	17.36477	18.37505	19.42234	20.42696	21.32112
##	[87,]	14.59252	15.46321	16.24709	17.18235	18.21720	19.29825	20.35479	21.34252
##	[88,]	14.28022	15.26542	16.21837	17.30578	18.21161	19.22698	20.32988	21.35847
##	[89,]	14.30269	15.12194	NA	17.57825	18.22248	19.16942	20.27675	21.31214
##	[90,]	14.46306	15.20432	NA	17.48438	18.16275	19.12175	20.14043	21.33436
##	[91,]	14.59554	15.48465	16.28272	17.16249	18.06066	19.20428	20.44700	21.67350
##	[92,]	14.50039	15.36480	16.13371	17.08116	18.07899	19.36555	20.62365	21.85247
##	[93,]	14.39528	15.22061	16.05974	17.13971	18.27376	19.57069	20.85731	22.07992
##	[94,]	14.36023	15.14300	16.02519	17.21255	18.45617	19.75144	21.06813	22.32735
##	[95,]	14.33531	15.15201	16.10056	17.25858	18.54791	19.86282	21.21022	22.53324
##	[96,]	14.32742	15.18534	16.19561	17.27827	18.58675	19.94110	21.34353	22.75214
##	[97,]	14.38509	15.28564	16.33493	17.38750	18.67884	20.02182	21.54420	23.02740
##	[98,]	14.50167	15.47468	16.50188	17.54673	18.88051	20.20647	21.79332	23.37464
##	[99,]	14.92312	15.83863	16.81100	17.89254	19.09489	20.52121	22.05351	23.62041
##	[100,]	15.19576	16.18743	17.19284	18.27433	19.45042	20.81781	22.30202	23.81104
##	[101,]	15.51916	16.48171	17.47636	18.52590	19.70897	21.03288	22.51875	23.98747
##	[102,]	15.80851	16.74043	17.71815	18.75016	19.92095	21.23472	22.69692	24.14357
##	[103,]	16.03563	16.96016	17.89618	18.92675	20.08543	21.40119	22.84313	24.26342
##	[104,]	16.20760	17.12527	18.04901	19.05930	20.22055	21.52340	22.93744	24.30153
##	[105,]	16.36128	17.28955	18.23197	19.20094	20.38206	21.59628	22.96722	24.30261
##	[106,]	16.49395	17.47694	18.39624	19.30949	20.42602	21.61034	22.89877	24.24629
##	[107,]	16.61067	17.61619	18.45708	19.35048	20.37267	21.55593	22.86564	24.17632
##	[108,]	16.62543	17.66323	18.47800	19.28979	20.27233	21.44380	22.73048	24.11290

## [109,]	16.57979	17.64065	18.46343	19.24496	20.19479	21.36379	22.69083	24.06491
## [110,]	16.54324	17.64057	18.57091	19.40038	20.31341	21.63011	22.97461	24.34546
## [111,]	16.42275	17.58525	18.61790	19.48951	20.44954	21.66006	23.02334	24.33488
## [112,]	16.24022	17.60953	18.63649	19.47820	20.43051	21.65256	22.99163	24.23811
## [113,]	16.12538	17.47556	18.51757	19.41853	20.51070	21.78314	23.11211	24.39371
## [114,]	15.96693	17.37536	18.43932	19.40988	20.58109	21.87483	23.21574	24.50846
## [115,]	15.88186	17.22822	18.33066	19.37086	20.57064	21.94213	23.32124	24.59250
## [116,]	15.77513	17.14433	18.30052	19.36763	20.59915	21.96338	23.33054	24.60301
## [117,]	15.71045	17.09705	18.31983	19.45047	20.71558	22.15761	23.55842	24.81080
## [118,]	15.67863	17.11595	18.41136	19.62527	20.93926	22.41513	23.84058	24.99664
## [119,]	15.67719	17.20832	18.58942	19.86641	21.22462	22.69694	24.05430	25.11156
## [120,]	15.66956	17.26119	18.73635	20.11851	21.53061	22.96671	24.22454	25.17595
## [121,]	15.64788	17.28922	18.86934	20.35270	21.81493	23.21752	24.38619	25.23977
## [122,]	15.58889	17.28739	18.95613	20.54536	22.05910	23.42798	24.53376	25.29844
## [123,]	15.51356	17.27576	19.01201	20.69148	22.21990	23.52094	24.52696	25.19271
## [124,]	15.43630	17.26617	19.06343	20.75443	22.25715	23.46625	24.36932	24.92612
## [125,]	15.31397	17.20696	19.05188	20.74003	22.19471	23.33327	24.11717	24.57876
## [126,]	15.14134	17.07555	18.95221	20.64730	22.08855	23.18047	23.86562	24.24661
## [127,]	15.01443	16.96697	18.86235	20.56215	21.97815	23.01797	23.65953	23.97661
## [128,]	14.89949	16.85797	18.74771	20.44563	21.83908	22.84872	23.44791	23.68083
## [129,]	14.79805	16.78002	18.68369	20.37087	21.71940	22.66671	23.19774	23.37440
## [130,]	14.67312	16.67039	18.61168	20.31235	21.58776	22.41685	22.88971	23.05657
## [131,]	14.55098	16.53689	18.50885	20.18974	21.38587	22.12241	22.54436	22.70626
## [132,]	14.45541	16.43053	18.39539	20.02968	21.15304	21.82368	22.21238	22.34930
## [133,]	14.35400	16.32280	18.26006	19.84066	20.91255	21.54524	21.90234	22.00261
## [134,]	14.20469	16.13999	18.03420	19.57248	20.62194	21.24738	21.58998	21.67207
## [135,]	14.01380	15.90485	17.74109	19.23755	20.27594	20.90753	21.24663	21.31801
## [136,]	13.86905	15.71634	17.46720	18.90966	19.93013	20.56004	20.88726	20.94851
## [137,]	13.79591	15.58402	17.26701	18.64583	19.62671	20.23016	20.52929	20.57895
## [138,]	13.77709	15.49966	17.09383	18.39973	19.34368	19.91119	20.16957	20.18843
## [139,]	13.78725	15.41419	16.91048	18.12008	18.99661	19.51269	19.73466	19.75981
## [140,]	13.82918	15.34862	16.71500	17.81258	18.59623	19.05207	19.25410	19.31065
## [141,]	13.96737	15.36925	16.57775	17.50008	18.14297	18.54077	18.75043	18.87106
## [142,]	14.16595	15.40852	16.39685	17.10801	17.62993	18.00263	18.24607	18.45638
## [143,]	14.28652	15.25776	15.95244	16.45421	16.97870	17.45515	17.79516	18.13559
## [144,]	14.27797	14.90962	15.36825	15.82740	16.39226	16.92094	17.44100	17.99925
## [145,]	14.17510	NA	NA	NA	16.11597	16.53605	17.22304	18.10157
## [146,]	NA	NA	NA	NA	NA	NA	NA	NA
## [147,]	NA	NA	NA	NA	NA	NA	NA	NA
## [148,]	NA	NA	NA	NA	NA	NA	NA	NA
## [149,]	16.69700	NA	NA	NA	NA	NA	NA	NA
## [150,]	16.65491	17.98165	NA	NA	NA	NA	NA	NA
## [151,]	15.66328	17.47508	NA	NA	NA	NA	NA	NA
## [152,]	14.61587	16.45546	18.12847	NA	NA	NA	NA	NA
## [153,]	14.74241	16.24869	18.47469	20.25430	NA	NA	NA	NA

##	[154,]	15.85954	17.14438	19.02861	20.70631	21.57399	NA	NA	NA
##	[155,]	16.78174	18.34517	19.77773	20.93577	21.76106	22.30686	NA	NA
##	[156,]	16.70549	18.59617	19.93025	20.86954	21.72681	22.52444	23.20390	NA
##	[157,]	15.88070	17.91011	19.38104	20.42887	21.45528	22.50877	23.43074	24.36577
##	[158,]	15.07274	17.20832	18.82950	19.98294	21.04592	22.16487	23.24412	24.25666
##	[159,]	14.49212	16.72142	18.47815	19.66743	20.68643	21.75401	22.85185	23.98099
##	[160,]	14.10528	16.40245	18.20969	19.40670	20.42925	21.46994	22.59943	23.80185
##	[161,]	13.87814	16.17880	17.92645	19.14904	20.22636	21.32187	22.49553	23.71377
##	[162,]	13.64613	15.90205	17.59083	18.86709	20.04214	21.21761	22.42588	23.65932
##	[163,]	13.41222	15.61009	17.27768	18.62859	19.89176	21.11057	22.34609	23.60110
##	[164,]	13.26514	15.37945	17.00847	18.39034	19.72905	21.00964	22.25721	23.54424
##	[165,]	13.09921	15.15610	16.73001	18.15627	19.57795	20.91265	22.19236	23.50341
##	[166,]	12.86224	14.93007	16.52245	17.99116	19.49090	20.90120	22.23504	23.53924
##	[167,]	12.69986	14.73261	16.33924	17.85826	19.44752	20.98447	22.39800	23.69447
##	[168,]	12.57945	14.53619	16.15753	17.75439	19.46726	21.13071	22.61673	23.89487
##	[169,]	12.50331	14.40116	16.06791	17.74724	19.54164	21.29416	22.81288	24.06740
##	[170,]	12.42709	14.31801	16.08136	17.86183	19.70930	21.46633	22.96794	24.18178
##	[171,]	12.30115	14.27300	16.15578	18.05438	19.95004	21.68864	23.13670	24.27936
##	[172,]	12.17458	14.31454	16.30372	18.28030	20.20221	21.89987	23.30419	24.36899
##	[173,]	12.19029	14.46408	16.50647	18.51904	20.43540	22.08888	23.42397	24.40857
##	[174,]	12.32463	14.62369	16.69553	18.76196	20.67046	22.25988	23.50467	24.37580
##	[175,]	12.45146	14.71346	16.83445	18.98007	20.88330	22.39492	23.55100	24.32186
##	[176,]	12.46225	14.70134	16.88543	19.08882	20.97999	22.44819	23.54773	24.24658
##	[177,]	12.31297	14.57034	16.82085	19.05104	20.93428	22.39156	23.46062	24.12107
##	[178,]	12.11318	14.41831	16.73105	18.95963	20.81349	22.24619	23.28943	23.89978
##	[179,]	11.98503	14.36001	16.73134	18.93480	20.73211	22.08366	23.06289	23.59883
##	[180,]	11.93985	14.38005	16.81020	19.00388	20.70758	21.95555	22.83917	23.27623
##		[,32]	[,33]	[,34]	[,35]	[,36]	[,37]	[,38]	[,39]
##	[1,]	22.85035	22.54737	22.24498	22.01808	21.93933	22.01099	22.26648	22.76399
##	[2,]	22.41491	22.17012	21.95964	21.83609	21.82933	21.97198	22.30110	22.91843
##	[3,]	21.96225	21.80522	21.69930	21.67871	21.75130	22.00241	22.48346	23.25245
##	[4,]	21.53472	21.47109	21.44556	21.46976	21.60966	22.04062	22.76728	23.73631
##	[5,]	21.16813	21.15924	21.11197	21.04122	21.20742	21.93058	23.07119	24.28322
##	[6,]	20.69137	20.59344	20.44125	20.26163	20.54793	21.69438	23.33757	24.74329
##	[7,]	19.76406	19.45725	19.27981	19.25553	19.92835	21.54394	23.59652	25.03065
##	[8,]	18.72441	18.28620	18.20694	18.48711	NA	NA	NA	25.17919
##	[9,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[10,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[11,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[12,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[13,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[14,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[15,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[16,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[17,]	NA	NA	NA	NA	NA	NA	NA	NA

##	[18,]	27.05287	NA	NA	NA	NA	NA	NA	NA
##	[19,]	27.09292	27.66139	28.01020	28.11060	NA	NA	NA	NA
##	[20,]	26.98578	27.66006	28.10074	28.26106	28.33227	NA	NA	NA
##	[21,]	26.90824	27.73814	28.33150	28.56048	28.54179	28.51770	NA	NA
##	[22,]	26.93507	27.94096	28.66301	28.92233	28.84575	28.71981	28.58201	28.46560
##	[23,]	26.86312	28.00880	28.88241	29.14216	29.04361	28.85204	28.62235	28.42769
##	[24,]	26.71632	NA	NA	NA	NA	NA	28.56440	28.35476
##	[25,]	26.74338	27.31945	NA	NA	NA	NA	28.30267	28.16604
##	[26,]	26.85562	27.44466	27.77050	27.83807	27.71217	NA	NA	27.92802
##	[27,]	26.84144	27.35600	27.61131	27.64757	27.53788	27.40499	27.41719	27.67267
##	[28,]	26.71892	27.19525	27.39490	27.39619	27.29891	27.25023	27.35841	27.59283
##	[29,]	26.64139	27.06644	27.19412	27.16703	27.10274	27.10838	27.29632	27.57320
##	[30,]	26.71538	27.03615	27.03598	26.95721	26.91891	26.98267	27.21014	27.54114
##	[31,]	26.87309	27.05333	26.91388	26.78004	26.77988	26.91614	27.19482	27.51993
##	[32,]	26.98392	27.03647	26.81443	26.67264	26.73723	26.94071	27.25319	27.54811
##	[33,]	26.97489	26.96193	26.73576	26.63350	26.76998	27.03997	27.34224	27.62463
##	[34,]	26.82627	26.81688	26.65659	26.63607	26.83679	27.14195	27.44972	27.75581
##	[35,]	26.55122	26.59668	26.54915	26.62604	26.88246	27.21726	27.56160	27.93431
##	[36,]	26.22648	26.33185	26.41128	26.58593	26.88458	27.26668	27.70134	28.15570
##	[37,]	25.89401	26.07654	26.27776	26.56157	26.91802	27.34397	27.85066	28.38912
##	[38,]	25.54788	25.82565	26.12778	26.48743	26.91384	27.42136	27.99539	28.58409
##	[39,]	25.17391	25.53411	25.91739	26.34940	26.84578	27.42181	28.07986	28.69797
##	[40,]	24.78818	25.19992	25.64655	26.14868	26.72029	27.37337	28.07960	28.72572
##	[41,]	24.39121	24.79797	25.31289	25.90859	26.57060	27.30469	28.04869	28.66928
##	[42,]	23.99611	24.38504	24.96871	25.66686	26.43095	27.24828	28.01750	28.58583
##	[43,]	23.60076	23.97704	24.63150	25.45598	26.35555	27.25753	28.00533	28.45681
##	[44,]	23.22341	23.61107	24.32572	25.27323	26.31427	27.27145	27.94232	28.24239
##	[45,]	22.83513	23.28307	24.06254	25.10831	26.24079	27.19146	27.75623	27.93251
##	[46,]	22.41583	22.97513	23.83331	24.94629	26.10191	26.99901	27.46834	27.57749
##	[47,]	22.02277	22.70746	23.62873	24.77617	25.91635	26.76258	27.18052	27.26900
##	[48,]	21.67373	22.45220	23.41636	24.56582	25.69219	26.53876	26.96895	27.05585
##	[49,]	21.38761	22.20694	23.18061	24.30378	25.43551	26.33650	26.83174	26.96799
##	[50,]	21.17181	22.00985	22.97396	24.08152	25.23026	26.20494	26.82216	27.05616
##	[51,]	21.01452	21.88791	22.86882	23.99397	25.17386	26.22557	26.94654	27.25291
##	[52,]	20.86079	21.79208	22.83888	24.03105	25.27826	26.40744	27.17887	27.50742
##	[53,]	20.69440	21.68178	22.81433	24.08563	25.44219	26.65401	27.45793	27.80107
##	[54,]	20.61422	21.66003	22.83540	24.16160	25.59046	26.88337	27.75782	28.16723
##	[55,]	20.77676	21.92009	23.13947	24.45093	25.85433	27.17808	28.13518	28.64115
##	[56,]	21.22447	22.55162	23.86580	25.14973	26.43330	27.64693	28.60930	29.17401
##	[57,]	21.71602	23.30904	24.90015	26.25437	27.36117	28.34116	29.18155	29.69787
##	[58,]	22.02614	23.78070	25.88006	27.57469	28.53637	29.20583	29.80862	30.17060
##	[59,]	NA	NA	NA	29.17592	29.70528	30.05673	30.42365	30.60724
##	[60,]	NA	NA	NA	30.43347	30.68619	30.84509	30.99323	30.98925
##	[61,]	NA	NA	NA	NA	31.44893	31.46788	31.41209	31.18254
##	[62,]	NA	NA	NA	NA	31.92501	31.88417	31.71570	31.29848

##	[63,]	NA	NA	NA	NA	NA	32.09937	31.91685	31.42424
##	[64,]	NA	NA	NA	NA	NA	NA	31.98682	31.46928
##	[65,]	NA	NA	NA	NA	NA	NA	NA	31.43814
##	[66,]	NA	NA	NA	NA	NA	NA	32.05318	31.42687
##	[67,]	NA	NA	NA	NA	NA	NA	NA	31.18577
##	[68,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[69,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[70,]	NA	NA	NA	NA	NA	NA	30.66510	29.81297
##	[71,]	NA	NA	NA	NA	NA	31.29543	30.65129	29.80662
##	[72,]	NA	NA	NA	NA	NA	31.25917	30.50879	29.53296
##	[73,]	NA	NA	NA	NA	NA	NA	NA	28.95084
##	[74,]	NA	NA	NA	NA	NA	27.89113	28.10118	28.34360
##	[75,]	NA	NA	NA	NA	27.58223	27.70504	27.94326	28.19915
##	[76,]	NA	NA	27.31227	27.37111	27.38461	27.46155	27.78426	28.12168
##	[77,]	NA	NA	26.75189	26.96399	27.08660	27.34488	27.75485	28.15602
##	[78,]	25.05820	25.60360	26.06815	26.42174	26.77280	27.25612	27.78630	28.21234
##	[79,]	24.64048	25.13741	25.57088	26.03686	26.58301	27.21369	27.79726	28.27239
##	[80,]	24.09681	24.61550	25.14134	25.74327	26.44324	27.21056	27.80462	28.31999
##	[81,]	23.62547	24.17728	24.81484	25.52209	26.30566	27.16973	27.81865	28.38319
##	[82,]	23.18239	23.81030	24.55927	25.35156	26.18318	27.08230	27.82539	28.47138
##	[83,]	22.75322	23.48346	24.35912	25.22346	26.08881	26.98280	27.81994	28.51328
##	[84,]	22.45459	23.27888	24.21512	25.10082	25.99866	26.92962	27.79651	28.52559
##	[85,]	22.29749	23.16938	24.08322	24.96335	25.90533	26.93734	27.84254	28.61734
##	[86,]	22.20391	23.10366	24.00518	24.91737	25.91874	27.04016	27.99282	28.67013
##	[87,]	22.28238	23.19440	24.10681	25.02921	26.15878	27.32368	28.25814	28.78869
##	[88,]	22.33025	23.29008	24.30486	25.30436	26.54542	27.71020	28.53020	28.96539
##	[89,]	22.34856	23.39641	24.56914	25.73347	26.97884	28.01902	28.77165	29.12138
##	[90,]	22.45982	23.61558	24.85236	26.11106	27.29617	28.22555	28.85135	29.27669
##	[91,]	22.86440	24.08317	25.35809	26.55439	27.59894	28.43212	28.99738	29.33237
##	[92,]	23.06697	24.34992	25.67950	26.88718	27.92193	28.71915	29.22578	29.42816
##	[93,]	23.29500	24.61188	25.99019	27.18747	28.24322	29.02771	29.51996	29.56073
##	[94,]	23.57232	24.94417	26.33243	27.52388	28.51416	29.30563	29.65967	29.63868
##	[95,]	23.88245	25.30372	26.66176	27.80921	28.80999	29.47235	29.78458	29.69109
##	[96,]	24.15829	25.59181	26.87173	28.04533	29.00531	29.60911	29.84159	29.67879
##	[97,]	24.48527	25.87460	27.18911	28.33242	29.19268	29.75478	29.86697	29.64382
##	[98,]	24.78911	26.17399	27.46375	28.50003	29.29521	29.75219	29.83994	29.67255
##	[99,]	25.01640	26.41271	27.65628	28.63161	29.34407	29.72001	29.73640	29.60955
##	[100,]	25.23673	26.63984	27.82742	28.73136	29.36485	29.69908	29.72668	29.56509
##	[101,]	25.47340	26.83062	27.93762	28.77697	29.36303	29.67428	29.74095	29.58703
##	[102,]	25.58379	26.90539	27.99014	28.80122	29.35233	29.65266	29.72670	29.66302
##	[103,]	25.63665	26.87201	27.94706	28.77065	29.32327	29.61848	29.68687	29.61216
##	[104,]	25.63804	26.83613	27.90524	28.72426	29.27655	29.56051	29.61292	29.52376
##	[105,]	25.60916	26.77544	27.84719	28.67015	29.20788	29.46502	29.50879	29.41889
##	[106,]	25.56348	26.70154	27.77042	28.58249	29.08971	29.33219	29.38578	29.30735
##	[107,]	25.51225	26.62165	27.65425	28.43146	28.90853	29.15177	29.23046	29.16802

## [108,]	25.40821	26.53641	27.48903	28.22403	28.68671	28.93662	29.03890	28.99536
## [109,]	25.33685	26.45211	27.30478	27.99592	28.42816	28.67617	28.80539	28.77615
## [110,]	25.50807	26.45917	27.12129	27.78764	28.20307	28.47325	28.61803	28.60006
## [111,]	25.31742	26.27674	27.02830	27.61384	28.02885	28.26105	28.35674	28.28131
## [112,]	25.33074	26.22756	26.96979	27.46892	27.88033	28.06876	28.04316	27.91182
## [113,]	25.44251	26.23585	26.87124	27.32536	27.67553	27.79672	27.74931	27.55064
## [114,]	25.50882	26.27074	26.84898	27.26457	27.42255	27.50183	27.44548	27.23811
## [115,]	25.56911	26.30815	26.83378	27.19133	27.31987	27.34932	27.22193	26.96539
## [116,]	25.65551	26.36137	26.80675	27.08889	27.17616	27.17041	26.99327	26.71919
## [117,]	25.73781	26.44111	26.80056	26.95601	26.97581	26.93273	26.72544	26.50179
## [118,]	25.84131	26.39985	26.71384	26.80858	26.76945	26.67367	26.50374	26.33567
## [119,]	25.86897	26.33020	26.56968	26.63131	26.55631	26.40920	26.25472	26.11349
## [120,]	25.84470	26.22254	26.35354	26.35014	26.28224	26.12176	25.96343	25.84412
## [121,]	25.80086	26.06021	26.07538	26.00220	25.93801	25.80106	25.65400	25.56387
## [122,]	25.72261	25.82061	25.78237	25.63709	25.55395	25.45705	25.34934	25.28601
## [123,]	25.47779	25.52873	25.46766	25.28180	25.17684	25.10589	25.03835	25.01052
## [124,]	25.17565	25.16977	25.06482	24.87753	24.79328	24.72787	24.69722	24.72021
## [125,]	24.76903	24.75336	24.62226	24.47373	24.37546	24.32627	24.32001	24.40343
## [126,]	24.34710	24.29918	24.17695	24.04495	23.95550	23.91991	23.93864	24.07887
## [127,]	24.00296	23.82390	23.75623	23.61002	23.53475	23.51360	23.57781	23.75864
## [128,]	23.65144	23.50771	23.35077	23.17387	23.10916	23.10308	23.21127	23.44145
## [129,]	23.32037	23.15192	22.97289	22.84176	22.69323	22.70582	22.83926	23.12644
## [130,]	22.99714	22.81786	22.63408	22.43847	22.29455	22.32793	22.48675	22.82626
## [131,]	22.63665	22.44007	22.25822	22.05757	21.93148	21.96961	22.16713	22.69430
## [132,]	22.25961	22.06811	21.88894	21.66432	21.59923	21.67290	21.92032	22.50765
## [133,]	21.89624	21.70478	21.53116	21.31618	21.28695	21.40314	21.72008	22.35843
## [134,]	21.55087	21.36973	21.19557	20.98975	20.97050	21.13340	21.53441	22.26413
## [135,]	21.20253	21.03435	20.86659	20.71722	20.68511	20.89745	21.44540	22.25425
## [136,]	20.84133	20.67462	20.51658	20.42731	20.48823	20.77297	21.40481	22.32637
## [137,]	20.47404	20.33046	20.20347	20.15244	20.29903	20.71966	21.46564	22.46103
## [138,]	20.09764	19.99901	19.92762	19.95374	20.19872	20.75360	21.60784	22.62415
## [139,]	19.71520	19.68582	19.68708	19.79826	20.17333	20.87517	21.83557	22.78099
## [140,]	19.34000	19.39396	19.48353	19.71597	20.25632	21.12193	22.08197	22.75137
## [141,]	18.99956	19.15529	19.37595	19.80641	20.52461	21.36462	22.04102	22.25446
## [142,]	18.71329	19.02374	19.46542	20.14242	20.89057	21.38905	21.52493	21.36951
## [143,]	18.58413	19.13978	19.87980	20.75432	21.31626	21.33213	21.01598	20.79091
## [144,]	18.73922	19.59596	20.58421	21.50283	21.81071	21.56567	NA	NA
## [145,]	19.16698	20.16688	21.19726	22.01489	22.23452	21.98514	NA	NA
## [146,]	19.67025	20.50753	21.44663	22.15632	22.41761	NA	NA	NA
## [147,]	NA	NA	NA	NA	NA	NA	NA	NA
## [148,]	NA	NA	NA	NA	NA	NA	NA	NA
## [149,]	NA	NA	NA	NA	NA	NA	NA	NA
## [150,]	NA	NA	NA	NA	NA	NA	NA	NA
## [151,]	NA	NA	NA	NA	NA	NA	NA	NA
## [152,]	NA	NA	NA	NA	NA	NA	NA	NA

##	[153,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[154,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[155,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[156,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[157,]	24.98372	NA	NA	NA	NA	NA	NA	NA
##	[158,]	24.94880	25.20093	NA	NA	NA	NA	NA	NA
##	[159,]	24.80934	25.08145	NA	NA	NA	NA	NA	NA
##	[160,]	24.71757	25.11510	NA	NA	NA	NA	NA	NA
##	[161,]	24.71736	25.30837	25.68191	26.01266	NA	NA	NA	NA
##	[162,]	24.72429	25.48831	25.98868	26.34281	26.71875	27.02250	27.11229	27.07209
##	[163,]	24.72186	25.59009	26.20523	26.61788	26.92017	27.10674	27.14749	27.11166
##	[164,]	24.71972	25.63423	26.26148	26.68619	26.96428	27.09963	27.10949	27.10403
##	[165,]	24.71128	25.64456	26.25384	26.63290	26.86597	26.95657	26.95858	26.97489
##	[166,]	24.72191	25.63664	26.21291	26.52562	26.69022	26.73611	26.72689	26.74224
##	[167,]	24.80724	25.64212	26.15078	26.37681	26.45096	26.46401	26.42982	26.44387
##	[168,]	24.93929	25.68106	26.08413	26.20253	26.18599	26.13660	26.08592	26.11294
##	[169,]	25.05119	25.70842	25.99854	26.02235	25.91152	25.78874	25.72807	25.76733
##	[170,]	25.09191	25.64649	25.83185	25.76896	25.58681	25.41414	25.35835	25.42837
##	[171,]	25.08511	25.51409	25.59512	25.46346	25.20800	24.99514	24.95643	25.07353
##	[172,]	25.05403	25.34333	25.32114	25.10505	24.78919	24.54855	24.52978	24.69079
##	[173,]	24.97136	25.12713	24.99969	24.70677	24.35290	24.10214	24.10342	24.30731
##	[174,]	24.83123	24.87451	24.65919	24.30134	23.93529	23.70090	23.72486	23.96916
##	[175,]	24.67574	24.63891	24.32789	23.90989	23.54188	23.33484	23.38968	23.67864
##	[176,]	24.52457	24.40326	24.00651	23.54542	23.17774	22.98603	23.08617	23.43201
##	[177,]	24.32843	24.11878	23.66994	23.20528	22.84662	22.69506	22.84354	23.22962
##	[178,]	24.03700	23.76666	23.30245	22.85334	22.54934	22.45363	22.64743	23.05652
##	[179,]	23.66052	23.35653	22.92294	22.51892	22.28954	22.25339	22.48046	22.90498
##	[180,]	23.26027	22.94046	22.56030	22.24115	22.08549	22.10476	22.35143	22.78179
##	[,40]	[,41]	[,42]	[,43]	[,44]	[,45]	[,46]	[,47]	
##	[1,]	23.46012	24.26235	25.02400	25.56054	25.99676	26.63710	27.24654	27.47691
##	[2,]	23.71655	24.56225	25.29484	25.74435	26.12157	26.71663	27.30049	27.64394
##	[3,]	24.14268	24.97067	25.64116	26.00826	26.27413	26.76950	27.32226	27.61209
##	[4,]	24.67448	25.42418	25.96828	26.19731	26.35163	26.81300	27.19676	27.47125
##	[5,]	25.18810	25.77491	26.11767	26.18592	26.35072	26.69661	27.05301	27.21103
##	[6,]	25.51171	25.87214	26.01773	25.98784	26.18032	26.57767	26.94123	27.04583
##	[7,]	25.51287	25.73957	25.82609	25.87065	NA	NA	NA	NA
##	[8,]	25.35306	NA	NA	NA	NA	NA	NA	NA
##	[9,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[10,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[11,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[12,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[13,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[14,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[15,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[16,]	NA	NA	NA	NA	NA	NA	NA	NA

##	[17,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[18,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[19,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[20,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[21,]	NA	28.54303	28.41302	28.02794	NA	NA	NA	NA
##	[22,]	28.41038	28.50843	28.33910	27.77023	27.14454	NA	NA	NA
##	[23,]	28.40556	28.46866	28.30306	27.68998	26.93794	26.46870	NA	NA
##	[24,]	28.31281	28.41022	28.31522	27.78504	27.02055	26.41071	26.13298	NA
##	[25,]	28.10546	28.30427	28.25805	27.85194	27.14605	26.46800	26.06595	25.93380
##	[26,]	27.92651	28.10891	28.10413	27.83793	27.24337	26.57964	26.11854	25.92647
##	[27,]	27.76372	27.92621	27.96342	27.85184	27.38345	26.77957	26.31025	26.05807
##	[28,]	27.72087	27.84492	27.88578	27.89160	27.52343	27.03048	26.61242	26.33909
##	[29,]	27.68275	27.78437	27.78622	27.74350	27.59563	27.24054	26.97410	26.73731
##	[30,]	27.68133	27.76266	27.70541	27.60639	27.57141	27.30124	27.09978	26.95649
##	[31,]	27.69450	27.76162	27.66716	27.52152	27.54096	27.31600	27.13005	27.03487
##	[32,]	27.74972	27.82708	27.68071	27.61735	27.49830	27.28484	27.11197	27.04900
##	[33,]	27.82915	27.89414	27.73924	27.61126	27.53484	27.37923	27.16715	27.12327
##	[34,]	27.97655	28.00529	27.84255	27.67096	27.54066	27.37609	27.29798	27.29106
##	[35,]	28.21531	28.25455	28.01941	27.76341	27.57651	27.41564	27.33620	27.35525
##	[36,]	28.52542	28.58493	28.30073	27.91522	27.61221	27.44002	27.36810	27.41343
##	[37,]	28.79806	28.82911	28.49799	28.06181	27.71087	27.52304	27.45225	27.47144
##	[38,]	28.97629	28.93712	28.54299	28.07208	27.72252	27.57923	27.53314	27.52340
##	[39,]	29.04664	28.93113	28.47096	28.00460	27.72070	27.62201	27.62309	27.61073
##	[40,]	29.02922	28.83772	28.33940	27.90726	27.70631	27.67435	27.71528	27.68840
##	[41,]	28.92668	28.66329	28.17019	27.79032	27.66278	27.68467	27.77216	27.73290
##	[42,]	28.75599	28.46460	27.96825	27.63987	27.54531	27.67271	27.82510	27.80500
##	[43,]	28.51237	28.20764	27.75277	27.46417	27.47498	27.68668	27.90021	27.93847
##	[44,]	28.19439	27.90012	27.53942	27.30528	27.39810	27.68094	27.99191	28.12460
##	[45,]	27.84172	27.59768	27.32950	27.18188	27.31509	27.64320	28.01796	28.23701
##	[46,]	27.48723	27.29696	27.10285	27.04529	27.22278	27.60664	28.01483	28.24662
##	[47,]	27.18425	27.01760	26.85662	26.85378	27.07302	27.51411	27.99680	28.27602
##	[48,]	26.96683	26.79920	26.62816	26.63188	26.87395	27.36860	27.93703	28.31941
##	[49,]	26.89749	26.70479	26.47658	26.44910	26.71650	27.26162	27.85875	28.34912
##	[50,]	27.00426	26.75095	26.43119	26.34790	26.66207	27.22990	27.80842	NA
##	[51,]	27.20373	26.88145	26.46612	26.31162	26.66443	27.32191	NA	28.54686
##	[52,]	27.44391	27.06586	26.61313	26.36209	NA	NA	28.16651	NA
##	[53,]	27.76040	27.42474	27.03483	NA	NA	28.15824	27.92623	27.40403
##	[54,]	28.21482	27.96747	27.67271	NA	28.19050	28.07566	27.77924	27.23503
##	[55,]	28.77920	28.65963	NA	28.32495	28.26015	28.11621	27.79242	27.29913
##	[56,]	29.32495	29.18102	28.84337	28.55898	28.39503	28.28543	NA	27.68961
##	[57,]	29.75068	29.42638	29.01871	28.76416	NA	NA	28.33146	28.18692
##	[58,]	30.05607	29.59635	29.15273	28.95047	NA	NA	NA	28.42237
##	[59,]	30.31283	29.71132	29.26013	29.10174	NA	NA	NA	NA
##	[60,]	30.53755	29.82156	29.33193	29.20265	29.08100	28.91335	NA	28.83028
##	[61,]	30.55435	29.75956	29.33078	29.27881	29.12583	28.84592	28.74143	28.85138

##	[62,]	30.51899	29.69213	29.34972	29.37691	29.18262	28.74883	28.56563	28.75869
##	[63,]	30.57624	29.76959	29.44155	29.39814	29.07761	28.51095	28.27238	28.51946
##	[64,]	30.65919	29.91213	29.53699	29.33212	28.88641	28.30499	28.07335	28.32358
##	[65,]	30.65173	29.94518	29.55194	29.25339	28.79833	28.31819	28.14047	28.33784
##	[66,]	30.54651	29.84358	29.53282	29.28764	28.89070	28.48030	28.33869	28.44449
##	[67,]	30.35042	29.74064	29.47601	29.29088	28.96224	28.61474	28.43624	28.43445
##	[68,]	29.96359	29.60042	29.38505	29.22570	28.94990	28.65336	28.46093	28.34096
##	[69,]	29.52354	29.41467	29.29537	29.15914	28.93620	28.72568	28.54214	28.34360
##	[70,]	29.29216	29.22878	29.20604	NA	NA	28.80763	28.63764	28.38084
##	[71,]	29.17477	29.08071	NA	NA	28.84018	28.80980	28.66797	28.38664
##	[72,]	29.10739	NA	NA	NA	28.79209	28.81159	28.65734	28.35261
##	[73,]	28.75727	28.65106	NA	NA	28.71090	28.72952	28.55101	28.26310
##	[74,]	28.47308	28.49353	NA	28.73981	28.75228	28.65767	28.44307	28.15305
##	[75,]	28.35390	NA	28.64634	28.81579	28.89603	28.70185	28.39229	28.10390
##	[76,]	28.46950	28.70451	28.84413	28.95977	28.92252	28.70376	28.39059	28.09982
##	[77,]	28.55130	28.85563	28.98703	29.02018	28.89845	28.61984	28.31794	28.09064
##	[78,]	28.60465	28.88435	28.98007	28.97994	28.89179	28.56342	28.22512	28.01768
##	[79,]	28.66188	28.89214	28.98184	29.00749	28.93969	28.56478	28.19279	27.96403
##	[80,]	28.74886	28.99037	29.11419	29.15420	29.05901	28.73176	28.30357	27.96648
##	[81,]	28.85267	29.09581	29.25920	29.28899	29.12717	28.73563	28.31066	27.98011
##	[82,]	28.96581	29.20119	29.28137	29.28044	29.15249	28.75999	28.32712	28.02631
##	[83,]	29.01501	29.25935	29.30919	29.31250	29.20835	28.83394	28.38731	28.06169
##	[84,]	29.07767	29.34253	29.37201	29.43587	29.34787	28.98511	28.52649	28.15940
##	[85,]	29.17582	29.41983	29.51049	29.58714	29.45478	29.08746	28.65569	28.31539
##	[86,]	29.12966	29.41743	29.54491	29.66648	29.49532	29.16041	28.76500	28.45667
##	[87,]	29.22223	29.49243	29.55055	29.63401	29.40977	29.07793	28.79225	28.54462
##	[88,]	29.35602	29.58519	29.63491	29.57059	29.30422	28.95121	28.72329	28.55091
##	[89,]	29.47891	29.66122	29.69704	29.58073	29.27799	28.84662	28.67072	28.57860
##	[90,]	29.53611	29.66387	29.58363	29.38873	28.98798	28.65851	28.53240	28.57071
##	[91,]	29.55531	29.60510	29.45892	29.15439	28.73778	28.40598	28.35567	28.44057
##	[92,]	29.39744	29.43319	29.42451	28.97025	28.45175	28.10921	27.97356	28.09556
##	[93,]	29.52779	29.39840	29.20153	28.70480	28.12494	27.78175	27.71916	27.93201
##	[94,]	29.53985	29.35947	29.03227	28.48466	27.81708	27.36211	27.44823	27.74505
##	[95,]	29.55791	29.34170	28.93489	28.28714	27.54430	27.04734	27.05329	27.42513
##	[96,]	29.51038	29.24431	28.79954	28.03018	27.16089	26.61646	26.70168	27.16839
##	[97,]	29.44072	29.13597	28.55975	27.70914	26.80909	26.20635	26.36399	26.93438
##	[98,]	29.42027	28.97612	28.29052	27.39629	26.50846	25.95996	26.13293	26.75430
##	[99,]	29.28584	28.87465	28.20933	27.30110	26.36408	25.83962	25.98248	26.59900
##	[100,]	29.31371	28.91704	28.22685	27.28541	26.31502	25.77041	25.91544	26.51436
##	[101,]	29.36198	28.94712	28.24144	27.33044	26.33009	25.76746	25.87093	26.42300
##	[102,]	29.44806	28.96428	28.21102	27.28144	26.32940	25.77619	25.84936	26.33189
##	[103,]	29.37715	28.88021	28.13360	27.22006	26.31815	25.77794	25.82394	26.24374
##	[104,]	29.27596	28.78098	28.05071	27.15545	26.28275	25.76400	25.78716	26.15667
##	[105,]	29.17032	28.67644	27.94362	27.04870	26.19294	25.68782	25.70964	26.05527
##	[106,]	29.05847	28.55690	27.80955	26.90372	26.06292	25.57597	25.61907	25.98303

## [107,]	28.92006	28.41362	27.66909	26.77340	25.95182	25.49666	25.58173	25.98546
## [108,]	28.74702	28.23821	27.52071	26.66882	25.88096	25.46515	25.60164	26.02928
## [109,]	28.53521	28.01928	27.31791	26.53880	25.77892	25.41334	25.60839	26.05096
## [110,]	28.37029	27.85560	27.06092	26.31142	25.59602	25.29950	25.53316	26.00726
## [111,]	27.98642	27.39207	26.69585	26.00520	25.40856	25.14955	25.43736	25.92010
## [112,]	27.61228	27.09997	26.44416	25.76429	25.11290	24.81585	25.17597	25.76850
## [113,]	27.24150	26.79934	26.21419	25.57049	24.96235	24.74541	25.16702	25.93791
## [114,]	26.93513	26.52371	25.99675	25.41917	24.89732	24.77656	25.27423	26.01889
## [115,]	26.68746	26.34252	25.88219	25.38017	24.93344	24.91646	25.47042	26.13226
## [116,]	26.45224	26.15521	25.79333	25.38038	25.00477	25.01119	25.53940	26.19744
## [117,]	26.28271	26.02417	25.70436	25.35327	25.02667	25.05421	25.60980	26.28533
## [118,]	26.13772	25.87208	25.56224	25.26113	25.00114	25.06705	25.64635	26.33716
## [119,]	25.94131	25.70351	25.43789	25.17675	24.93631	25.02864	25.62891	26.34468
## [120,]	25.72270	25.53979	25.31454	25.07149	24.84356	24.95126	25.57382	26.32333
## [121,]	25.49340	25.37079	25.18504	24.96025	24.74282	24.85677	25.49224	26.26433
## [122,]	25.26663	25.19998	25.06584	24.87478	24.67264	24.78845	25.42451	26.20356
## [123,]	25.04145	25.04519	24.97744	24.82810	24.64517	24.77149	25.41491	26.19110
## [124,]	24.81450	24.89716	24.90207	24.80494	24.63397	24.78626	25.45878	26.23401
## [125,]	24.56631	24.73199	24.81215	24.75887	24.60728	24.79222	25.51457	26.29688
## [126,]	24.30702	24.54933	24.69791	24.69052	24.56860	24.79161	25.57075	26.35664
## [127,]	24.04504	24.35054	24.55915	24.62336	24.55558	24.84176	25.66650	26.43951
## [128,]	23.78464	24.14309	24.42198	24.62701	24.63873	24.99915	25.82486	26.54297
## [129,]	23.53697	24.09080	24.45146	24.65579	24.72908	25.12906	25.96582	26.65311
## [130,]	23.48670	24.00302	24.38363	24.60351	24.74334	25.16000	25.99634	26.67055
## [131,]	23.29489	23.89650	24.33002	24.60467	24.74955	25.18913	26.04960	26.71967
## [132,]	23.19774	23.87325	24.37789	24.65829	24.77412	25.22764	26.10574	26.73119
## [133,]	23.14723	23.90136	24.44744	24.66938	24.74142	25.22593	26.14190	26.75566
## [134,]	23.12538	23.91909	24.48931	24.66710	24.66668	25.15771	26.19460	26.80677
## [135,]	23.18265	23.99664	24.58583	24.75307	24.69809	25.22618	26.27324	26.89464
## [136,]	23.31971	24.14658	24.71829	24.87072	24.86373	25.43971	26.47139	27.09770
## [137,]	23.45873	24.23528	24.67709	24.78020	24.88539	25.55176	26.56354	27.25688
## [138,]	23.54081	24.12459	24.30297	24.29256	24.56683	25.42666	26.54050	27.39890
## [139,]	23.42391	23.58180	23.43204	23.49948	24.17481	25.27570	26.41916	27.34311
## [140,]	22.84810	22.49439	22.23627	22.82058	24.10324	25.30440	26.26288	26.97993
## [141,]	21.92579	21.41596	21.36816	NA	24.34797	25.41082	26.16061	26.57189
## [142,]	21.22491	NA	NA	NA	NA	NA	NA	26.44797
## [143,]	NA	NA	NA	NA	NA	NA	NA	NA
## [144,]	NA	NA	NA	NA	NA	NA	NA	NA
## [145,]	NA	NA	NA	NA	NA	NA	NA	NA
## [146,]	NA	NA	NA	NA	NA	NA	NA	NA
## [147,]	NA	NA	NA	NA	NA	NA	NA	NA
## [148,]	NA	NA	NA	NA	NA	NA	NA	NA
## [149,]	NA	NA	NA	NA	NA	NA	NA	NA
## [150,]	NA	NA	NA	NA	NA	NA	NA	NA
## [151,]	NA	NA	NA	NA	NA	NA	NA	NA

##	[152,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[153,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[154,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[155,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[156,]	NA	NA	NA	NA	NA	NA	NA	27.32247
##	[157,]	NA	NA	NA	NA	NA	27.78812	27.57418	27.28312
##	[158,]	NA	NA	NA	NA	NA	27.66362	27.47550	27.23404
##	[159,]	NA	NA	NA	NA	27.48311	27.49277	27.43114	27.25779
##	[160,]	NA	NA	NA	NA	27.39636	27.41312	27.44268	27.29812
##	[161,]	NA	NA	NA	NA	27.31592	27.36433	27.43893	27.29237
##	[162,]	NA	NA	NA	NA	27.23244	27.30692	27.39536	27.26640
##	[163,]	27.09790	NA	NA	27.09908	27.13257	27.23394	27.32566	27.23498
##	[164,]	27.12827	27.14170	27.09966	27.03142	27.05547	27.15473	27.25002	27.18760
##	[165,]	27.02353	27.03137	26.98412	26.93742	26.97563	27.06902	27.16443	27.10329
##	[166,]	26.79708	26.82433	26.81175	26.81365	26.86817	26.95735	27.05460	26.99530
##	[167,]	26.51543	26.57766	26.62621	26.67571	26.72676	26.81575	26.93387	26.88110
##	[168,]	26.21025	26.31499	26.42259	26.51138	26.55648	26.65686	26.81419	26.79210
##	[169,]	25.89478	26.04582	26.20385	26.31643	26.35549	26.49230	26.73107	26.76987
##	[170,]	25.58932	25.77811	25.96516	26.09298	26.14649	26.34459	26.69992	26.85050
##	[171,]	25.26837	25.49327	25.71790	25.87114	25.96287	26.22954	26.71054	27.02112
##	[172,]	24.92371	25.18955	25.46032	25.67872	25.82291	26.15909	26.75928	27.23590
##	[173,]	24.57778	24.88454	25.22308	25.52468	25.72894	26.14102	26.84362	27.44139
##	[174,]	24.27631	24.61655	25.01969	25.39065	25.66663	26.16547	26.94384	27.57290
##	[175,]	24.03053	24.39768	24.85164	25.27915	25.62839	26.20328	27.01283	27.60972
##	[176,]	23.82973	24.22625	24.72405	25.21140	25.63340	26.26325	27.05080	27.57499
##	[177,]	23.65898	24.09793	24.64727	25.19964	25.70188	26.37527	27.09794	27.46908
##	[178,]	23.51723	24.01921	24.65409	25.26976	25.80810	26.49064	27.13373	27.35942
##	[179,]	23.40185	24.01140	24.71985	25.35098	25.87482	26.54211	27.12673	27.27058
##	[180,]	23.36432	24.08521	24.83400	25.43459	25.91189	26.56458	27.16472	27.35765
##	[,48]	[,49]	[,50]	[,51]	[,52]	[,53]	[,54]	[,55]	
##	[1,]	27.57342	NA	NA	NA	NA	NA	NA	NA
##	[2,]	27.65769	NA	NA	NA	NA	NA	NA	NA
##	[3,]	27.66851	NA	NA	NA	NA	NA	NA	NA
##	[4,]	27.60259	NA	NA	NA	NA	NA	NA	NA
##	[5,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[6,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[7,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[8,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[9,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[10,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[11,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[12,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[13,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[14,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[15,]	NA	NA	NA	NA	NA	NA	NA	NA

##	[16,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[17,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[18,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[19,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[20,]	NA	NA	NA	NA	NA	NA	NA	26.59256
##	[21,]	NA	NA	NA	NA	NA	26.66796	26.90329	26.91260
##	[22,]	NA	NA	NA	NA	NA	26.42914	26.84457	NA
##	[23,]	NA	NA	NA	25.45298	25.44130	NA	NA	NA
##	[24,]	NA	NA	NA	25.20129	25.23832	NA	NA	NA
##	[25,]	NA	NA	NA	24.83137	24.89425	NA	NA	NA
##	[26,]	25.82343	25.75982	NA	24.72859	24.62292	NA	NA	NA
##	[27,]	25.92576	25.80769	25.42553	24.95250	24.60621	24.43922	NA	NA
##	[28,]	26.18304	26.05495	25.71769	25.22157	24.69558	24.35725	NA	NA
##	[29,]	26.58409	26.40408	26.06101	25.49620	24.85550	24.32865	24.04396	NA
##	[30,]	26.84257	26.66178	26.27241	25.68558	25.00553	24.42484	24.05919	23.89282
##	[31,]	26.94244	26.75500	26.37521	25.79961	25.19883	24.65919	24.26150	24.02565
##	[32,]	26.98562	26.80753	26.45014	25.94506	25.39033	24.85961	24.43094	24.14126
##	[33,]	27.09243	26.96278	26.65413	26.18694	25.64146	25.06593	24.58538	24.24822
##	[34,]	27.29515	27.23259	26.94534	26.56364	26.05755	25.49383	24.94843	24.47200
##	[35,]	27.40376	27.38918	27.21621	26.93064	26.54229	26.08553	25.51479	24.75775
##	[36,]	27.51161	27.54813	27.47965	27.27217	27.02453	26.65448	25.98462	25.01234
##	[37,]	27.55696	27.66315	27.72562	27.61432	27.39228	27.05757	26.24960	25.29885
##	[38,]	27.60971	27.75787	27.88713	27.87118	27.66212	27.39606	NA	NA
##	[39,]	27.61913	27.72701	27.92183	28.03451	NA	NA	NA	NA
##	[40,]	27.56086	27.42580	NA	NA	NA	NA	NA	NA
##	[41,]	27.47392	27.07762	26.79558	NA	NA	NA	NA	NA
##	[42,]	27.52984	27.13609	26.84745	26.69520	26.52643	26.33953	NA	NA
##	[43,]	27.71773	27.39424	27.12898	26.92167	26.68072	26.36059	26.05818	NA
##	[44,]	28.02102	27.78173	27.54286	27.29085	26.95719	26.52637	26.05458	25.59150
##	[45,]	28.23797	28.10452	27.90384	27.62318	27.23574	26.72971	26.13987	25.44350
##	[46,]	28.31081	28.26331	28.11958	27.84427	27.45221	26.93138	26.25117	25.37458
##	[47,]	28.34180	28.31781	28.21909	27.98492	27.63487	27.14301	26.45894	25.54143
##	[48,]	28.42481	28.37714	28.28464	28.11016	27.82189	27.38869	26.73525	25.95444
##	[49,]	28.53319	28.45756	28.33278	28.17598	27.96447	27.67121	NA	NA
##	[50,]	28.60349	28.45962	28.26811	28.12649	27.96475	27.81136	NA	NA
##	[51,]	28.59541	28.37223	28.16377	28.03041	NA	NA	NA	NA
##	[52,]	NA	27.95531	28.00861	27.96988	NA	NA	NA	NA
##	[53,]	27.07670	27.27122	27.63582	NA	NA	NA	NA	NA
##	[54,]	26.70135	26.47647	NA	NA	NA	NA	NA	NA
##	[55,]	26.70815	26.15149	25.77056	NA	NA	NA	21.26467	19.64581
##	[56,]	27.25433	26.73497	26.22372	25.73876	25.03300	23.76520	21.99213	20.02156
##	[57,]	27.93844	27.59700	27.10440	26.49590	25.64926	24.43550	22.78131	20.83089
##	[58,]	28.42268	28.31807	27.98798	27.43025	26.51796	25.19431	23.56824	21.76945
##	[59,]	28.72680	28.75687	28.63882	28.23412	27.39662	26.05769	24.50793	22.89911
##	[60,]	NA	29.00374	28.99341	28.78186	28.17023	26.98909	25.61058	24.21931

##	[61,]	28.99808	29.07486	29.04810	28.95729	28.61522	27.74838	26.54631	25.36830
##	[62,]	28.99151	29.03177	28.93657	28.83881	28.67117	28.19369	NA	26.14342
##	[63,]	28.83574	28.93926	28.86808	28.74382	28.57271	28.18616	27.38818	26.38812
##	[64,]	28.65284	NA	28.82843	28.72707	28.50938	28.05993	27.28303	26.24219
##	[65,]	28.63515	28.81600	28.83015	28.72355	28.49494	28.02228	27.20640	26.08074
##	[66,]	28.64585	28.77854	28.78492	28.66440	28.42974	27.97162	27.16481	26.02289
##	[67,]	28.51848	28.57909	28.58519	28.50474	28.30226	27.90644	27.15655	26.04716
##	[68,]	28.26355	28.23746	28.21015	28.16337	28.06914	27.80997	27.16497	26.14553
##	[69,]	28.13022	27.97655	27.86335	27.75334	27.69931	27.58641	27.12941	26.27323
##	[70,]	28.09234	27.86776	27.70376	27.56334	27.45866	27.37970	27.06997	26.38853
##	[71,]	28.08142	27.85293	27.68214	27.53721	27.44161	27.35288	27.07272	26.52347
##	[72,]	28.05075	27.83793	27.66820	27.51667	27.40790	27.29987	27.09021	26.61368
##	[73,]	28.00173	27.79902	27.62594	27.45156	27.32692	27.24030	27.09017	26.72532
##	[74,]	27.95947	27.75775	27.56281	27.34650	27.19757	27.13430	27.02669	26.74875
##	[75,]	27.91456	27.72056	27.48985	27.23499	27.07424	27.01267	26.92682	26.70150
##	[76,]	27.91032	27.70786	27.44139	27.15933	26.98280	26.90693	26.81600	26.60602
##	[77,]	27.91170	27.71043	27.41791	27.09663	26.90085	26.81060	26.70976	26.48837
##	[78,]	27.89451	27.70665	27.39117	27.05487	26.84793	26.71132	26.55112	26.28850
##	[79,]	27.86412	27.68191	27.36251	27.02256	26.79833	26.62763	26.42117	26.10919
##	[80,]	27.84608	27.63685	27.32035	26.97511	26.73576	26.54768	26.32137	25.99277
##	[81,]	27.82633	27.58632	27.24798	26.91899	26.66511	26.47283	26.25732	25.93276
##	[82,]	27.81071	27.54650	27.19201	26.84491	26.59074	26.41511	26.21825	25.88518
##	[83,]	27.80762	27.52029	27.14734	26.80282	26.55077	26.37902	26.17930	25.81803
##	[84,]	27.85267	27.52320	27.13609	26.78469	26.52161	26.33427	26.11858	25.71931
##	[85,]	27.96684	27.57179	27.15618	26.79078	26.50679	26.29021	26.05517	25.63552
##	[86,]	28.08791	27.65206	27.22158	26.83404	26.51671	26.26433	25.99840	25.56369
##	[87,]	28.17665	27.75939	27.33263	26.91491	26.51782	26.25025	25.96870	25.50525
##	[88,]	28.22865	27.80683	27.36096	26.87896	26.53937	26.21058	25.94089	25.46092
##	[89,]	28.25672	27.86043	27.32111	26.80980	26.46317	26.17745	25.83123	25.34103
##	[90,]	28.26931	27.71646	27.23175	26.71899	26.39156	26.10262	25.75228	25.26399
##	[91,]	28.22925	27.72694	27.15147	26.65966	26.31294	26.00623	25.65471	25.16789
##	[92,]	28.04583	27.70740	27.10796	26.60933	26.23853	25.93149	25.57412	25.07550
##	[93,]	27.96698	27.63174	27.02122	26.51371	26.19393	25.89413	25.53565	25.03107
##	[94,]	27.83522	27.51545	26.89012	26.36437	26.03347	25.75164	25.38849	24.89507
##	[95,]	27.63969	27.35530	26.71814	26.17240	25.81951	25.53949	25.18578	24.71278
##	[96,]	27.42358	27.17502	26.57236	26.03234	25.65991	25.36347	25.01273	24.55458
##	[97,]	27.26987	27.03318	26.44724	25.91208	25.54066	25.24100	24.90093	24.46077
##	[98,]	27.14629	26.94015	26.36266	25.82667	25.44450	25.13053	24.78396	24.35286
##	[99,]	27.05996	26.89036	26.33314	25.79051	25.38592	25.02974	24.67823	24.23404
##	[100,]	26.93334	26.83067	26.30656	25.78185	25.32907	24.91202	24.55252	24.13512
##	[101,]	26.81338	26.70293	26.21836	25.71639	25.24402	24.78273	24.40326	24.02743
##	[102,]	26.68517	26.57965	26.07373	25.59435	25.14961	24.68682	24.29816	23.93195
##	[103,]	26.56659	26.47207	25.97998	25.52062	25.10178	24.63626	24.20330	23.80895
##	[104,]	26.46446	26.38481	25.91390	25.46504	25.04939	24.56062	24.06342	23.61689
##	[105,]	26.38248	26.30842	25.86433	25.41336	24.97694	24.45663	23.90177	23.39937

## [106,]	26.34481	26.28639	25.82370	25.34682	24.88420	24.35524	23.76446	23.20106
## [107,]	26.33023	26.25269	25.79562	25.28545	24.81538	24.28631	23.65701	23.00388
## [108,]	26.35749	26.25259	25.78197	25.24481	24.74695	24.19996	23.53312	22.80009
## [109,]	26.36357	26.23044	25.74080	25.17413	24.65364	24.08593	23.40152	22.64198
## [110,]	26.34343	26.09862	25.61399	25.05618	24.53651	23.97631	23.30010	22.54115
## [111,]	26.30740	26.01657	25.50157	24.91896	24.42367	23.90368	23.26109	22.47464
## [112,]	26.23326	26.04851	25.48114	24.83975	24.35892	23.88924	23.24221	22.40830
## [113,]	26.36513	26.14487	25.51620	24.80526	24.31196	23.86680	23.22329	22.34565
## [114,]	26.46669	26.24014	25.54755	24.77337	24.26789	23.79236	23.15264	22.28643
## [115,]	26.52145	26.32551	25.61096	24.80803	24.26871	23.74493	23.07397	22.19748
## [116,]	26.57816	26.42692	25.72335	24.93028	24.32954	23.73590	23.00911	22.09791
## [117,]	26.67100	26.54259	25.88114	25.10792	24.48669	23.80997	22.98803	22.01771
## [118,]	26.74164	26.64998	26.05790	25.34886	24.72334	23.99705	23.04373	21.96997
## [119,]	26.78150	26.74834	26.25795	25.65003	25.05225	24.27463	23.17655	21.94695
## [120,]	26.79838	26.83959	26.46948	25.96967	25.41103	24.55886	23.33960	21.96371
## [121,]	26.78486	26.90515	26.65600	26.25723	25.70501	24.79717	23.53864	22.08891
## [122,]	26.74886	26.92398	26.78436	26.44730	25.90394	25.00160	23.79234	22.37639
## [123,]	26.74041	26.95085	26.87663	26.58249	26.04611	25.18396	24.04252	22.70918
## [124,]	26.76728	27.01042	26.99210	26.73784	26.19594	25.34163	24.21431	22.89095
## [125,]	26.80732	27.08166	27.14599	26.96124	26.41965	25.51872	24.31964	22.91620
## [126,]	26.83401	27.14255	27.31807	27.26209	26.73892	25.77838	24.47149	22.95254
## [127,]	26.87054	27.16940	27.51290	27.58390	27.14288	26.15484	24.74138	23.12947
## [128,]	26.91717	27.24523	27.67095	27.91487	27.64304	26.75301	25.40246	23.62947
## [129,]	26.96731	27.26657	27.68748	28.12813	28.11514	27.47852	26.57453	NA
## [130,]	26.96305	27.17567	27.59467	28.19206	28.45700	28.12172	27.58437	NA
## [131,]	26.95287	27.08742	27.47308	28.12358	28.53287	28.52579	NA	NA
## [132,]	26.89908	27.04356	27.40335	27.81421	28.14730	28.30670	NA	NA
## [133,]	26.87000	26.98627	27.32154	27.57218	27.65554	27.69237	NA	25.74003
## [134,]	26.84148	26.87721	27.26877	27.67397	27.72143	27.56818	NA	25.96761
## [135,]	26.79168	26.63421	26.98303	27.76604	28.20697	NA	NA	26.07229
## [136,]	26.95009	26.45758	26.55356	27.47339	28.26661	NA	NA	26.17984
## [137,]	27.27877	26.76535	26.55028	27.12762	27.84070	NA	27.27681	NA
## [138,]	27.68269	27.46679	27.11158	27.08911	NA	NA	27.50764	27.23404
## [139,]	27.83108	27.92669	27.68077	NA	NA	NA	27.51664	27.37298
## [140,]	27.46108	27.71020	27.74479	27.67600	27.64958	27.63306	27.56945	27.38916
## [141,]	26.85630	27.17442	27.43837	27.54466	27.61627	27.63406	27.55581	27.23405
## [142,]	26.58436	26.99742	27.38457	27.43073	27.47158	27.53321	27.51352	27.08561
## [143,]	NA	NA	27.37616	27.24147	27.25736	27.39289	27.43884	27.04499
## [144,]	NA	NA	NA	27.06248	27.07502	27.27111	27.28396	26.94493
## [145,]	NA	NA	NA	NA	27.06812	27.18203	27.07637	26.72602
## [146,]	NA	NA	NA	27.03609	27.13783	27.14491	26.91118	26.54705
## [147,]	NA	NA	NA	27.02123	27.19253	27.13300	26.80265	26.43370
## [148,]	NA	NA	NA	27.01183	27.18609	27.11083	26.74445	26.35237
## [149,]	NA	NA	NA	27.04048	27.16880	27.05750	26.66104	26.22023
## [150,]	NA	NA	NA	27.16222	27.15112	26.92776	26.50376	26.02511

##	[151,]	NA	NA	27.31573	27.21384	27.05062	26.70771	26.26392	25.80077
##	[152,]	NA	27.31435	27.27947	27.14413	26.85880	26.43869	26.00105	25.55937
##	[153,]	NA	27.18618	27.16290	27.01405	26.65800	26.19380	25.75161	25.32563
##	[154,]	NA	27.07820	27.05680	26.86869	26.46812	25.98105	25.53053	25.11014
##	[155,]	27.09711	27.00623	26.91873	26.69517	26.29136	25.81227	25.34404	24.89921
##	[156,]	27.09163	26.90673	26.72354	26.50099	26.13330	25.67559	25.19117	24.70090
##	[157,]	27.00976	26.73561	26.49933	26.29109	25.98540	25.55356	25.05081	24.52406
##	[158,]	26.92099	26.57987	26.28793	26.08977	25.82507	25.42628	24.92527	24.37531
##	[159,]	26.90706	26.47672	26.11666	25.89765	25.65051	25.28932	24.82001	24.27562
##	[160,]	26.89250	26.38446	25.98571	25.73037	25.47310	25.13652	24.71982	24.19784
##	[161,]	26.85221	26.31030	25.86584	25.57014	25.28760	24.97052	24.58962	24.08605
##	[162,]	26.83867	26.29481	25.80187	25.41914	25.09362	24.77884	24.42350	23.95660
##	[163,]	26.86440	26.34985	25.79890	25.29060	24.89936	24.58686	24.25926	23.83096
##	[164,]	26.86206	26.36642	25.77688	25.18247	24.73033	24.40187	24.10065	23.71945
##	[165,]	26.78871	26.29918	25.68472	25.06146	24.56268	24.19960	23.90720	23.58774
##	[166,]	26.67765	26.16330	25.53004	24.90545	24.38913	23.98068	23.68053	23.38896
##	[167,]	26.53966	25.99474	25.34520	24.71627	24.21045	23.76396	23.40714	23.14407
##	[168,]	26.43622	25.85204	25.16209	24.52224	24.01363	23.54564	23.13729	22.87102
##	[169,]	26.43903	25.84418	25.12254	24.42581	23.83851	23.31615	22.84973	22.53728
##	[170,]	26.60057	26.03172	25.26708	24.42807	23.69063	23.05702	22.46442	22.04646
##	[171,]	26.91279	26.38500	25.47931	24.33670	23.31064	22.51793	21.79114	21.26257
##	[172,]	27.29505	26.79401	25.66182	24.15665	22.76908	21.72448	20.88629	20.31183
##	[173,]	27.59927	27.13033	25.98313	24.25683	22.48847	21.17030	20.24354	19.79199
##	[174,]	27.74026	27.37870	26.56622	NA	NA	NA	NA	NA
##	[175,]	27.76847	27.58540	NA	NA	NA	NA	NA	NA
##	[176,]	27.72953	NA	NA	NA	NA	NA	NA	NA
##	[177,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[178,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[179,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[180,]	NA	NA	NA	NA	NA	NA	NA	NA
##		[,56]	[,57]	[,58]	[,59]	[,60]	[,61]	[,62]	
##	[1,]	NA	NA	NA	NA	NA	NA	NA	
##	[2,]	NA	NA	NA	NA	NA	NA	NA	
##	[3,]	NA	NA	NA	NA	NA	NA	NA	
##	[4,]	NA	NA	NA	NA	NA	NA	NA	
##	[5,]	NA	NA	NA	NA	NA	NA	NA	
##	[6,]	NA	NA	NA	NA	NA	NA	NA	
##	[7,]	NA	NA	NA	NA	NA	NA	16.158745	
##	[8,]	NA	NA	NA	NA	NA	NA	16.556780	
##	[9,]	NA	NA	NA	NA	NA	17.33342	16.833170	
##	[10,]	NA	NA	NA	NA	NA	17.40098	16.822308	
##	[11,]	NA	NA	NA	NA	NA	17.24622	16.712299	
##	[12,]	NA	NA	NA	NA	NA	NA	16.582384	
##	[13,]	NA	NA	NA	NA	NA	NA	16.838703	
##	[14,]	NA	NA	NA	NA	NA	17.74111	17.186962	

##	[15,]	NA	NA	NA	NA	NA	17.78652	17.259117
##	[16,]	NA	NA	NA	NA	NA	17.72080	17.284311
##	[17,]	NA	NA	NA	NA	NA	17.89916	17.535669
##	[18,]	NA	NA	NA	22.75984	NA	18.05953	17.864170
##	[19,]	NA	24.21668	23.57988	22.98438	NA	NA	18.007860
##	[20,]	25.72206	24.78650	NA	NA	NA	NA	NA
##	[21,]	NA	NA	NA	NA	NA	NA	NA
##	[22,]	NA	NA	NA	NA	NA	NA	NA
##	[23,]	NA	NA	NA	NA	NA	NA	NA
##	[24,]	NA	NA	NA	NA	NA	NA	NA
##	[25,]	NA	NA	NA	NA	NA	NA	NA
##	[26,]	NA	NA	NA	19.82570	19.44419	NA	NA
##	[27,]	NA	NA	21.18735	20.57295	NA	NA	NA
##	[28,]	NA	NA	21.92433	NA	NA	NA	NA
##	[29,]	NA	NA	22.44768	NA	NA	NA	NA
##	[30,]	NA	NA	22.92492	NA	NA	NA	NA
##	[31,]	23.77143	23.52344	23.21991	NA	NA	NA	NA
##	[32,]	23.95819	23.79812	NA	NA	NA	NA	NA
##	[33,]	24.04897	23.92172	23.84879	NA	NA	NA	NA
##	[34,]	24.03372	23.77460	23.72362	NA	NA	NA	NA
##	[35,]	24.01726	23.62272	NA	NA	NA	NA	NA
##	[36,]	24.19341	NA	NA	NA	NA	NA	NA
##	[37,]	NA	NA	NA	NA	NA	NA	NA
##	[38,]	NA	NA	NA	NA	NA	NA	NA
##	[39,]	NA	NA	NA	NA	NA	NA	NA
##	[40,]	NA	NA	NA	NA	NA	NA	NA
##	[41,]	NA	NA	NA	NA	NA	NA	NA
##	[42,]	NA	NA	NA	NA	NA	NA	NA
##	[43,]	NA	NA	NA	NA	NA	NA	NA
##	[44,]	NA	NA	NA	NA	NA	NA	NA
##	[45,]	24.87553	NA	NA	NA	NA	NA	NA
##	[46,]	24.59129	NA	NA	NA	NA	NA	NA
##	[47,]	24.73379	NA	NA	NA	NA	NA	NA
##	[48,]	NA	NA	NA	NA	NA	NA	NA
##	[49,]	NA	NA	NA	NA	NA	NA	NA
##	[50,]	NA	NA	NA	NA	NA	NA	NA
##	[51,]	NA	NA	NA	NA	NA	NA	NA
##	[52,]	NA	NA	NA	NA	NA	NA	NA
##	[53,]	NA	NA	NA	NA	NA	NA	NA
##	[54,]	NA	NA	NA	NA	NA	NA	NA
##	[55,]	18.39447	NA	NA	NA	NA	NA	NA
##	[56,]	18.65094	NA	NA	NA	NA	NA	NA
##	[57,]	19.44361	NA	NA	NA	NA	NA	NA
##	[58,]	20.40452	NA	NA	NA	NA	NA	NA
##	[59,]	21.42931	NA	NA	NA	NA	NA	NA

##	[60,]	22.42806	20.47939	NA	NA	NA	NA	NA
##	[61,]	23.62213	20.88259	18.74917	NA	NA	NA	NA
##	[62,]	24.80994	22.52153	19.80301	16.74833	13.17629	10.25440	8.475681
##	[63,]	25.28305	23.74613	21.47677	18.29387	14.59759	11.41451	9.047894
##	[64,]	25.10451	23.89947	22.24686	19.61388	16.18798	12.78399	9.921957
##	[65,]	24.81924	23.58553	22.23897	20.26239	17.41152	14.03613	10.916147
##	[66,]	24.69425	23.36436	22.08040	20.55144	18.32662	15.16520	11.674481
##	[67,]	24.74203	23.41548	22.13572	20.81259	19.08091	16.29252	12.612190
##	[68,]	24.92264	23.67092	22.44865	21.21926	19.81417	17.50914	13.866343
##	[69,]	25.18319	24.01707	22.83394	21.62159	20.31757	18.36564	15.109449
##	[70,]	25.42554	24.30650	23.11334	21.87418	20.52600	18.77428	16.337223
##	[71,]	25.67582	24.55329	23.35019	22.14103	20.86691	19.29271	17.133369
##	[72,]	25.87254	24.81961	23.63076	22.49061	21.36555	19.94556	17.681900
##	[73,]	26.06120	25.10011	23.98647	22.89639	21.85888	20.49179	18.412371
##	[74,]	26.23677	25.41529	24.36458	23.28080	22.28386	20.86945	18.996696
##	[75,]	26.30483	25.63109	24.65049	23.53803	22.51509	21.15199	19.378473
##	[76,]	26.27418	25.69723	24.75625	23.59505	22.52474	21.32883	19.661839
##	[77,]	26.13251	25.59232	24.63563	23.42245	22.33848	21.22430	19.619995
##	[78,]	25.86555	25.25123	24.29130	23.04053	21.96557	20.82845	19.418577
##	[79,]	25.62782	24.91054	23.86546	22.55372	21.52231	20.39203	19.064184
##	[80,]	25.47508	24.64728	23.48141	22.14284	21.05197	19.95995	18.685974
##	[81,]	25.37995	24.45169	23.11117	21.70241	20.57044	19.53161	18.373346
##	[82,]	25.29955	24.29187	22.82658	21.33667	20.04461	19.18759	18.102825
##	[83,]	25.19337	24.15036	22.63435	20.98519	19.61338	18.72907	17.634060
##	[84,]	25.06866	24.06134	22.50487	20.73213	19.27161	18.18353	16.993229
##	[85,]	24.98233	23.97566	22.47422	20.62520	19.01511	17.72918	16.485144
##	[86,]	24.89409	23.91838	22.45651	20.59731	18.87292	17.49781	16.259258
##	[87,]	24.80476	23.82471	22.42932	20.60537	18.87956	17.49066	16.270931
##	[88,]	24.71583	23.75466	22.36530	20.64130	18.93049	17.50150	16.187801
##	[89,]	24.64018	23.71066	22.35339	20.64952	18.90462	17.36784	15.860919
##	[90,]	24.56393	23.63844	22.32923	20.60901	18.77399	17.13062	15.534165
##	[91,]	24.47166	23.55572	22.30116	20.54343	18.68742	16.95138	15.381845
##	[92,]	24.38487	23.51639	22.28942	20.57534	18.70589	16.99743	15.433260
##	[93,]	24.35358	23.47101	22.27630	20.61531	18.79037	17.15582	15.588080
##	[94,]	24.24288	23.41370	22.25439	20.59077	18.80669	17.20272	15.694693
##	[95,]	24.11740	23.30836	22.15553	20.50791	18.69263	17.06669	15.645695
##	[96,]	23.97435	23.18661	22.01756	20.38670	18.55348	16.83992	15.415854
##	[97,]	23.88327	23.02513	21.87771	20.27716	18.42312	16.63779	15.167521
##	[98,]	23.72349	22.86259	21.75128	20.18812	18.31788	16.51200	15.023060
##	[99,]	23.59665	22.74948	21.64768	20.14707	18.31543	16.53074	15.021529
##	[100,]	23.51786	22.69374	21.65143	20.23255	18.46445	16.69086	15.183962
##	[101,]	23.45923	22.68879	21.72963	20.38089	18.67852	16.90108	15.397591
##	[102,]	23.42816	22.69520	21.75269	20.47450	18.86877	17.13365	15.679461
##	[103,]	23.30202	22.62567	21.75791	20.58094	19.05784	17.36302	15.929879
##	[104,]	23.12428	22.49096	21.69899	20.64420	19.25351	17.64500	16.235634

## [105,]	22.90869	22.30525	21.55204	20.61576	19.41347	18.01395	16.680414	
## [106,]	22.68154	22.10343	21.44826	20.64583	19.59697	18.38923	17.109335	
## [107,]	22.41440	21.85695	21.28397	20.55979	19.62313	18.56150	17.411160	
## [108,]	22.13516	21.58712	21.03228	20.36845	19.52503	18.50956	17.419518	
## [109,]	21.92136	21.31619	20.74349	20.11604	19.34750	18.42919	17.383549	
## [110,]	21.77748	21.07804	20.43705	19.79656	19.08414	18.25821	17.313650	
## [111,]	21.63902	20.86268	20.16681	19.50276	18.81934	18.05687	17.171322	
## [112,]	21.50087	20.66762	19.94087	19.25587	18.56609	17.81818	16.951332	
## [113,]	21.39166	20.52061	19.75453	19.03067	18.32015	17.56503	16.700344	
## [114,]	21.31512	20.40333	19.57407	18.79432	18.04883	17.27638	16.419205	
## [115,]	21.22217	20.26235	19.37062	18.54381	17.76112	16.95113	16.073381	
## [116,]	21.09166	20.08925	19.15438	18.29915	17.46691	16.57646	15.610935	
## [117,]	20.97783	19.93347	18.96555	18.06957	17.15127	16.13941	15.043505	
## [118,]	20.87127	19.80231	18.81430	17.85008	16.81026	15.66245	14.455682	
## [119,]	20.74116	19.63807	18.64503	17.63725	16.49971	15.24270	13.995682	
## [120,]	20.64657	19.48759	18.46217	17.42057	16.26416	15.04441	13.895061	
## [121,]	20.67680	19.42624	18.34560	17.31253	16.21983	15.14329	14.285064	
## [122,]	20.90485	19.55823	18.39513	17.34402	16.33851	15.45285	14.861217	
## [123,]	21.24556	19.83088	18.51691	17.38416	16.52606	15.98616		NA
## [124,]	21.46001	19.98445	18.49936	17.28799	NA	16.41312		NA
## [125,]	21.42081	19.85417	18.30248	17.13363	16.62230	NA		NA
## [126,]	21.34591	19.74029	18.28938	17.30115	NA	NA		NA
## [127,]	21.52489	20.04997	18.83463	NA	NA	NA		NA
## [128,]	21.88677	20.69886	NA	NA	NA	NA		NA
## [129,]	NA	NA	NA	NA	NA	NA		NA
## [130,]	NA	NA	NA	NA	NA	NA		NA
## [131,]	NA	NA	NA	NA	NA	NA		NA
## [132,]	NA	NA	NA	NA	NA	NA		NA
## [133,]	25.45364	24.82947	23.62020	22.19995	NA	NA		NA
## [134,]	25.63347	24.98710	23.80971	21.93063	20.38065	NA		NA
## [135,]	25.60139	24.93044	23.85782	21.94391	20.17285	NA		NA
## [136,]	25.52071	25.02119	24.16544	22.29435	20.44267	NA		NA
## [137,]	26.10502	25.68470	24.80004	22.77445	20.67035	NA		NA
## [138,]	26.79049	26.21648	24.88391	22.58290	20.51991	NA		NA
## [139,]	27.00706	26.03523	24.25626	22.03035	20.47127	NA		NA
## [140,]	26.83952	25.76437	24.21019	22.68094	NA	NA		NA
## [141,]	26.52612	25.72717	24.91540	24.10209	23.31418	22.75975		NA
## [142,]	26.22684	25.60698	25.16598	24.54363	23.79195	23.00812	21.631266	
## [143,]	26.14459	25.41207	24.76466	23.94655	23.34300	22.93657	21.142387	
## [144,]	26.18451	25.37897	24.47105	23.32613	22.46095	22.23948	21.280745	
## [145,]	26.13258	25.38442	24.42981	23.17453	21.95251	21.42561	21.323423	
## [146,]	26.02428	25.31989	24.39657	23.18409	21.80453	20.85471	20.894390	
## [147,]	25.96793	25.27448	24.32957	23.11221	21.72832	20.63575	20.554846	
## [148,]	25.90874	25.23256	24.26335	23.01582	21.67546	20.62256	20.473612	
## [149,]	25.77088	25.14177	24.23264	23.02157	21.73213	20.69027	20.457903	

##	[150,]	25.56490	25.02860	24.25001	23.13530	21.89282	20.80331	20.381310	
##	[151,]	25.34959	24.86796	24.20881	23.21511	22.02073	20.89430	20.286707	
##	[152,]	25.12828	24.66394	24.03981	23.14763	22.05777	20.96585	20.256346	
##	[153,]	24.89693	24.44129	23.85207	23.06609	22.09434	21.08943	20.347635	
##	[154,]	24.67680	24.23138	23.69747	22.99338	22.15042	21.23003	20.455231	
##	[155,]	24.46032	24.03806	23.57356	22.99945	22.26016	21.38285	20.545712	
##	[156,]	24.24109	23.82978	23.42749	22.96795	22.34979	21.52486	20.651831	
##	[157,]	24.02769	23.60398	23.22847	22.83245	22.31014	21.56661	20.712051	
##	[158,]	23.85081	23.39052	22.99622	22.62163	22.15650	21.49714	20.690689	
##	[159,]	23.72784	23.24221	22.82526	22.42886	21.95773	21.33337	20.546745	
##	[160,]	23.63275	23.10874	22.64313	22.21937	21.73901	21.09793	20.291840	
##	[161,]	23.52737	22.95792	22.43037	21.96336	21.46620	20.80653	19.961111	
##	[162,]	23.40195	22.81016	22.21678	21.69108	21.17820	20.51710	19.637413	
##	[163,]	23.29159	22.67146	22.01957	21.43344	20.89184	20.25327	19.361498	
##	[164,]	23.20737	22.56163	21.84888	21.19211	20.62909	20.00760	19.121540	
##	[165,]	23.11572	22.45906	21.68933	20.95465	20.34420	19.72729	18.852226	
##	[166,]	22.98461	22.33873	21.52576	20.73197	20.03813	19.39673	18.552612	
##	[167,]	22.81762	22.24063	21.42872	20.57839	19.80738	19.10846	18.255503	
##	[168,]	22.62119	22.12333	21.35918	20.48665	19.67250	18.93837	18.081484	
##	[169,]	22.30008	21.91206	21.22826	20.38723	19.54868	18.80025	17.976068	
##	[170,]	21.82947	21.58679	21.06231	20.26564	19.41637	18.65145	17.839087	
##	[171,]	21.08521	21.08271	20.81610	20.15149	19.34533	18.56102	17.725019	
##	[172,]	20.23143	20.41994	20.41204	19.98123	19.28097	18.52410	17.674456	
##	[173,]	NA	19.97700	19.94032	19.71347	19.17840	18.49184	17.669817	
##	[174,]	NA	NA	19.65193	19.40490	18.98375	18.42974	17.676191	
##	[175,]	NA	NA	NA	NA	18.66532	18.26800	17.589123	
##	[176,]	NA	NA	NA	NA	18.38437	17.99338	17.344465	
##	[177,]	NA	NA	NA	NA	NA	NA	16.908703	
##	[178,]	NA	NA	NA	NA	NA	NA	NA	
##	[179,]	NA	NA	NA	NA	NA	NA	NA	
##	[180,]	NA	NA	NA	NA	NA	NA	NA	
##		[,63]	[,64]	[,65]	[,66]	[,67]	[,68]	[,69]	
##	[1,]	NA	13.823802	13.544086	NA	NA	NA	NA	
##	[2,]	NA	14.181162	13.754154	NA	NA	NA	NA	
##	[3,]	NA	14.669997	14.062790	13.2830210	12.922736	NA	NA	
##	[4,]	NA	14.914695	14.296741	13.5153818	13.103193	NA	NA	
##	[5,]	NA	14.923765	14.418470	13.7465668	13.322865	NA	NA	
##	[6,]	NA	14.896394	14.488529	13.9950428	13.565645	NA	NA	
##	[7,]	15.611744	14.991760	14.606545	14.2212305	NA	NA	NA	
##	[8,]	15.847130	15.121595	14.699747	14.3163652	13.718587	13.4283218	NA	
##	[9,]	15.973513	15.154902	14.651123	NA	14.014318	NA	NA	
##	[10,]	15.967504	15.162712	14.582489	14.2676325	NA	NA	NA	
##	[11,]	15.982441	15.331714	14.698735	14.3218422	NA	NA	NA	
##	[12,]	16.007023	15.350627	NA	NA	NA	NA	NA	
##	[13,]	16.195843	15.329048	14.508939	NA	NA	NA	NA	

##	[14,]	16.446287	15.528075	14.603729	NA	NA	NA	NA
##	[15,]	16.700792	16.054176	NA	NA	NA	NA	NA
##	[16,]	16.897861	NA	NA	8.7744169	8.460515	8.1714954	NA
##	[17,]	17.248474	NA	NA	8.8712339	8.638251	8.3728743	NA
##	[18,]	17.708965	NA	NA	NA	8.663261	NA	NA
##	[19,]	17.946068	NA	NA	8.9953022	8.519682	7.9584169	NA
##	[20,]	NA	NA	NA	9.2581444	8.727408	7.9990458	NA
##	[21,]	NA	NA	NA	9.5872974	9.186630	NA	NA
##	[22,]	NA	NA	NA	9.8283587	NA	NA	NA
##	[23,]	NA	NA	NA	NA	NA	NA	NA
##	[24,]	NA	NA	NA	NA	NA	NA	NA
##	[25,]	NA	NA	NA	NA	4.616640	3.9223976	NA
##	[26,]	NA	10.711753	9.484849	7.3937902	5.006607	3.3088148	NA
##	[27,]	NA	11.039683	9.925569	8.2364178	5.345748	0.3516483	NA
##	[28,]	NA	10.968056	10.183263	9.0706711	NA	2.7264183	NA
##	[29,]	NA	NA	NA	NA	NA	NA	NA
##	[30,]	NA	NA	NA	NA	NA	NA	NA
##	[31,]	NA	NA	NA	NA	NA	NA	NA
##	[32,]	NA	NA	NA	NA	NA	NA	NA
##	[33,]	NA	NA	NA	NA	NA	NA	NA
##	[34,]	NA	NA	NA	NA	NA	NA	NA
##	[35,]	NA	NA	NA	NA	NA	NA	NA
##	[36,]	NA	NA	NA	NA	NA	NA	NA
##	[37,]	NA	NA	NA	NA	NA	NA	NA
##	[38,]	NA	NA	NA	NA	NA	NA	NA
##	[39,]	NA	NA	NA	NA	NA	NA	NA
##	[40,]	NA	NA	NA	NA	NA	NA	NA
##	[41,]	NA	NA	NA	NA	NA	NA	NA
##	[42,]	NA	NA	NA	NA	NA	NA	NA
##	[43,]	NA	NA	NA	NA	NA	NA	NA
##	[44,]	NA	NA	NA	NA	NA	NA	NA
##	[45,]	NA	NA	NA	NA	NA	NA	NA
##	[46,]	NA	NA	NA	NA	NA	NA	NA
##	[47,]	NA	NA	NA	NA	NA	NA	NA
##	[48,]	NA	NA	NA	NA	NA	NA	NA
##	[49,]	NA	NA	NA	NA	NA	NA	NA
##	[50,]	NA	NA	NA	NA	NA	NA	NA
##	[51,]	NA	NA	NA	NA	NA	NA	NA
##	[52,]	NA	NA	NA	NA	NA	NA	NA
##	[53,]	NA	NA	NA	NA	NA	NA	NA
##	[54,]	NA	NA	NA	NA	NA	NA	NA
##	[55,]	NA	NA	NA	NA	NA	NA	NA
##	[56,]	NA	NA	NA	NA	NA	NA	NA
##	[57,]	NA	NA	NA	NA	NA	NA	NA
##	[58,]	NA	NA	NA	NA	NA	NA	NA

##	[59,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[60,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[61,]	NA	5.417370	4.814286	NA	NA	NA	NA	NA
##	[62,]	7.137705	5.759661	4.750837	NA	NA	NA	NA	NA
##	[63,]	7.195626	5.726573	4.730330	NA	NA	NA	NA	NA
##	[64,]	7.371355	5.620306	4.786995	NA	NA	NA	NA	NA
##	[65,]	NA	NA	NA	NA	NA	NA	NA	NA
##	[66,]	8.304479	5.367671	2.660228	0.8344498	NA	NA	NA	NA
##	[67,]	9.116927	6.139721	3.001262	0.4936309	NA	NA	NA	NA
##	[68,]	10.086204	6.848945	3.493001	0.7724366	NA	NA	NA	NA
##	[69,]	10.805847	7.199170	4.416877	2.0065279	1.243963	NA	NA	NA
##	[70,]	NA	8.197547	5.737985	3.8591232	2.317659	1.6104022	NA	NA
##	[71,]	14.038435	NA	6.870394	5.1357989	3.440323	1.9212925	1.0657009	NA
##	[72,]	14.567612	10.932396	NA	5.5167809	3.748536	1.7603481	0.4834542	NA
##	[73,]	15.130632	11.312294	7.765751	5.3127565	NA	1.2235222	-1.0470977	NA
##	[74,]	15.988765	11.999955	7.941955	4.7870874	2.608819	1.2132698	0.3432827	NA
##	[75,]	16.797522	13.112892	8.768292	4.9898539	2.733699	1.6024445	0.8899295	NA
##	[76,]	17.377329	13.978632	9.741027	5.6847329	2.907455	1.6630977	1.0864973	NA
##	[77,]	17.450140	14.658481	10.654635	6.2619061	3.130726	1.6698542	1.0968163	NA
##	[78,]	17.526276	14.889775	11.170708	6.9272227	3.561359	1.7845436	1.1546719	NA
##	[79,]	17.347645	14.885785	11.491037	7.6112862	4.296151	2.3216617	1.2894700	NA
##	[80,]	17.006498	14.688727	11.553734	7.9672885	4.766643	2.6677320	1.5476868	NA
##	[81,]	16.686573	14.477546	11.534218	8.1591005	5.156589	3.0925679	2.0852151	NA
##	[82,]	16.406933	14.251463	11.447740	8.2318316	5.459340	3.5458770	2.5453343	NA
##	[83,]	16.038868	13.942785	11.238212	8.1079826	5.507827	3.7867875	2.8941061	NA
##	[84,]	15.544317	13.813429	10.958184	7.9069233	5.388800	3.8217728	2.9847808	NA
##	[85,]	15.118117	13.558375	11.284116	8.3691645	5.874928	4.3546300	3.2810972	NA
##	[86,]	14.931032	13.383859	11.308708	8.6638117	6.273109	4.7115521	3.8335042	NA
##	[87,]	14.876625	13.215746	11.229750	8.9473238	6.779569	5.1213923	4.0921350	NA
##	[88,]	14.617624	12.835396	10.939070	8.9878187	7.048233	5.3344102	4.2095747	NA
##	[89,]	14.113890	12.337515	10.581698	8.8503990	7.086116	5.0721693	3.9361649	NA
##	[90,]	13.754599	12.120069	10.402665	8.7652359	7.128429	5.1824007	4.0681911	NA
##	[91,]	13.921296	12.249496	10.507667	8.8193054	7.229369	5.3452945	4.2466035	NA
##	[92,]	14.069737	12.426545	10.669366	8.7404356	7.101978	5.5421524	4.4095111	NA
##	[93,]	14.105946	12.456510	10.716315	8.8124924	7.216173	5.7105851	4.5337009	NA
##	[94,]	13.979007	12.472036	10.523722	8.8230953	7.286097	5.8948483	4.7362461	NA
##	[95,]	14.063912	12.521649	10.580784	8.8618526	7.361549	6.0914564	5.0134888	NA
##	[96,]	13.996678	12.481642	10.690545	8.9314966	7.486166	6.3483982	5.3448148	NA
##	[97,]	13.874481	12.454643	10.840551	9.2166882	7.799403	6.6368270	5.6687350	NA
##	[98,]	13.837761	12.531606	11.088291	9.5929794	8.142648	6.9013610	5.9326396	NA
##	[99,]	13.876543	12.617278	11.269927	9.8376188	8.439286	7.1979675	6.1240883	NA
##	[100,]	13.981065	12.725530	11.376556	9.9803066	8.647407	7.4108572	6.3198919	NA
##	[101,]	13.988438	12.715124	11.392528	10.0238419	8.716686	7.5306468	6.5170798	NA
##	[102,]	14.152719	12.764940	11.370872	9.9897003	8.710106	7.6426330	6.6249180	NA
##	[103,]	14.517940	13.152593	11.684713	10.2217636	8.855881	7.6810246	6.6460505	NA

## [104,]	14.903197	13.543821	12.023692	10.4652462	9.048020	7.8099203	6.7114124
## [105,]	15.376190	13.921371	12.342480	10.6869955	9.156804	7.9547992	6.8329215
## [106,]	15.784439	14.269211	12.599929	10.9372597	9.342744	8.0703411	7.0047231
## [107,]	16.033289	14.526738	12.848266	11.1165571	9.529000	8.0924082	7.0924196
## [108,]	16.182165	14.752327	13.147919	11.3886328	9.723789	8.2695885	7.0977597
## [109,]	16.232525	14.901103	13.372048	11.6567068	9.933764	8.3765516	7.1295791
## [110,]	16.247618	14.989120	13.485845	11.7812634	10.059351	8.5265369	7.2168136
## [111,]	16.160231	14.964085	13.523097	11.8471775	10.106611	8.5595779	7.3141446
## [112,]	15.966058	14.824299	13.466215	11.8906116	10.220442	8.6515369	7.3925729
## [113,]	15.738358	14.650537	13.385064	11.9284773	10.356077	8.8328323	7.5765972
## [114,]	15.485946	14.449161	13.274635	11.9524679	10.490236	9.0536995	7.8120084
## [115,]	15.133145	14.112091	13.002735	11.7944746	10.484227	9.1767473	8.0073338
## [116,]	14.596670	13.549586	12.465160	11.3460007	10.168427	9.0558071	8.0399151
## [117,]	13.929268	12.863440	11.821947	10.7845898	9.733581	8.7730331	7.9141421
## [118,]	13.287417	12.266627	11.346189	10.4166059	9.466799	8.5373774	7.6825848
## [119,]	12.874882	11.983052	11.182192	10.3106146	9.409772	8.4301071	7.4808950
## [120,]	12.823124	12.077853	NA	NA	NA	NA	NA
## [121,]	NA	NA	NA	NA	NA	NA	NA
## [122,]	NA	NA	NA	NA	NA	NA	NA
## [123,]	NA	NA	NA	NA	NA	NA	NA
## [124,]	NA	NA	NA	NA	NA	NA	NA
## [125,]	NA	NA	NA	NA	NA	NA	NA
## [126,]	NA	NA	NA	NA	NA	NA	NA
## [127,]	NA	NA	NA	NA	NA	NA	NA
## [128,]	NA	NA	NA	NA	NA	NA	NA
## [129,]	NA	NA	NA	NA	NA	NA	NA
## [130,]	NA	NA	NA	NA	NA	NA	NA
## [131,]	NA	NA	NA	NA	NA	NA	NA
## [132,]	NA	NA	NA	NA	NA	NA	NA
## [133,]	NA	NA	NA	NA	NA	NA	NA
## [134,]	NA	NA	NA	NA	NA	NA	NA
## [135,]	NA	NA	NA	NA	NA	NA	NA
## [136,]	NA	NA	NA	NA	NA	NA	2.9863198
## [137,]	NA	NA	NA	NA	NA	NA	3.2569733
## [138,]	NA	NA	NA	NA	4.209247	4.1523008	3.7704370
## [139,]	NA	NA	NA	NA	NA	4.0238447	4.0232344
## [140,]	NA	NA	NA	2.8384669	3.207555	3.5816588	NA
## [141,]	NA	NA	NA	2.9555013	3.245391	3.4078631	NA
## [142,]	NA	NA	NA	NA	3.390049	NA	NA
## [143,]	15.459852	7.753838	3.784430	NA	3.488267	NA	NA
## [144,]	17.323282	10.908650	5.924388	NA	NA	NA	NA
## [145,]	19.427315	14.209287	8.284224	5.0855069	NA	NA	NA
## [146,]	20.179901	15.899701	9.352127	4.9114809	3.695501	NA	NA
## [147,]	20.278086	16.822315	10.374420	5.1441078	3.304406	NA	NA
## [148,]	20.531498	18.072832	12.115125	5.8424277	2.249781	NA	NA

##	[149,]	20.815498	19.511806	14.463070	7.2558317	1.475879	-1.8000000	-1.8000000
##	[150,]	20.808365	20.474609	16.660755	9.3052425	2.081722	-1.8000000	-1.8000000
##	[151,]	20.600130	20.818457	18.137970	11.3488283	3.619306	-1.0203995	-1.8000000
##	[152,]	20.387718	20.778893	18.813026	12.7235765	5.134265	0.2843882	-1.2772226
##	[153,]	20.291077	20.577585	18.782566	13.0864859	5.882308	1.1930274	-0.5507163
##	[154,]	20.255270	20.307402	18.280687	12.5666628	5.685548	1.2831037	-0.4288301
##	[155,]	20.200644	20.063126	17.800827	11.9875641	5.281152	1.1042280	-0.3903444
##	[156,]	20.175875	19.906925	17.777012	12.4053812	5.985203	1.7226641	0.3108274
##	[157,]	20.130564	19.826824	18.325699	14.2251244	8.442450	3.6834571	1.7950299
##	[158,]	20.023514	19.706455	19.024591	16.5695095	11.902126	6.8337321	4.1141677
##	[159,]	19.804033	19.422064	19.169043	18.0018806	14.777282	10.2793474	7.0559654
##	[160,]	19.477274	18.918234	18.616947	17.9948826	16.056070	12.8406067	9.8476620
##	[161,]	19.094242	18.402693	17.879608	17.2589741	16.042215	14.0778704	11.7469168
##	[162,]	18.716940	17.976238	17.335634	16.5875053	15.575684	14.2545385	12.4441938
##	[163,]	18.381840	17.605272	16.960110	16.1512299	15.112032	13.8923960	12.3182650
##	[164,]	18.081392	17.228107	16.567272	15.7956867	14.767222	13.5825119	12.1632557
##	[165,]	17.770441	16.819672	16.102865	15.3971214	14.522765	13.5227051	12.3053007
##	[166,]	17.453005	16.421289	15.640800	14.9907541	14.306813	13.5285769	12.5199213
##	[167,]	17.171135	16.103689	15.260091	14.6175108	14.037718	13.4165831	12.5676136
##	[168,]	16.990973	15.881001	14.961257	14.2519093	13.696982	13.1758242	12.4807949
##	[169,]	16.926294	15.800726	14.790973	13.9591742	13.349938	12.8870058	12.3611870
##	[170,]	16.833895	15.746419	14.713772	13.7979927	13.110796	12.6707087	12.2648163
##	[171,]	16.733309	15.666596	14.639772	13.6947193	12.955145	12.4936104	12.1507769
##	[172,]	16.666683	15.607852	14.595396	13.6583996	12.901005	12.3971872	12.0421638
##	[173,]	16.673532	15.616240	14.610273	13.6826725	12.916077	12.3796644	11.9839268
##	[174,]	16.718283	15.684678	14.688407	13.7408199	12.948746	12.3787327	11.9507093
##	[175,]	16.669033	15.693053	14.746639	13.8235149	13.004128	12.3756313	11.8637075
##	[176,]	16.504747	15.636768	14.719762	13.7940235	12.982114	12.2849426	11.6553383
##	[177,]	16.234259	15.657925	NA	13.4752626	12.777384	12.0821323	11.3839149
##	[178,]	15.512312	NA	NA	NA	12.363358	11.8073149	11.1111784
##	[179,]	14.493396	NA	NA	NA	11.957004	11.5027981	10.7806597
##	[180,]	14.012283	NA	NA	NA	11.738209	11.2718935	10.4509029
##		[,70]	[,71]	[,72]	[,73]	[,74]	[,75]	
##	[1,]	NA	8.71657181	NA	8.3744106	8.8496523	9.17258549	
##	[2,]	NA	7.87467289	7.7950430	8.0440025	8.5027542	8.87353706	
##	[3,]	NA	7.52702188	7.5304480	7.8178678	8.1968975	8.49001503	
##	[4,]	NA	NA	7.1490407	7.5106711	7.8596978	8.15853310	
##	[5,]	NA	NA	5.8603897	6.4048367	6.9179440	NA	
##	[6,]	NA	NA	4.4277563	4.8255568	5.6045990	NA	
##	[7,]	NA	NA	NA	4.0861011	4.7280560	NA	
##	[8,]	NA	NA	NA	4.1112728	NA	NA	
##	[9,]	NA	NA	NA	4.0379286	NA	NA	
##	[10,]	NA	NA	NA	3.6619081	3.1443741	2.45330501	
##	[11,]	NA	NA	NA	3.3160532	2.9541094	2.51436782	
##	[12,]	NA	NA	NA	2.4685259	2.2045832	2.01577091	

##	[13,]	NA	NA	NA	NA	1.6195331	1.60358071
##	[14,]	NA	NA	NA	NA	NA	1.16687274
##	[15,]	NA	NA	NA	NA	NA	-1.79999995
##	[16,]	NA	NA	NA	NA	NA	NA
##	[17,]	NA	NA	NA	NA	NA	NA
##	[18,]	NA	NA	NA	NA	NA	NA
##	[19,]	NA	NA	NA	NA	NA	NA
##	[20,]	NA	NA	NA	NA	NA	NA
##	[21,]	NA	NA	NA	NA	NA	NA
##	[22,]	NA	NA	NA	NA	NA	NA
##	[23,]	NA	NA	NA	NA	NA	NA
##	[24,]	NA	NA	NA	NA	NA	NA
##	[25,]	NA	NA	NA	NA	NA	NA
##	[26,]	NA	NA	NA	NA	NA	NA
##	[27,]	NA	NA	NA	NA	NA	NA
##	[28,]	NA	NA	NA	NA	NA	NA
##	[29,]	NA	NA	NA	NA	NA	NA
##	[30,]	NA	NA	NA	NA	NA	NA
##	[31,]	NA	NA	NA	NA	NA	NA
##	[32,]	NA	NA	NA	NA	NA	NA
##	[33,]	NA	NA	NA	NA	NA	NA
##	[34,]	NA	NA	NA	NA	NA	NA
##	[35,]	NA	NA	NA	NA	NA	NA
##	[36,]	NA	NA	NA	NA	NA	NA
##	[37,]	NA	NA	NA	NA	NA	NA
##	[38,]	NA	NA	NA	NA	NA	NA
##	[39,]	NA	NA	NA	NA	NA	NA
##	[40,]	NA	NA	NA	NA	NA	NA
##	[41,]	NA	NA	NA	NA	NA	NA
##	[42,]	NA	NA	NA	NA	NA	NA
##	[43,]	NA	NA	NA	NA	NA	NA
##	[44,]	NA	NA	NA	NA	NA	NA
##	[45,]	NA	NA	NA	NA	NA	NA
##	[46,]	NA	NA	NA	NA	NA	NA
##	[47,]	NA	NA	NA	NA	NA	NA
##	[48,]	NA	NA	NA	NA	NA	NA
##	[49,]	NA	NA	NA	NA	NA	NA
##	[50,]	NA	NA	NA	NA	NA	NA
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##	[52,]	NA	NA	NA	NA	NA	NA
##	[53,]	NA	NA	NA	NA	NA	NA
##	[54,]	NA	NA	NA	NA	NA	NA
##	[55,]	NA	NA	NA	NA	NA	NA
##	[56,]	NA	NA	NA	NA	NA	NA
##	[57,]	NA	NA	NA	NA	NA	NA

##	[58,]	NA	NA	NA	NA	NA	NA
##	[59,]	NA	NA	NA	NA	NA	NA
##	[60,]	NA	NA	NA	NA	NA	NA
##	[61,]	NA	NA	NA	NA	NA	NA
##	[62,]	NA	NA	NA	NA	NA	NA
##	[63,]	NA	NA	NA	NA	NA	NA
##	[64,]	NA	NA	NA	NA	NA	NA
##	[65,]	NA	NA	NA	NA	NA	NA
##	[66,]	NA	NA	NA	NA	NA	NA
##	[67,]	NA	NA	NA	NA	NA	NA
##	[68,]	NA	NA	NA	NA	NA	NA
##	[69,]	NA	NA	NA	NA	NA	NA
##	[70,]	NA	NA	-1.8000000	-1.8000000	NA	NA
##	[71,]	NA	NA	-1.8000000	-1.8000000	-1.8000000	NA
##	[72,]	-1.8000000	-1.79999995	-1.8000000	-1.8000000	-1.8000000	NA
##	[73,]	-1.8000000	-1.79999995	-1.8000000	-1.8000000	-1.8000000	-1.79999995
##	[74,]	-1.3985717	-1.79999995	-1.8000000	-1.8000000	-1.8000000	-0.65726173
##	[75,]	0.5556574	-0.68687642	0.1756027	-1.8000000	-1.8000000	-0.52209949
##	[76,]	0.8233393	0.59721959	0.5811619	-0.6500478	-1.6589669	-1.79999995
##	[77,]	0.8484356	0.80777287	0.7591369	0.7771044	0.4873097	-1.79999995
##	[78,]	0.8323305	0.83063161	0.9342545	0.8583220	0.5539252	NA
##	[79,]	0.8527214	1.29270899	1.2227463	0.6650778	0.6576170	-1.79999995
##	[80,]	1.1574671	1.45116484	NA	NA	NA	-1.79999995
##	[81,]	1.8601526	1.85493040	1.6627187	NA	NA	-1.79999995
##	[82,]	2.3368967	2.19053864	1.7651467	1.3234048	NA	NA
##	[83,]	2.6969354	2.53250384	1.8671967	1.3579888	0.8195314	0.03197640
##	[84,]	2.8015807	2.62822676	1.9636927	1.6176260	1.0788611	0.17599645
##	[85,]	2.9616508	2.85736942	2.2483521	1.9480931	1.4187418	0.17928976
##	[86,]	3.4999413	3.41548872	3.0693371	2.2851558	1.7325070	1.36821437
##	[87,]	3.7345314	3.67292523	3.4169791	2.6563218	2.0523429	1.62178397
##	[88,]	3.8137848	3.76558590	3.5745549	2.5740306	2.1057434	1.77331209
##	[89,]	3.5187833	3.41911769	3.2082078	2.4930599	2.3642004	2.03347731
##	[90,]	3.6139808	3.41881371	3.2099445	2.5938001	2.5992792	2.19676971
##	[91,]	3.7484288	3.46481085	3.2200530	2.6505308	2.7180283	2.24759960
##	[92,]	3.8466020	3.51641273	3.2519550	2.7559123	2.7066388	1.92766571
##	[93,]	3.8863227	3.51973534	3.2754152	2.9207621	2.7237160	1.75579190
##	[94,]	3.9825361	3.55867529	3.3021967	3.0692897	2.4480357	1.45881033
##	[95,]	4.2289786	3.74016213	3.4298620	3.0935009	2.1912267	1.04127645
##	[96,]	4.5651975	4.03372908	3.6585386	3.1336124	1.8807050	-0.08340460
##	[97,]	4.8692074	4.32093573	3.8745985	3.1723707	1.6412122	-0.69077033
##	[98,]	5.1000218	4.53472471	4.0229306	3.1836309	1.5389802	-1.24286389
##	[99,]	5.2931914	4.69721174	4.1413245	3.1754358	1.5023216	-1.68752384
##	[100,]	5.4355068	4.82556963	4.3057890	3.2511210	1.6731608	-0.73200130
##	[101,]	5.6283231	5.02195024	4.5547013	3.6306357	2.3274686	NA
##	[102,]	5.6449046	4.87485361	4.5690188	3.9882634	3.1949770	NA

## [103,]	5.6467390	4.94723368	4.8314548	4.6726408	4.2332687	NA
## [104,]	5.7310023	5.03966331	4.8893218	4.9943833	4.8555169	NA
## [105,]	5.8731451	5.13888836	4.8443208	4.9964476	4.9428062	4.89087629
## [106,]	6.0417857	5.24200869	4.7813473	4.8756404	4.8997388	5.02780247
## [107,]	6.1995921	5.37249756	4.8308911	4.8081131	4.8670955	5.12598896
## [108,]	6.2529969	5.55991364	4.9721913	4.8542204	4.9092245	5.23476458
## [109,]	6.3363905	5.69902086	5.1484756	4.9755163	4.9868102	5.30234671
## [110,]	6.3646569	5.76528215	5.2897434	5.0313072	5.0488276	5.29026365
## [111,]	6.4716296	5.92129517	5.4525790	5.3061447	5.2397337	5.35738897
## [112,]	6.5771699	6.06016111	5.6394315	5.4005966	5.3347797	NA
## [113,]	6.7003126	6.17629194	5.7726932	5.4588284	5.3435822	NA
## [114,]	6.8777094	6.33822536	5.9358115	5.6011791	5.4491940	NA
## [115,]	7.0611825	6.43538141	5.9904208	5.7203379	NA	NA
## [116,]	7.1624417	6.52361298	6.1258063	NA	NA	NA
## [117,]	7.1773024	6.70974445	NA	NA	NA	NA
## [118,]	7.1166158	NA	NA	NA	NA	NA
## [119,]	7.0338907	NA	NA	NA	NA	NA
## [120,]	NA	NA	NA	NA	NA	NA
## [121,]	NA	NA	NA	NA	NA	NA
## [122,]	NA	NA	NA	NA	NA	NA
## [123,]	NA	NA	NA	NA	NA	NA
## [124,]	NA	NA	NA	NA	NA	NA
## [125,]	NA	NA	NA	NA	NA	NA
## [126,]	NA	NA	NA	NA	NA	NA
## [127,]	NA	NA	NA	NA	NA	NA
## [128,]	NA	NA	NA	NA	NA	NA
## [129,]	NA	NA	NA	NA	NA	NA
## [130,]	NA	NA	NA	NA	NA	NA
## [131,]	NA	NA	NA	NA	NA	NA
## [132,]	NA	NA	NA	NA	NA	NA
## [133,]	NA	NA	NA	NA	NA	NA
## [134,]	NA	NA	NA	NA	NA	-1.79999995
## [135,]	NA	NA	NA	NA	-1.8000000	-1.79999995
## [136,]	NA	NA	NA	NA	-1.8000000	-1.79999995
## [137,]	NA	NA	NA	NA	-1.8000000	-1.79999995
## [138,]	NA	NA	NA	NA	-1.8000000	-1.79999995
## [139,]	NA	NA	NA	-1.8000000	-1.8000000	-1.79999995
## [140,]	NA	NA	-1.8000000	-1.8000000	-1.8000000	-1.79999995
## [141,]	NA	-1.79999995	-1.8000000	-1.8000000	-1.8000000	-1.79999995
## [142,]	NA	NA	NA	-1.8000000	-1.8000000	-1.79999995
## [143,]	NA	NA	NA	NA	NA	NA
## [144,]	NA	NA	NA	NA	NA	NA
## [145,]	NA	NA	NA	NA	NA	NA
## [146,]	NA	NA	NA	NA	NA	NA
## [147,]	NA	NA	NA	NA	NA	-1.79999995

##	[148,]	-1.8000000	NA	NA	NA	NA	-1.79999995
##	[149,]	-1.8000000	NA	NA	NA	NA	-1.79999995
##	[150,]	-1.8000000	NA	NA	NA	-1.8000000	-1.79999995
##	[151,]	-1.8000000	NA	NA	-1.8000000	-1.5422926	-1.70611548
##	[152,]	-1.7898791	-1.79999995	NA	-1.4505486	-0.8964981	-0.98177224
##	[153,]	-1.8000000	-1.79999995	-1.6785232	-0.4033198	0.0849936	-0.03133881
##	[154,]	-1.5985277	-1.79999995	-0.2304204	0.4471307	1.0460529	0.77416468
##	[155,]	-0.5106641	-0.01105601	0.6532776	1.1356720	1.5631386	1.03958344
##	[156,]	0.6185659	1.36748266	1.8192059	1.8171232	1.7545085	1.16913414
##	[157,]	2.3108859	3.18605447	3.1724880	2.5789578	2.0412400	1.48410356
##	[158,]	4.1993017	4.77240896	4.2822046	3.3348944	2.6553051	2.14956689
##	[159,]	6.1219931	5.82832623	4.9432940	4.0299029	3.6243830	3.51315904
##	[160,]	7.9685364	6.60874653	5.4231124	4.7764769	4.6739006	4.76861572
##	[161,]	9.3834276	7.27433634	6.0067515	5.6868277	5.6348696	5.56741810
##	[162,]	10.0544920	7.78300238	6.6858716	6.6645865	6.5762267	6.25143623
##	[163,]	10.2069836	8.20156002	7.3755169	7.5534081	7.4304771	6.93261147
##	[164,]	10.3599615	8.65724182	7.9706988	8.2458096	8.2177868	7.78508854
##	[165,]	10.7225847	9.15044975	8.4423180	8.7267847	8.9143105	8.62889004
##	[166,]	11.1116409	9.63221550	8.8860226	9.1468267	9.4416475	9.31343651
##	[167,]	11.3517094	10.05995369	9.4003277	9.5646353	9.8666544	9.76755142
##	[168,]	11.4959431	10.46586418	9.9223537	10.0018730	10.1908932	10.01264095
##	[169,]	11.6364460	10.84034634	10.3982639	10.3816166	10.4475861	10.12822533
##	[170,]	11.7269888	11.16081142	10.7984142	10.6979733	10.6263657	10.19317913
##	[171,]	11.7527151	11.34372330	11.0225687	10.8249674	10.5871010	10.10054016
##	[172,]	11.7026138	11.40160465	11.1270561	10.8134289	10.3945494	9.86720657
##	[173,]	11.6420174	11.36670685	11.1002398	10.7387762	10.2623777	9.75668430
##	[174,]	11.5632830	11.24119949	10.9721804	10.6685390	10.2476320	9.77741241
##	[175,]	11.3597708	10.94600296	10.7309790	10.6021128	10.3099718	9.82793236
##	[176,]	11.0062389	10.54466629	10.4138517	10.4029589	10.2488689	9.78967667
##	[177,]	10.5928793	9.92238808	NA	9.8047371	9.9113894	9.57087231
##	[178,]	10.2578783	9.37640858	8.8748512	9.0583086	9.4517622	9.31709862
##	[179,]	10.0477934	9.34081841	8.7020178	8.7052164	9.1701632	9.21693039
##	[180,]	9.7956791	9.37869072	NA	NA	9.0566454	9.24315166
##		[,76]	[,77]	[,78]	[,79]	[,80]	[,81]
##	[1,]	8.93425560	8.0451355	7.08179569	6.22922325	4.32906246	1.5196804
##	[2,]	8.91280746	8.3517179	7.44956589	6.56457138	4.72779846	2.0552139
##	[3,]	8.62548828	8.3303366	7.60277843	6.76612377	5.05221272	2.6140723
##	[4,]	8.31672001	8.1116257	7.58356524	6.87867785	5.21755695	3.2700217
##	[5,]	NA	7.7039618	7.40387678	6.87894058	5.48495531	3.8944304
##	[6,]	NA	7.3098254	7.01431656	6.69486618	5.70397186	4.3794780
##	[7,]	NA	NA	6.39150333	6.16917610	5.55675507	4.6005249
##	[8,]	NA	NA	NA	5.36245060	5.18304062	4.5260334
##	[9,]	NA	NA	NA	NA	4.85918474	4.3063736
##	[10,]	1.95451140	NA	NA	NA	4.67703390	4.1859217
##	[11,]	1.96983576	1.0826063	NA	NA	NA	4.0353003

##	[12,]	1.57063258	-1.1100665	-1.79999995	NA	NA	3.9600573
##	[13,]	NA	NA	-1.79999995	NA	NA	3.8815522
##	[14,]	NA	NA	NA	NA	NA	3.8156586
##	[15,]	NA	NA	NA	NA	NA	3.5655143
##	[16,]	NA	NA	NA	NA	3.24661040	3.1722329
##	[17,]	NA	NA	NA	NA	2.80378437	2.6351321
##	[18,]	NA	NA	NA	NA	2.21747065	1.9363141
##	[19,]	NA	NA	-1.79999995	NA	1.59846473	1.2244813
##	[20,]	NA	NA	-1.79999995	NA	0.91107857	0.5421934
##	[21,]	NA	NA	-1.79999995	NA	1.05777478	0.8642053
##	[22,]	NA	NA	NA	-0.01788878	0.66959292	0.8045228
##	[23,]	NA	NA	NA	-0.32557884	0.38114691	0.8261304
##	[24,]	NA	NA	NA	-1.70112443	0.08670545	0.7772492
##	[25,]	NA	NA	NA	-1.79999995	-0.26329359	0.5418980
##	[26,]	NA	NA	NA	-1.79999995	-0.54907572	0.5023704
##	[27,]	NA	NA	NA	NA	-0.99041438	-0.8104841
##	[28,]	NA	NA	NA	NA	-1.79999995	-0.6719831
##	[29,]	NA	NA	NA	NA	-1.79999995	-1.8000000
##	[30,]	NA	NA	NA	NA	-1.79999995	-1.8000000
##	[31,]	NA	NA	NA	NA	-1.79999995	-1.8000000
##	[32,]	NA	NA	NA	NA	-1.79999995	-1.8000000
##	[33,]	NA	NA	NA	NA	-1.79999995	-1.8000000
##	[34,]	NA	NA	NA	NA	-1.79999995	-1.8000000
##	[35,]	NA	NA	NA	NA	-1.79999995	-1.8000000
##	[36,]	NA	NA	NA	NA	NA	NA
##	[37,]	NA	NA	NA	NA	NA	NA
##	[38,]	NA	NA	NA	-1.79999995	-1.79999995	-1.8000000
##	[39,]	NA	NA	NA	NA	NA	-1.8000000
##	[40,]	NA	NA	NA	NA	NA	-1.8000000
##	[41,]	NA	NA	NA	NA	NA	NA
##	[42,]	NA	NA	NA	NA	NA	NA
##	[43,]	NA	NA	NA	NA	NA	NA
##	[44,]	NA	NA	NA	NA	NA	NA
##	[45,]	NA	NA	NA	NA	NA	NA
##	[46,]	NA	NA	NA	NA	NA	NA
##	[47,]	NA	NA	NA	NA	NA	NA
##	[48,]	NA	NA	NA	NA	NA	NA
##	[49,]	NA	NA	NA	NA	NA	NA
##	[50,]	NA	NA	NA	NA	NA	NA
##	[51,]	NA	NA	NA	NA	NA	NA
##	[52,]	NA	NA	NA	NA	NA	NA
##	[53,]	NA	NA	NA	NA	NA	NA
##	[54,]	NA	NA	NA	NA	NA	NA
##	[55,]	NA	NA	NA	NA	NA	NA
##	[56,]	NA	NA	NA	NA	NA	NA

##	[57,]	NA	NA	NA	NA	NA	NA
##	[58,]	NA	NA	NA	NA	NA	NA
##	[59,]	NA	NA	NA	NA	NA	NA
##	[60,]	NA	NA	NA	NA	NA	NA
##	[61,]	NA	NA	NA	NA	NA	NA
##	[62,]	NA	NA	NA	NA	NA	NA
##	[63,]	NA	NA	NA	NA	NA	NA
##	[64,]	NA	NA	NA	NA	NA	NA
##	[65,]	NA	NA	NA	NA	NA	NA
##	[66,]	NA	NA	NA	NA	NA	-1.8000000
##	[67,]	NA	NA	NA	NA	NA	-1.8000000
##	[68,]	NA	NA	NA	NA	NA	-1.8000000
##	[69,]	NA	NA	NA	NA	NA	-1.8000000
##	[70,]	NA	NA	NA	NA	NA	-1.8000000
##	[71,]	NA	NA	NA	NA	NA	-1.8000000
##	[72,]	NA	NA	NA	NA	NA	NA
##	[73,]	NA	NA	NA	NA	NA	NA
##	[74,]	NA	NA	NA	NA	NA	NA
##	[75,]	NA	NA	NA	NA	NA	NA
##	[76,]	NA	NA	NA	NA	NA	NA
##	[77,]	NA	NA	NA	NA	NA	-1.8000000
##	[78,]	NA	NA	NA	NA	NA	-1.8000000
##	[79,]	NA	NA	NA	NA	NA	-1.8000000
##	[80,]	-1.79999995	NA	NA	NA	NA	-1.8000000
##	[81,]	-1.79999995	NA	NA	NA	NA	-1.8000000
##	[82,]	-1.79999995	NA	NA	NA	-1.79999995	-1.8000000
##	[83,]	-1.79999995	NA	NA	NA	-1.79999995	-1.8000000
##	[84,]	NA	NA	NA	NA	-1.79999995	-1.8000000
##	[85,]	NA	NA	NA	NA	-1.79999995	-1.8000000
##	[86,]	NA	NA	NA	NA	-1.79999995	-1.8000000
##	[87,]	NA	NA	NA	NA	NA	-1.8000000
##	[88,]	1.56385040	NA	NA	NA	NA	-1.8000000
##	[89,]	1.60592651	NA	NA	NA	NA	-1.8000000
##	[90,]	1.36660540	NA	NA	NA	-1.79999995	-1.8000000
##	[91,]	0.95781565	-1.8000000	NA	NA	-1.79999995	-1.8000000
##	[92,]	0.61088473	-1.8000000	-1.79999995	NA	-1.79999995	-1.8000000
##	[93,]	-0.58843136	-1.8000000	-1.79999995	NA	-1.79999995	-1.8000000
##	[94,]	-0.85710740	-1.8000000	NA	-1.79999995	-1.79999995	-1.8000000
##	[95,]	-1.76413286	-1.8000000	-1.79999995	-1.79999995	-1.79999995	-1.8000000
##	[96,]	-1.79999995	-1.8000000	-1.79999995	-1.79999995	-1.79999995	-1.8000000
##	[97,]	-1.79999995	-1.8000000	-1.79999995	-1.79999995	-1.79999995	-1.8000000
##	[98,]	-1.79999995	-1.8000000	-1.79999995	-1.79999995	-1.79999995	-1.8000000
##	[99,]	NA	-1.8000000	NA	-1.79999995	-1.79999995	-1.8000000
##	[100,]	NA	-1.8000000	NA	NA	-1.79999995	-1.8000000
##	[101,]	NA	-1.8000000	NA	NA	NA	-1.8000000

## [102,]	NA	NA	NA	NA	NA	-1.8000000
## [103,]	NA	NA	NA	NA	NA	-1.8000000
## [104,]	NA	NA	NA	NA	NA	-1.8000000
## [105,]	NA	NA	NA	NA	NA	-1.8000000
## [106,]	NA	NA	NA	NA	NA	-1.8000000
## [107,]	NA	NA	NA	NA	NA	-1.8000000
## [108,]	NA	NA	NA	NA	NA	-1.8000000
## [109,]	NA	NA	NA	NA	NA	-1.8000000
## [110,]	NA	NA	NA	NA	NA	-1.8000000
## [111,]	NA	NA	NA	NA	-1.79999995	-1.8000000
## [112,]	NA	NA	NA	NA	-1.79999995	-1.8000000
## [113,]	NA	NA	NA	NA	-1.79999995	-1.8000000
## [114,]	NA	NA	NA	NA	-1.79999995	-1.8000000
## [115,]	NA	NA	NA	NA	-1.79999995	-1.8000000
## [116,]	NA	NA	NA	NA	NA	-1.8000000
## [117,]	NA	NA	NA	NA	NA	-1.8000000
## [118,]	NA	NA	NA	NA	-1.79999995	-1.8000000
## [119,]	NA	NA	NA	NA	-1.79999995	-1.8000000
## [120,]	NA	NA	NA	NA	-1.79999995	-1.8000000
## [121,]	NA	NA	NA	NA	-1.79999995	-1.8000000
## [122,]	NA	NA	NA	NA	-1.79999995	-1.8000000
## [123,]	NA	NA	NA	NA	-1.79999995	NA
## [124,]	NA	NA	NA	-1.79999995	-1.79999995	NA
## [125,]	NA	NA	NA	-1.79999995	NA	NA
## [126,]	NA	NA	NA	-1.79999995	NA	NA
## [127,]	NA	NA	NA	-1.79999995	NA	NA
## [128,]	NA	NA	NA	NA	-1.64828825	NA
## [129,]	NA	NA	NA	NA	-1.79999995	-1.8000000
## [130,]	NA	NA	NA	-1.79999995	-1.79999995	-1.8000000
## [131,]	NA	NA	NA	NA	-1.79999995	-1.8000000
## [132,]	NA	NA	NA	NA	-1.79999995	-1.8000000
## [133,]	NA	NA	NA	-1.79999995	-1.79999995	-1.8000000
## [134,]	NA	NA	NA	NA	-1.79999995	NA
## [135,]	-1.79999995	NA	NA	NA	-1.79999995	-1.8000000
## [136,]	-1.79999995	-1.8000000	NA	NA	-1.79999995	-1.8000000
## [137,]	-1.79999995	-1.8000000	NA	NA	-1.79999995	NA
## [138,]	-1.79999995	-1.8000000	-1.79999995	-1.79999995	-1.79999995	NA
## [139,]	-1.79999995	-1.8000000	-1.79999995	NA	NA	NA
## [140,]	-1.79999995	-1.8000000	-1.79999995	NA	-1.79999995	NA
## [141,]	-1.79999995	-1.8000000	-1.79999995	-1.79999995	-1.79999995	NA
## [142,]	-1.79999995	-1.8000000	-1.79999995	-1.79999995	-1.79999995	NA
## [143,]	NA	-1.8000000	-1.79999995	-1.79999995	-1.79999995	NA
## [144,]	NA	-1.8000000	-1.79999995	-1.79999995	NA	NA
## [145,]	-1.79999995	-1.8000000	NA	-1.79999995	NA	-1.8000000
## [146,]	-1.79999995	NA	NA	NA	NA	-1.8000000

##	[147,]	-1.79999995	NA	NA	NA	NA	-1.8000000		
##	[148,]	-1.79999995	-1.8000000	-1.79999995	-1.79999995	-1.79999995	-1.8000000		
##	[149,]	-1.79999995	-1.8000000	-1.79999995	-1.79999995	-1.79999995	-1.8000000		
##	[150,]	-1.79999995	-1.8000000	-1.79999995	-1.79999995	-1.79999995	-1.8000000		
##	[151,]	-1.76161814	-1.8000000	-1.79999995	-1.79999995	-1.79999995	-1.8000000		
##	[152,]	-1.13029754	-1.4250590	-1.79999995	-1.79999995	-1.79999995	-1.8000000		
##	[153,]	-0.07902265	-0.2901281	-1.56847370	-1.79999995	-1.79999995	-1.8000000		
##	[154,]	0.53580850	0.3295208	-0.99069214	-1.79999995	-1.79999995	-1.8000000		
##	[155,]	0.62464964	0.3193203	0.06151041	NA	-1.79999995	0.8058516		
##	[156,]	0.52254975	0.2706876	NA	NA	1.23654461	NA		
##	[157,]	0.76810759	NA	NA	NA	NA	NA		
##	[158,]	NA	NA	NA	NA	NA	NA		
##	[159,]	NA	NA	NA	NA	NA	NA		
##	[160,]	3.23967075	NA	NA	NA	NA	NA		
##	[161,]	5.18955040	4.2660875	0.94125962	NA	NA	NA		
##	[162,]	5.83734608	4.7341700	-1.79999995	NA	NA	NA		
##	[163,]	6.54541826	5.6138387	-1.44912720	NA	NA	NA		
##	[164,]	7.31192589	6.1219339	4.09560633	NA	NA	NA		
##	[165,]	8.05929565	6.6931987	4.04936171	-1.79999995	NA	NA		
##	[166,]	8.73915100	7.3127670	4.42231369	-1.79999995	NA	NA		
##	[167,]	9.16730881	7.6808319	4.81087828	-1.79999995	NA	NA		
##	[168,]	9.27208328	7.7758374	5.24424553	-1.11034131	NA	NA		
##	[169,]	9.26505661	7.7337337	5.38449764	-0.93895078	-1.79999995	-1.1844988		
##	[170,]	9.30043316	7.7450414	5.38639736	2.71774220	-1.79999995	-1.8000000		
##	[171,]	9.30666637	7.9339991	5.43323231	2.95259595	-1.79999995	-1.8000000		
##	[172,]	9.23472881	8.3714256	NA	2.77871799	-0.05163467	-1.8000000		
##	[173,]	9.13926125	8.2684040	NA	2.47171736	1.58463466	-1.8000000		
##	[174,]	9.03675461	7.4754210	4.62993574	2.29440975	1.31573617	-1.7380998		
##	[175,]	8.85066128	6.7937117	4.05765581	2.00394082	0.95333219	-1.7768011		
##	[176,]	8.61637974	6.3815799	3.81337547	1.98751247	0.82578158	-1.5475484		
##	[177,]	8.32248592	6.2001467	4.06337929	2.64780331	1.33048272	-0.6801047		
##	[178,]	8.17089176	6.3378472	4.76881409	3.69356942	2.16036606	-0.1958557		
##	[179,]	8.33168411	6.8095803	5.59414721	4.75232077	3.00187087	0.3362975		
##	[180,]	8.67846012	7.4662361	6.43662596	5.63580608	3.76714969	0.9791170		
##		[,82]	[,83]	[,84]	[,85]	[,86]	[,87]	[,88]	[,89]
##	[1,]	-0.7302009	-1.1345942	-1.07016718	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[2,]	-0.3585693	-0.9759858	-0.92994511	-1.7972723	-1.8	-1.8	-1.8	-1.8
##	[3,]	0.2690262	-0.5383137	-0.60541582	-1.7579763	-1.8	-1.8	-1.8	-1.8
##	[4,]	1.0831381	0.1446146	-0.08399069	-1.6763711	-1.8	-1.8	-1.8	-1.8
##	[5,]	1.8252842	0.7130619	0.34079015	-1.5821295	-1.8	-1.8	-1.8	-1.8
##	[6,]	2.4538286	1.2930607	0.75836730	-1.5738355	-1.8	-1.8	-1.8	-1.8
##	[7,]	3.0811877	1.9122422	1.15840161	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[8,]	3.3261852	2.1123672	1.24359322	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[9,]	3.1485295	1.6408489	0.65288126	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[10,]	2.5545459	0.6454337	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8

##	[11,]	2.1671708	-1.0693357	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[12,]	2.0323987	-1.4297071	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[13,]	2.0898075	-1.0537983	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[14,]	2.1881258	-0.1797985	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[15,]	2.2943463	0.4137073	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[16,]	2.1189520	0.3689935	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[17,]	1.5913955	0.0700379	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[18,]	0.8803920	-0.3351519	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[19,]	0.2275298	-0.9160632	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[20,]	-0.2895788	-1.2670639	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[21,]	0.2078266	-1.3537087	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[22,]	0.3232409	-1.3299735	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[23,]	0.5633330	-1.2766294	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[24,]	0.7255985	-1.2263283	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[25,]	0.6522431	-1.2708764	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[26,]	0.6933788	-1.5371662	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[27,]	0.1817465	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[28,]	-1.5092889	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[29,]	-0.3470125	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[30,]	-1.8000000	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[31,]	-1.8000000	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[32,]	-1.8000000	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[33,]	-1.8000000	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[34,]	-1.8000000	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[35,]	-1.8000000	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[36,]	-1.8000000	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[37,]	-1.8000000	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[38,]	-1.8000000	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[39,]	-1.8000000	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[40,]	-1.8000000	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[41,]	-1.8000000	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[42,]	-1.8000000	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[43,]	-1.8000000	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[44,]	-1.8000000	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[45,]	NA	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[46,]	NA	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[47,]	NA	-1.8000000	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[48,]	NA	NA	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[49,]	NA	NA	-1.79999995	0.4232376	-1.8	-1.8	-1.8	-1.8
##	[50,]	NA	NA	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[51,]	NA	NA	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[52,]	NA	NA	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[53,]	NA	NA	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[54,]	NA	NA	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8
##	[55,]	NA	NA	-1.79999995	-1.8000000	-1.8	-1.8	-1.8	-1.8

[illegible]

[illegible]

```

## [146,] -1.8000000 -1.8000000 -1.79999995 -1.8000000 NA -1.8 -1.8 -1.8
## [147,] -1.8000000 -1.8000000 NA -1.8000000 NA -1.8 -1.8 -1.8
## [148,] -1.8000000 -1.8000000 NA -1.8000000 -1.8 -1.8 -1.8 -1.8
## [149,] -1.8000000 -1.8000000 NA -1.8000000 -1.8 -1.8 -1.8 -1.8
## [150,] -1.8000000 -1.8000000 NA NA -1.8 -1.8 -1.8 -1.8
## [151,] -1.8000000 -1.8000000 NA NA -1.8 -1.8 -1.8 -1.8
## [152,] -1.8000000 -1.8000000 NA NA NA -1.8 -1.8 -1.8
## [153,] -1.8000000 NA NA NA NA NA -1.8 -1.8 -1.8
## [154,] NA NA NA NA NA NA -1.8 -1.8 -1.8
## [155,] NA NA NA NA NA NA -1.8 -1.8 -1.8
## [156,] NA NA NA NA NA NA -1.8 -1.8 -1.8
## [157,] NA NA NA NA NA NA -1.8 -1.8 -1.8
## [158,] NA NA NA NA NA NA -1.8 -1.8 -1.8
## [159,] NA NA NA NA NA NA -1.8 -1.8 -1.8
## [160,] NA NA NA NA NA NA -1.8 -1.8 -1.8
## [161,] NA NA NA NA NA NA -1.8 -1.8 -1.8
## [162,] NA NA NA NA NA NA -1.8 -1.8 -1.8
## [163,] NA NA NA NA NA NA -1.8 -1.8 -1.8
## [164,] NA NA NA NA NA NA -1.8 -1.8 -1.8
## [165,] NA NA NA NA NA NA -1.8 -1.8 -1.8
## [166,] NA NA NA NA NA NA -1.8 -1.8 -1.8
## [167,] NA NA NA NA NA NA -1.8 -1.8 -1.8
## [168,] NA NA NA NA NA NA -1.8 -1.8 -1.8
## [169,] NA NA NA NA NA -1.8 -1.8 -1.8 -1.8
## [170,] -1.8000000 NA NA NA -1.8 -1.8 -1.8 -1.8
## [171,] -1.8000000 NA NA NA -1.8 -1.8 -1.8 -1.8
## [172,] -1.8000000 -1.8000000 -1.79999995 -1.8000000 -1.8 -1.8 -1.8 -1.8
## [173,] -1.8000000 -1.8000000 -1.79999995 -1.8000000 -1.8 -1.8 -1.8 -1.8
## [174,] -1.8000000 -1.8000000 -1.79999995 -1.8000000 -1.8 -1.8 -1.8 -1.8
## [175,] -1.8000000 -1.8000000 -1.79999995 -1.8000000 -1.8 -1.8 -1.8 -1.8
## [176,] -1.8000000 -1.8000000 -1.79999995 -1.8000000 -1.8 -1.8 -1.8 -1.8
## [177,] -1.8000000 -1.8000000 -1.79999995 -1.8000000 -1.8 -1.8 -1.8 -1.8
## [178,] -1.7955309 -1.8000000 -1.79999995 -1.8000000 -1.8 -1.8 -1.8 -1.8
## [179,] -1.6793994 -1.7600267 -1.79999995 -1.8000000 -1.8 -1.8 -1.8 -1.8
## [180,] -1.0812149 -1.3300371 -1.52315986 -1.8000000 -1.8 -1.8 -1.8 -1.8

# tmp.array <- ncvar_get(ncin, dname) # doesn't work...

tmp.array <- ncvar_get(ncin, "sst")
dim(tmp.array)

## [1] 180 89

tmp.array[75, 67]

## [1] 2.733699

```

```

tmp.array[67,]

## [1] NA NA NA NA NA NA
## [7] NA NA NA NA NA NA
## [13] 0.6272817 1.7427310 3.2939901 3.8191488 4.6434455 5.5184665
## [19] 6.7622442 8.1885090 9.6581650 11.0079021 12.3807602 13.9644680
## [25] 15.5911388 16.9703236 18.1509132 19.2603779 20.0396309 NA
## [31] NA NA NA NA NA NA
## [37] NA NA 31.1857681 30.3504162 29.7406406 29.4760056
## [43] 29.2908821 28.9622402 28.6147442 28.4362392 28.4344540 28.5184765
## [49] 28.5790901 28.5851860 28.5047436 28.3022614 27.9064388 27.1565475
## [55] 26.0471630 24.7420254 23.4154816 22.1357174 20.8125858 19.0809135
## [61] 16.2925243 12.6121902 9.1169271 6.1397209 3.0012624 0.4936309
## [67] NA NA NA NA NA NA
## [73] NA NA NA NA NA NA
## [79] NA NA -1.8000000 -1.8000000 -1.8000000 -1.8000000
## [85] -1.8000000 -1.8000000 -1.8000000 -1.8000000 -1.8000000

dlname <- ncatt_get(ncin, "sst", "long_name")
dunits <- ncatt_get(ncin, "sst", "units")
fillvalue <- ncatt_get(ncin, "sst", "_FillValue")
dim(tmp.array)

## [1] 180 89

title <- ncatt_get(ncin, 0, "title")
institution <- ncatt_get(ncin, 0, "institution")
datasource <- ncatt_get(ncin, 0, "source")
references <- ncatt_get(ncin, 0, "references")
history <- ncatt_get(ncin, 0, "history")
Conventions <- ncatt_get(ncin, 0, "Conventions")

# split the time units string into fields
tustr <- strsplit(tunits$value, " ")
tdstr <- strsplit(unlist(tustr)[3], "-")
tmonth = as.integer(unlist(tdstr)[2])
tday = as.integer(unlist(tdstr)[3])
tyear = as.integer(unlist(tdstr)[1])
chron(t, origin = c(tmonth, tday, tyear))

## [1] 01/01/54

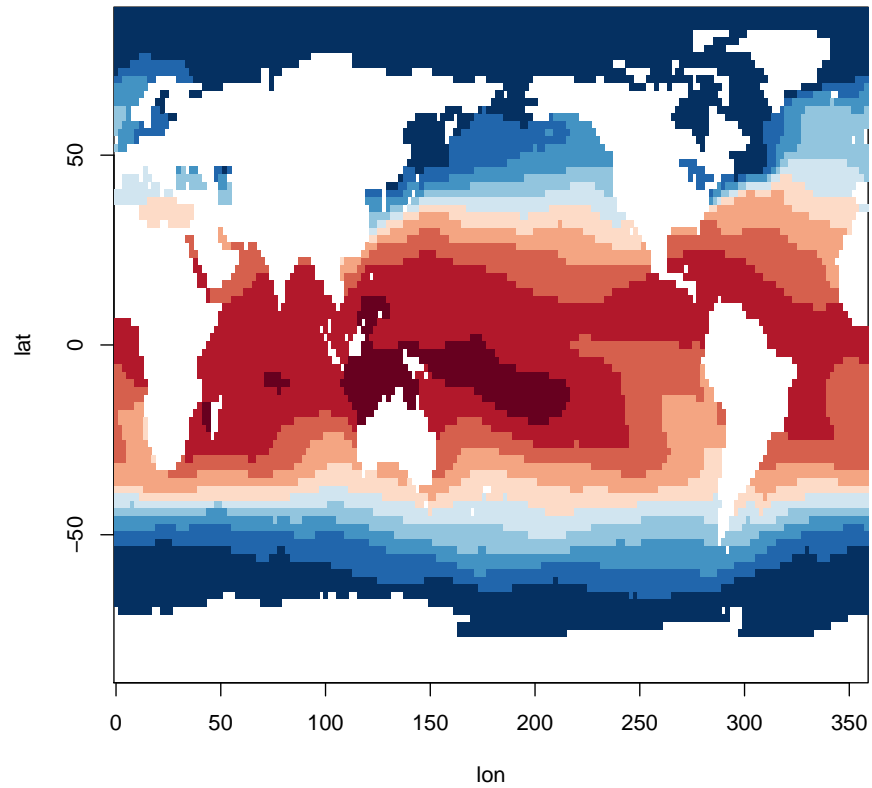
# tmp.array[tmp.array == fillvalue] <- NA

# length(na.omit(as.vector(tmp.array[, , 1])))

m <- 1
tmp.slice <- tmp.array[, , m]

```

```
## Error in tmp.array[, , m]: incorrect number of dimensions
image(lon, lat, tmp.array, col = rev(brewer.pal(10, "RdBu")))
```



```
# image(lon, lat, tmp.slice, col = rev(brewer.pal(10, "RdBu")))
```

4 Satellite Data

TBD

5 Ice-Core Data

TBD