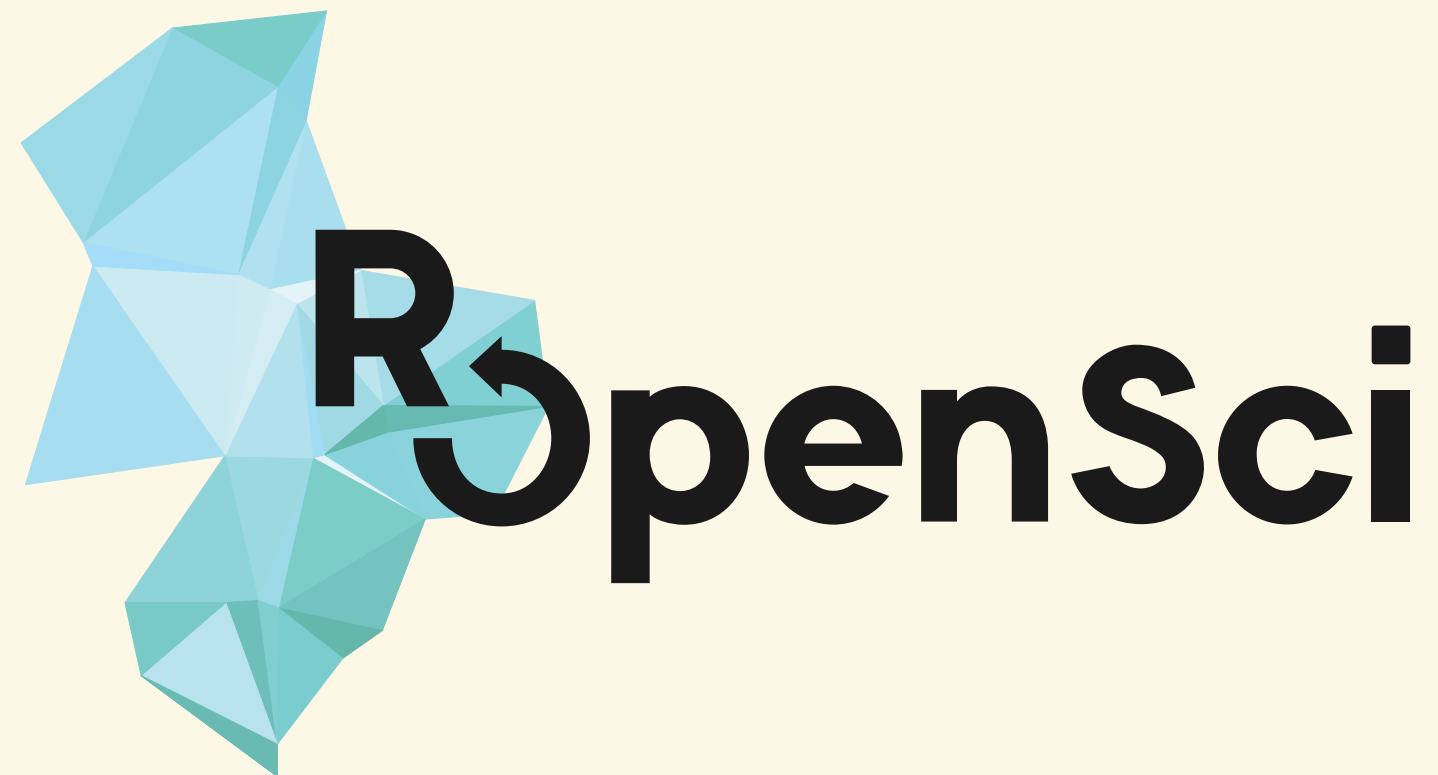
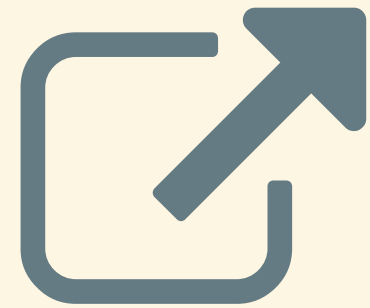


# idiv: taxonomy & climate

Scott Chamberlain ([@sckottie](#)/[@ropensci](#))

UC Berkeley / rOpenSci





[scotttalks.info/indiv](https://scotttalks.info/indiv)

taxonomy: taxize

# taxonomy data sources

- Encyclopedia of Life
- Taxonomic Name Resolution Service
- Integrated Taxonomic Information Service
- Global Names Resolver/Global Names Index
- IUCN Red List
- Tropicos
- Theplantlist
- Catalogue of Life
- NCBI
- International Plant Names Index (IPNI)
- Barcode of Life Data Systems (BOLD)
- National Biodiversity Network (UK)
- Index Fungorum
- EU BON
- Index of Names (ION)
- Open Tree of Life (TOL)
- World Register of Marine Species (WoRMS)
- NatureServe

# taxize

```
library(taxize)
(id <- get_nbnid("Zootoca vivipara"))
#> [1] "NHMSYS0001706186"
#> ...

classification(id)
#> $NHMSYS0001706186
#>   name rank      id
#> 1  Animalia kingdom NBNSYS0100001342
#> 2  Chordata phylum NBNSYS0100002380
#> 3  Reptilia class NHMSYS0000375236
#> 4  Squamata order NBNSYS0000161047
#> 5  Lacertidae family NBNSYS0000160260
```

OR

```
children(id)
downstream(id)
upstream(id)
synonyms(id)
lowest_common(id)
sci2comm(id)/comm2sci(id)
```

# taxizedb

## when you want all the data

but you need to know SQL 😞

# taxizedb

- ITIS
- NCBI
- COL
- TPL

# climate data overview





# climate packages

- `rnoaa` - lots of NOAA data
- `camsRad` - CAMS radiation data
- `ccafs` - CCAFS General Circ. Models
- `rWBclimate` - World Bank climate
- `clifro` - New Zealand's National Climate Database
- `riem` - ASOS/Iowa Environment Mesonet
- `cmipr` - Coupled Model Intercomparison Project
- `GSODR` - NOAA Global Surface Summary of the Day
- `getCRUCLdata` - Univ. East Anglia Clim. Res. Unit
- `getlandsat` - Univ. East Anglia Clim. Res. Unit

# climate packages: others

- **RFc** - FetchClimate client
- **dismo** - dismo, with bioclim

# data in **rnoaa**

- NOAA NCDC climate data
- Severe weather data
- Sea ice data
- NOAA buoy data
- ERDDAP data
- Tornadoes!
- HOMR - Historical Observing Metadata Repository
- Storm data - IBTrACS
- GHCND FTP data
- Global Ensemble Forecast System (GEFS) data
- Extended Reconstructed Sea Surface Temperature (ERSST) data
- Argo buoys
- NOAA CO-OPS - tides and currents data
- *Climate Prediction Center (coming soon)*

# rnoaa

eg with ISD (Integrated Surface Database)

Search for stations

```
library(rnoaa)
isd_stations_search(lat = 38.4, lon = -123, radius = 250)
#> # A tibble: 179 × 12
#>   usaf wban station_name ctry state icao latitude longitude elev_m
#>   <chr> <chr>    <chr> <chr> <chr> <dbl>   <dbl>   <dbl>
#> 1 724995 99999 BODEGA BAY COAST GUARD LIGHT STA US      38.320 -123.050   3.0
#> 2 999999 93245 BODEGA 6 WSW US CA      38.321 -123.075  19.2
#> 3 749175 99999 GOAT ROCK BEACH US CA      38.433 -123.133  72.0
```

Get data by station and year

```
(res <- isd(usaf="011490", wban="99999", year=1986))
#> # A tibble: 1,328 × 119
#>   total_chars usaf_station wban_station date time date_flag latitude longitude type_code
#>   <chr>      <chr>      <chr> <chr> <chr> <chr> <chr> <chr> <chr>
#> 1 0050      011490      99999 19860101 0000 4 +66267 +013983 FM-12
#> 2 0123      011490      99999 19860101 0600 4 +66267 +013983 FM-12
#> 3 0050      011490      99999 19860101 1200 4 +66267 +013983 FM-12
#> 4 0094      011490      99999 19860101 1800 4 +66267 +013983 FM-12
```

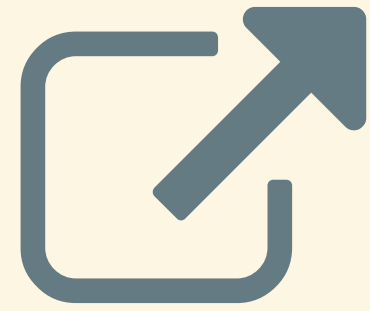
# gis layers

- [leaflet](#) - interactive maps
- [rnaturalearth](#) - NaturalEarth layers
- [geonames](#) - Geonames: geocoding
- [spatial task view](#)

iucn data: rredlist

happy to make anything  
you need





[scotttalks.info/indiv](https://scotttalks.info/indiv)

Made w/: [reveal.js v3.2.0](#)

Some Styling: [Bootstrap v3.3.5](#)

Icons by: [FontAwesome v4.4.0](#)