

# Package ‘cimis’

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**Title** R package for retrieving data from CIMIS.

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**Depends** R (>= 2.8.1), XML, RCurl

**Description** A set of functions for retrieving data from CIMIS, the California Irrigation Management Information System.

**License** GPL (>= 2)

**URL** <http://cran.r-project.org/package=cimis>

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`cimisannual`*Retrieve annual data from CIMIS*

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**Description**

Retrieves annual data from CIMIS servers. Currently only implemented for imperial units.

**Usage**

```
cimisannual(station, year, period = "daily", units = "imp", keepfile = TRUE)
```

**Arguments**

<code>station</code>	station ID. See <a href="#">getStnList</a>
<code>year</code>	year, in quotes
<code>period</code>	either "daily" or "hourly". Defaults to "daily".
<code>units</code>	either "imp" for imperial or "SI" for SI. For this function in particular, only imperial is implemented.
<code>keepfile</code>	Should the zip file be saved to current working directory? This is useful for hourly data in particular, where file size can be upwards of 20MB. Defaults to TRUE

**Value**

A data frame of weather data. CIMIS codes are stripped, only numeric data is retained. Dimensions depend on period. For daily data, a 365-366 x 18 data frame. For hourly data, a 8760 or 8784 x 16 data frame.

**Note**

Thank you to Dylan Beaudette at California Soil Resource Lab for inspiration and parsing. <http://casoilresource.lawr.ucdavis.edu/drupal/node/38>, <http://casoilresource.lawr.ucdavis.edu/drupal/node/676>

**Author(s)**

Greg Hirson <<ghirson@ucdavis.edu>>

**References**

<http://www.cimis.water.ca.gov/cimis/welcome.jsp>

**See Also**

[cimisdaily](#), [cimismonthly](#), [cimishourly](#)

**Examples**

```
#Maximum daily temperature for Davis, CA, 2005
## Not run: weather = cimisannual(station = "006", year = "2005", keepfile = FALSE)
plot(weather$max_air, type = "l", xlab = "Day of Year",
      ylab = "Max. Air Temp, F", main = "Davis, CA, 2005")

## End(Not run)
```

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cimisdaily	<i>Retrieve daily data from CIMIS</i>
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**Description**

Retrieves annual data from CIMIS servers.

**Usage**

```
cimisdaily(station, units = "imp")
```

**Arguments**

station            station ID, in quotes. See [getStnList](#)  
units             either "imp" for imperial units or "SI" for SI units. Defaults to "imp"

**Value**

A 7 x 18 data frame. Returns daily weather data for the last 7 days.

**Note**

Thank you to Dylan Beaudette at California Soil Resource Lab for inspiration and parsing. <http://casoilresource.lawr.ucdavis.edu/drupal/node/38>, <http://casoilresource.lawr.ucdavis.edu/drupal/node/676>

**Author(s)**

Greg Hirson <<ghirson@ucdavis.edu>>

**References**

<http://www.cimis.water.ca.gov/cimis/welcome.jsp>

**See Also**

[cimisannual](#), [cimismonthly](#), [cimishourly](#)

## Examples

```
## Not run: #Average soil temperature for last 7 days in Davis, CA
weather = cimisdaily("006")
plot(soil_avg ~ julian_day, data = weather, pch = 19,
     xlab = "Julian Day", ylab = "Avg. Soil Temp, F",
     main = "Recent soil temperature in Davis, CA")

## End(Not run)
```

---

cimishourly

*Retrieve hourly data from CIMIS*

---

## Description

Retrieves hourly data from CIMIS servers.

## Usage

```
cimishourly(station, units = "imp")
```

## Arguments

station	station ID, in quotes. See <a href="#">getStnList</a>
units	either "imp" for imperial units or "SI" for SI units. Defaults to "imp"

## Value

A 192 x 16 data frame. Returns hourly weather data for the last 7 days.

## Note

Thank you to Dylan Beaudette at California Soil Resource Lab for inspiration and parsing. <http://casoilresource.lawr.ucdavis.edu/drupal/node/38>, <http://casoilresource.lawr.ucdavis.edu/drupal/node/676>

## Author(s)

Greg Hirson <<ghirson@ucdavis.edu>>

## References

<http://www.cimis.water.ca.gov/cimis/welcome.jsp>

## See Also

[cimisdaily](#), [cimismonthly](#), [cimisannual](#)

## Examples

```
##Recent hourly solar radiation in Davis, CA
weather = cimishourly("006")
plot(solar_rad ~ datetime, data = weather, type = "l",
     xlab = "Time", ylab = "Solar Radiation",
     main = "Recent solar radiation in Davis, CA")
```

---

cimismonthly

*Retrieve monthly data from CIMIS*

---

## Description

Retrieves monthly data from CIMIS servers.

## Usage

```
cimismonthly(station, month, period = "daily", units = "imp", keepfile = TRUE)
```

## Arguments

station	station ID. See <a href="#">getStnList</a>
month	month, in quotes. All lower case, of the form jan, feb, mar, ...
period	either "daily" or "hourly". Defaults to "daily".
units	either "imp" for imperial or "SI" for SI.
keepfile	Should the zip file be saved to current working directory? This is useful for annual hourly data in particular, where file size can be upwards of 20MB. Defaults to TRUE

## Value

A data frame of weather data. CIMIS codes are stripped, only numeric data is retained. Dimensions depend on period. For daily data, a 28-31 x 18 data frame. For hourly data, a (28-31)\*24 x 16 data frame.

## Note

Thank you to Dylan Beaudette at California Soil Resource Lab for inspiration and parsing. <http://casoilresource.lawr.ucdavis.edu/drupal/node/38>, <http://casoilresource.lawr.ucdavis.edu/drupal/node/676>

## Author(s)

Greg Hirson <<ghirson@ucdavis.edu>>

## References

<http://www.cimis.water.ca.gov/cimis/welcome.jsp>

**See Also**

[cimisdaily](#), [cimisannual](#), [cimishourly](#)

**Examples**

```
##February dew point in Davis, CA
## Not run: weather = cimismonthly(station = "006", month = "feb", period = "daily",
  keepfile = FALSE)
plot(dew_pt~datetime, data= weather, pch = 19, type = "o",
  xlab = "Date", ylab = "Dew Point, F",
  main = "February dew point, Davis, CA")

## End(Not run)
```

---

getStnList

*Download up-to-date CIMIS Station list*

---

**Description**

Retrieves CIMIS Sation list from CIMIS

**Usage**

```
getStnList(active = TRUE)
```

**Arguments**

**active**            logical. if TRUE, only returns active station. if FALSE, returns active and inactive stations.

**Value**

a dataframe with station number, name, county, and status.

**Author(s)**

Greg Hirson <[ghirson@ucdavis.edu](mailto:ghirson@ucdavis.edu)>

**Examples**

```
getStnList()
```

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mcimisannual	<i>Retrieve annual weather data from multiple stations over multiple years.</i>
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### Description

This function will get weather data from multiple stations over multiple years and return in it a tidy data frame.

### Usage

```
mcimisannual(stationlist, yearlist, label = "none", ...)
```

### Arguments

stationlist	A list of stations.
yearlist	A list of years
label	One of "none", "station", and "name" which will add a label of nothing useless, the station number, and the station name, respectively.
...	Additional parameters to <a href="#">cimisannual</a> , most likely, period and units.

### Details

Keepfile = FALSE is highly not recommended, especially for hourly measurements, as a new connection is opened for each station-year combination.

### Value

A dataframe

### Author(s)

Greg Hirson <[ghirson@ucdavis.edu](mailto:ghirson@ucdavis.edu)>

### See Also

[cimisannual](#)

### Examples

```
## Not run:  
w <- mcimisannual(station = c("006", "077"), year = 2000:2002,  
                  label = "name")  
  
head(w)  
tail(w)  
  
## End(Not run)
```

mcimishourly                      *Perform cimishourly over multiple stations*

---

**Description**

Performs cimishourly over multiple stations.

**Usage**

```
mcimishourly(stationlist, label = "none")
```

**Arguments**

stationlist	A list of stations.
label	One of the following: "none" for no station labels - quite useless; "station" to label with the station number; and "name" to label with the name of the station.

**Value**

A dataframe.

**Author(s)**

Greg Hirson <ghirson@ucdavis.edu>

**See Also**

[cimishourly](#)

**Examples**

```
## Not run: w <- mcimishourly(c('006', '077'), label='name')
head(w)

## End(Not run)
```

---

stninfo                      *Station info*

---

**Description**

Retreives station info (longitude, latitude, elevation) from CIMIS.

**Usage**

```
stninfo(station)
```

*stninfo*

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**Arguments**

station            station ID

**Value**

a numeric vector of length 3: c(longitude, latitude, elevation)

**Author(s)**

Greg Hirson <ghirson@ucdavis.edu>

**Examples**

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