Package 'mwlaxeref'

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Type Package

Title Cross-References Lake Identifiers Between Different Data Sets

Version 0.0.1

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Description Handy helper package for cross-referencing lake identifiers among different data sets in the Midwestern United States. There are multiple different state, regional, and federal agencies that have different identifiers on lakes. This package helps you to go between them.

Imports dplyr (>= 1.1.3), rlang (>= 1.1.1)

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Encoding UTF-8

LazyData true

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Contents

all_state_crosswalks 2
crosswalk_lake_id 6
lake_id_xref 9
state_crosswalks 10
wis_lakes 11

Index **12**

`all_state_crosswalks` *A full list of state crosswalk functions*

Description

This help file is simply to serve as a full list of all state shortcut crosswalk functions. For functionality and examples, see `state_crosswalks`.

Usage

```
comid_to_ia(data, from_colname = "nhd.comid", agency = NULL, id_field = NULL)

comid_to_in(data, from_colname = "nhd.comid", agency = NULL)

comid_to_mi(data, from_colname = "nhd.comid", agency = NULL, id_field = NULL)

comid_to_mn(data, from_colname = "nhd.comid", agency = NULL)

comid_to_mo(data, from_colname = "nhd.comid", agency = NULL)

comid_to_nd(data, from_colname = "nhd.comid", agency = NULL)

comid_to_sd(data, from_colname = "nhd.comid", agency = NULL)

comid_to_wi(data, from_colname = "nhd.comid", agency = NULL)

ia_to_comid(data, from_colname, agency = NULL, id_field = NULL)

ia_to_lagos(data, from_colname, agency = NULL, id_field = NULL)

ia_to_mglp(data, from_colname, agency = NULL, id_field = NULL)

ia_to_nhd(data, from_colname, agency = NULL, id_field = NULL)

ia_to_nhdhr(data, from_colname, agency = NULL, id_field = NULL)

in_to_comid(data, from_colname, agency = NULL, id_field = NULL)

in_to_lagos(data, from_colname, agency = NULL)

in_to_mglp(data, from_colname, agency = NULL)

in_to_nhd(data, from_colname, agency = NULL)

in_to_nhdhr(data, from_colname, agency = NULL)

lagos_to_ia(data, from_colname = "lagos.id", agency = NULL, id_field = NULL)
```

```
lagos_to_in(data, from_colname = "lagos.id", agency = NULL)

lagos_to_mn(data, from_colname = "lagos.id", agency = NULL)

lagos_to_mo(data, from_colname = "lagos.id", agency = NULL)

lagos_to_nd(data, from_colname = "lagos.id", agency = NULL)

lagos_to_sd(data, from_colname = "lagos.id", agency = NULL)

lagos_to_wi(data, from_colname = "lagos.id", agency = NULL)

mglp_to_ia(data, from_colname = "mglp.id", agency = NULL, id_field = NULL)

mglp_to_in(data, from_colname = "mglp.id", agency = NULL)

mglp_to_mi(data, from_colname = "mglp.id", agency = NULL, id_field = NULL)

mglp_to_mn(data, from_colname = "mglp.id", agency = NULL)

mglp_to_mo(data, from_colname = "mglp.id", agency = NULL)

mglp_to_nd(data, from_colname = "mglp.id", agency = NULL)

mglp_to_sd(data, from_colname = "mglp.id", agency = NULL)

mglp_to_wi(data, from_colname = "mglp.id", agency = NULL)

mi_to_comid(data, from_colname, agency = NULL, id_field = NULL)

mi_to_lagos(data, from_colname, agency = NULL, id_field = NULL)

mi_to_mglp(data, from_colname, agency = NULL, id_field = NULL)

mi_to_nhd(data, from_colname, agency = NULL, id_field = NULL)

mi_to_nhdhr(data, from_colname, agency = NULL, id_field = NULL)

mn_to_comid(data, from_colname, agency = NULL)

mn_to_lagos(data, from_colname, agency = NULL)

mn_to_nhd(data, from_colname, agency = NULL)

mn_to_nhdhr(data, from_colname, agency = NULL)

mo_to_comid(data, from_colname, agency = NULL)
```

```
mo_to_lagos(data, from_colname, agency = NULL)

mo_to_mglp(data, from_colname, agency = NULL)

mo_to_nhd(data, from_colname, agency = NULL)

mo_to_nhdhr(data, from_colname, agency = NULL)

nd_to_comid(data, from_colname, agency = NULL)

nd_to_lagos(data, from_colname, agency = NULL)

nd_to_mglp(data, from_colname, agency = NULL)

nd_to_nhd(data, from_colname, agency = NULL)

nd_to_nhdhr(data, from_colname, agency = NULL)

nhd_to_ia(
  data,
  from_colname = "nhd.id",
  states = NULL,
  agency = NULL,
  id_field = NULL
)

nhd_to_in(data, from_colname = "nhd.id", states = NULL, agency = NULL)

nhd_to_mi(
  data,
  from_colname = "nhd.id",
  states = NULL,
  agency = NULL,
  id_field = NULL
)

nhd_to_mn(data, from_colname = "nhd.id", states = NULL, agency = NULL)

nhd_to_mo(data, from_colname = "nhd.id", states = NULL, agency = NULL)

nhd_to_nd(data, from_colname = "nhd.id", states = NULL, agency = NULL)

nhd_to_sd(data, from_colname = "nhd.id", states = NULL, agency = NULL)

nhd_to_wi(data, from_colname = "nhd.id", states = NULL, agency = NULL)

nhdhr_to_ia(data, from_colname = "nhdhr.id", agency = NULL, id_field = NULL)
```

```
nhdhr_to_in(data, from_colname = "nhdhr.id", agency = NULL)

nhdhr_to_mi(data, from_colname = "nhdhr.id", agency = NULL, id_field = NULL)

nhdhr_to_mn(data, from_colname = "nhdhr.id", agency = NULL)

nhdhr_to_mo(data, from_colname = "nhdhr.id", agency = NULL)

nhdhr_to_nd(data, from_colname = "nhdhr.id", agency = NULL)

nhdhr_to_sd(data, from_colname = "nhdhr.id", agency = NULL)

sd_to_comid(data, from_colname, agency = NULL)

sd_to_lagos(data, from_colname, agency = NULL)

sd_to_mglp(data, from_colname, agency = NULL)

sd_to_nhd(data, from_colname, agency = NULL)

sd_to_nhdhr(data, from_colname, agency = NULL)

wi_to_comid(data, from_colname, agency = NULL)

wi_to_lagos(data, from_colname, agency = NULL)

wi_to_mglp(data, from_colname, agency = NULL)

wi_to_nhd(data, from_colname, agency = NULL)

wi_to_nhdhr(data, from_colname, agency = NULL)
```

Arguments

`data`	A data.set with a column containing a lake identifier corresponding to one of the datasets listed above (also see lake_id_xref)
`from_colname`	Character. The column name in `data` that lake IDs that are being converted from (e.g. `data` has a lake ID column that you are trying to convert from – what is the name of that column)
`agency`	Optional character vector specifying the agency to use for the local ID column. This is helpful if data exist in lake_id_xref for which there are more than one agency in a state that provided data
`id_field`	Optional character vector specifying the id.field to use for the local ID column. Occasionally states use more than one identifier. This allows explicit choice of which identifier to use.
`states`	Character. The two digit state abbreviation in lower case (i.e. "wi", "mn", "mi", etc.). This will filter the crosswalk table to only the states listed in this argument.

Value

A data.frame the same as `data`, but with an additional lake identification column from lake_id_xref

---

`crosswalk_lake_id` *Crosswalk from one lake ID to another*

Description

These are functions to be able to quickly and easily translate data.frames of lake data in the Midwest from one identifier ot another. IDs are from national, regianal, and state data.sets; these include National Hydrography Dataset (NHD), NHD Plus High Resolution (NHDHR), LAke multi-scaled GeOSpatial and temporal database (LAGOS), the Midwest Glacial Lakes Partnership (MGLP), and state resource management and/or geography/mapping agencies. Local state agency lake IDs are housed under the column `local.id` in `lake_id_xref` and correspond to the state in which they reside and the agency that provided the data in those respective columns.

Usage

```
nhdhr_to_local(
  data,
  from_colname = "nhdhr.id",
  states = NULL,
  agency = NULL,
  id_field = NULL
)

local_to_nhdhr(
  data,
  from_colname,
  states = NULL,
  agency = NULL,
  id_field = NULL
)

nhdhr_to_comid(data, from_colname = "nhdhr.id")

comid_to_nhdhr(data, from_colname = "nhd.comid")

nhdhr_to_nhd(data, from_colname = "nhdhr.id")

nhd_to_nhdhr(data, from_colname = "nhd.id")

nhdhr_to_lagos(data, from_colname = "nhdhr.id")

lagos_to_nhdhr(data, from_colname = "lagos.id")
```

```
nhdhr_to_mglp(data, from_colname = "nhdhr.id")

mglp_to_nhdhr(data, from_colname = "mglp.id")

comid_to_nhd(data, from_colname = "nhd.comid")

nhd_to_comid(data, from_colname = "nhd.id")

comid_to_lagos(data, from_colname = "nhd.comid")

lagos_to_comid(data, from_colname = "lagos.id")

comid_to_mglp(data, from_colname = "nhd.comid")

mglp_to_comid(data, from_colname = "mglp.id")

comid_to_local(
  data,
  from_colname = "nhd.comid",
  states = NULL,
  agency = NULL,
  id_field = NULL
)

local_to_comid(
  data,
  from_colname,
  states = NULL,
  agency = NULL,
  id_field = NULL
)

nhd_to_lagos(data, from_colname = "nhd.id")

lagos_to_nhd(data, from_colname = "lagos.id")

nhd_to_mglp(data, from_colname = "nhd.id")

mglp_to_nhd(data, from_colname = "mglp.id")

nhd_to_local(
  data,
  from_colname = "nhd.id",
  states = NULL,
  agency = NULL,
  id_field = NULL
)
```

```
local_to_nhd(data, from_colname, states = NULL, agency = NULL, id_field = NULL)

lagos_to_mglp(data, from_colname = "lagos.id")

mglp_to_lagos(data, from_colname = "mglp.id")

lagos_to_local(
  data,
  from_colname = "lagos.id",
  states = NULL,
  agency = NULL,
  id_field = NULL
)

local_to_lagos(
  data,
  from_colname,
  states = NULL,
  agency = NULL,
  id_field = NULL
)

mglp_to_local(
  data,
  from_colname = "mglp.id",
  states = NULL,
  agency = NULL,
  id_field = NULL
)

local_to_mglp(
  data,
  from_colname,
  states = NULL,
  agency = NULL,
  id_field = NULL
)

crosswalk_lake_id(
  data,
  from,
  to,
  from_colname,
  states = NULL,
  agency = NULL,
  id_field = NULL
)
```

Arguments

data	A data.set with a column containing a lake identifier corresponding to one of the datasets listed above (also see lake_id_xref)
from_colname	Character. The column name in data that lake IDs that are being converted from (e.g. data has a lake ID column that you are trying to convert from – what is the name of that column)
states	Character. The two digit state abbreviation in lower case (i.e. "wi", "mn", "mi", etc.). This will filter the crosswalk table to only the states listed in this argument.
agency	Optional character vector specifying the agency to use for the local ID column. This is helpful if data exist in lake_id_xref for which there are more than one agency in a state that provided data
id_field	Optional character vector specifying the id.field to use for the local ID column. Occasionally states use more than one identifier. This allows explicit choice of which identifier to use.
from	Character. The name of the lake ID field from lake_id_xref that you want to reference from
to	Character. The name of the lake ID field from lake_id_xref that you want to reference to

Value

A data.frame the same as data, but with an additional lake identification column from lake_id_xref

Examples

```
local_to_nhdhr(wis_lakes, from_colname = "lake.id", states = "wi")
```

---

lake_id_xref *Lake identification cross-reference table*

Description

This table contains ID values for various different datasets that reference these lakes. There are local (i.e. state ID fields), National Hydrography Dataset (NHDHR), and NHD COMID. There is also a field for Winslow ID, which relates to the original ID in the NHD dataset (i.e. pre-NHDHR)

Usage

```
lake_id_xref
```

Format

lake_id_xref:

A data.frame with 489,557 rows and 8 columns

nhdhr.id Permanent identifier from NHDHR Resolution 2

nhd.comid COMID from NHDHR

winslow.id Permanent identifier from original NHD dataset

lagos.id Identifier from LAke multi-scaledGeOSpatial and temporal database

mglp.id Identifier from the Midwest Glacial Lakes Partnership

local.id The local identifier (usually state agency)

state The state that the local identifier corresponds to

agency The agency from which the local.id was taken

---

state_crosswalks *Crosswalk lake identifiers to/from specific states*

Description

State specific functions to be used as handy shortcuts. (i.e. you can call a state's function directly rather than specifying `local_to_*` or `*_to_local` with the state as an argument. One of these functions exists for all combinations of both states and lake ID columns found in `lake_id_xref`. For a full list of these functions, see ?all_state_crosswalks

Usage

```
nhdhr_to_wi(data, from_colname = "nhdhr.id", agency = NULL)

lagos_to_mi(data, from_colname = "lagos.id", agency = NULL, id_field = NULL)

mn_to_mglp(data, from_colname, agency = NULL)
```

Arguments

`data`	A data.set with a column containing a lake identifier corresponding to one of the datasets listed above (also see lake_id_xref)
`from_colname`	Character. The column name in `data` that lake IDs that are being converted from (e.g. `data` has a lake ID column that you are trying to convert from – what is the name of that column)
`agency`	Optional character vector specifying the agency to use for the local ID column. This is helpful if data exist in lake_id_xref for which there are more than one agency in a state that provided data
`id_field`	Optional character vector specifying the id.field to use for the local ID column. Occasionally states use more than one identifier. This allows explicit choice of which identifier to use.

Value

A data.frame the same as `data`, but with an additional lake identification column from lake_id_xref

Examples

```
wi_to_nhdhr(wis_lakes, from_colname = "lake.id")
```

`wis_lakes` *Example of lake ID data from Wisconsin*

Description

This data.frame contains the names and lake IDs for 10 lakes in Wisconsin. These are used in examples throughout the package.

Usage

```
wis_lakes
```

Format

wis_lakes:
A data.frame with 10 rows and 4 columns

state The state abbreviation (i.e. "wi")
county The name of the county in which the lake is found
lake.id A unique identifier for each lake
lake.name The name of the lake

Index

∗ **datasets**
    lake_id_xref, 9
    wis_lakes, 11

all_state_crosswalks, 2

comid_to_ia *(*all_state_crosswalks*)*, 2
comid_to_in *(*all_state_crosswalks*)*, 2
comid_to_lagos *(*crosswalk_lake_id*)*, 6
comid_to_local *(*crosswalk_lake_id*)*, 6
comid_to_mglp *(*crosswalk_lake_id*)*, 6
comid_to_mi *(*all_state_crosswalks*)*, 2
comid_to_mn *(*all_state_crosswalks*)*, 2
comid_to_mo *(*all_state_crosswalks*)*, 2
comid_to_nd *(*all_state_crosswalks*)*, 2
comid_to_nhd *(*crosswalk_lake_id*)*, 6
comid_to_nhdhr *(*crosswalk_lake_id*)*, 6
comid_to_sd *(*all_state_crosswalks*)*, 2
comid_to_wi *(*all_state_crosswalks*)*, 2
crosswalk_lake_id, 6

ia_to_comid *(*all_state_crosswalks*)*, 2
ia_to_lagos *(*all_state_crosswalks*)*, 2
ia_to_mglp *(*all_state_crosswalks*)*, 2
ia_to_nhd *(*all_state_crosswalks*)*, 2
ia_to_nhdhr *(*all_state_crosswalks*)*, 2
in_to_comid *(*all_state_crosswalks*)*, 2
in_to_lagos *(*all_state_crosswalks*)*, 2
in_to_mglp *(*all_state_crosswalks*)*, 2
in_to_nhd *(*all_state_crosswalks*)*, 2
in_to_nhdhr *(*all_state_crosswalks*)*, 2

lagos_to_comid *(*crosswalk_lake_id*)*, 6
lagos_to_ia *(*all_state_crosswalks*)*, 2
lagos_to_in *(*all_state_crosswalks*)*, 2
lagos_to_local *(*crosswalk_lake_id*)*, 6
lagos_to_mglp *(*crosswalk_lake_id*)*, 6
lagos_to_mi *(*state_crosswalks*)*, 10
lagos_to_mn *(*all_state_crosswalks*)*, 2
lagos_to_mo *(*all_state_crosswalks*)*, 2
lagos_to_nd *(*all_state_crosswalks*)*, 2
lagos_to_nhd *(*crosswalk_lake_id*)*, 6
lagos_to_nhdhr *(*crosswalk_lake_id*)*, 6
lagos_to_sd *(*all_state_crosswalks*)*, 2
lagos_to_wi *(*all_state_crosswalks*)*, 2
lake_id_xref, *6*, 9
local_to_comid *(*crosswalk_lake_id*)*, 6
local_to_lagos *(*crosswalk_lake_id*)*, 6
local_to_mglp *(*crosswalk_lake_id*)*, 6
local_to_nhd *(*crosswalk_lake_id*)*, 6
local_to_nhdhr *(*crosswalk_lake_id*)*, 6

mglp_to_comid *(*crosswalk_lake_id*)*, 6
mglp_to_ia *(*all_state_crosswalks*)*, 2
mglp_to_in *(*all_state_crosswalks*)*, 2
mglp_to_lagos *(*crosswalk_lake_id*)*, 6
mglp_to_local *(*crosswalk_lake_id*)*, 6
mglp_to_mi *(*all_state_crosswalks*)*, 2
mglp_to_mn *(*all_state_crosswalks*)*, 2
mglp_to_mo *(*all_state_crosswalks*)*, 2
mglp_to_nd *(*all_state_crosswalks*)*, 2
mglp_to_nhd *(*crosswalk_lake_id*)*, 6
mglp_to_nhdhr *(*crosswalk_lake_id*)*, 6
mglp_to_sd *(*all_state_crosswalks*)*, 2
mglp_to_wi *(*all_state_crosswalks*)*, 2
mi_to_comid *(*all_state_crosswalks*)*, 2
mi_to_lagos *(*all_state_crosswalks*)*, 2
mi_to_mglp *(*all_state_crosswalks*)*, 2
mi_to_nhd *(*all_state_crosswalks*)*, 2
mi_to_nhdhr *(*all_state_crosswalks*)*, 2
mn_to_comid *(*all_state_crosswalks*)*, 2
mn_to_lagos *(*all_state_crosswalks*)*, 2
mn_to_mglp *(*state_crosswalks*)*, 10
mn_to_nhd *(*all_state_crosswalks*)*, 2
mn_to_nhdhr *(*all_state_crosswalks*)*, 2
mo_to_comid *(*all_state_crosswalks*)*, 2
mo_to_lagos *(*all_state_crosswalks*)*, 2
mo_to_mglp *(*all_state_crosswalks*)*, 2
mo_to_nhd *(*all_state_crosswalks*)*, 2
mo_to_nhdhr *(*all_state_crosswalks*)*, 2

nd_to_comid (all_state_crosswalks), 2
nd_to_lagos (all_state_crosswalks), 2
nd_to_mglp (all_state_crosswalks), 2
nd_to_nhd (all_state_crosswalks), 2
nd_to_nhdhr (all_state_crosswalks), 2
nhd_to_comid (crosswalk_lake_id), 6
nhd_to_ia (all_state_crosswalks), 2
nhd_to_in (all_state_crosswalks), 2
nhd_to_lagos (crosswalk_lake_id), 6
nhd_to_local (crosswalk_lake_id), 6
nhd_to_mglp (crosswalk_lake_id), 6
nhd_to_mi (all_state_crosswalks), 2
nhd_to_mn (all_state_crosswalks), 2
nhd_to_mo (all_state_crosswalks), 2
nhd_to_nd (all_state_crosswalks), 2
nhd_to_nhdhr (crosswalk_lake_id), 6
nhd_to_sd (all_state_crosswalks), 2
nhd_to_wi (all_state_crosswalks), 2
nhdhr_to_comid (crosswalk_lake_id), 6
nhdhr_to_ia (all_state_crosswalks), 2
nhdhr_to_in (all_state_crosswalks), 2
nhdhr_to_lagos (crosswalk_lake_id), 6
nhdhr_to_local (crosswalk_lake_id), 6
nhdhr_to_mglp (crosswalk_lake_id), 6
nhdhr_to_mi (all_state_crosswalks), 2
nhdhr_to_mn (all_state_crosswalks), 2
nhdhr_to_mo (all_state_crosswalks), 2
nhdhr_to_nd (all_state_crosswalks), 2
nhdhr_to_nhd (crosswalk_lake_id), 6
nhdhr_to_sd (all_state_crosswalks), 2
nhdhr_to_wi (state_crosswalks), 10

sd_to_comid (all_state_crosswalks), 2
sd_to_lagos (all_state_crosswalks), 2
sd_to_mglp (all_state_crosswalks), 2
sd_to_nhd (all_state_crosswalks), 2
sd_to_nhdhr (all_state_crosswalks), 2
state_crosswalks, 2, 10

wi_to_comid (all_state_crosswalks), 2
wi_to_lagos (all_state_crosswalks), 2
wi_to_mglp (all_state_crosswalks), 2
wi_to_nhd (all_state_crosswalks), 2
wi_to_nhdhr (all_state_crosswalks), 2
wis_lakes, 11