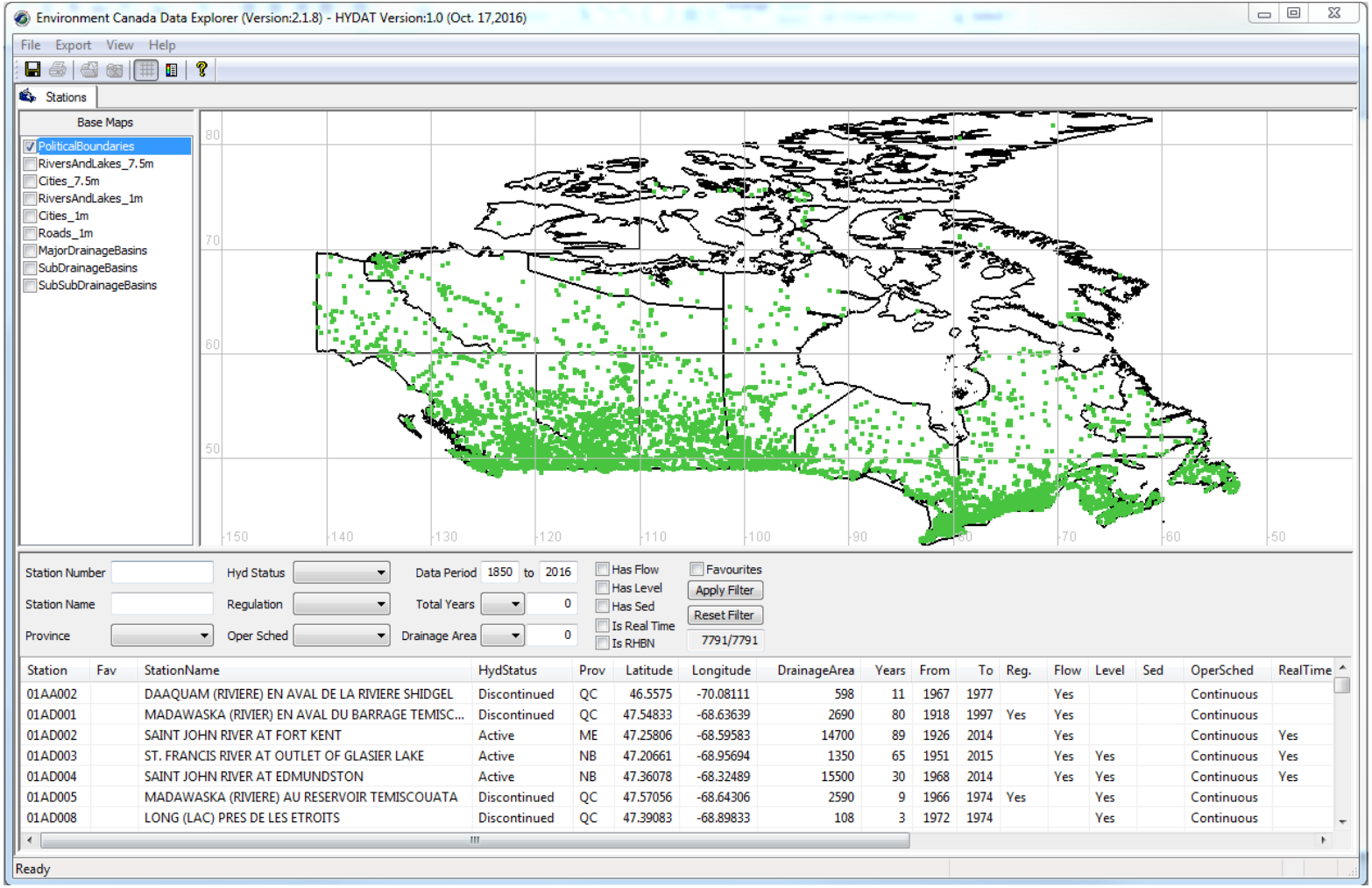
Let’s talk

What you used to do


Environment Canada Data Explorer (Version:2.1.8) - HYDAT Version:1.0 (Oct. 17,2016)
File Export View Help
Stations
Base Maps
PoliticalBoundaries
RiversAndLakes_7.5m
Cities_7.5m
RiversAndLakes_1m
Cities_1m
Roads_1m
MajorDrainageBasins
SubDrainageBasins
SubSubDrainageBasins
80
70
60
50
-150
-140
-130
-120
-110
-100
-90
-80
-70
-60
-50
Station Number
Station Name
Province
Hyd Status
Regulation
Oper Sched
Data Period 1850 to 2016
Total Years 0
Drainage Area 0
Has Flow
Has Level
Has Sed
Is Real Time
Is RHBN
Favourites
Apply Filter
Reset Filter
7791/7791
Station Fav StationName HydStatus Prov Latitude Longitude DrainageArea Years From To Reg. Flow Level Sed OperSched RealTime
01AA002 DAAQUAM (RIVIERE) EN AVAL DE LA RIVIERE SHIDGEL Discontinued QC 46.5575 -70.08111 598 11 1967 1977 Yes Continuous
01AD001 MADAWASKA (RIVIER) EN AVAL DU BARRAGE TEMISC... Discontinued QC 47.54833 -68.63639 2690 80 1918 1997 Yes Yes Continuous
01AD002 SAINT JOHN RIVER AT FORT KENT Active ME 47.25806 -68.59583 14700 89 1926 2014 Yes Continuous Yes
01AD003 ST. FRANCIS RIVER AT OUTLET OF GLASIER LAKE Active NB 47.20661 -68.95694 1350 65 1951 2015 Yes Yes Continuous Yes
01AD004 SAINT JOHN RIVER AT EDMUNDSTON Active NB 47.36078 -68.32489 15500 30 1968 2014 Yes Yes Continuous Yes
01AD005 MADAWASKA (RIVIERE) AU RESERVOIR TEMISCOUATA Discontinued QC 47.57056 -68.64306 2590 9 1966 1974 Yes Yes Continuous
01AD008 LONG (LAC) PRES DE LES ETROITS Discontinued QC 47.39083 -68.89833 108 3 1972 1974 Yes Continuous
Ready

Station: 08MF005 Data Type: Real-Time Apply

Filter items Showing 1 to 20 of 2,103 entries | Show 20 entries

This table provides real-time data in tabular format.

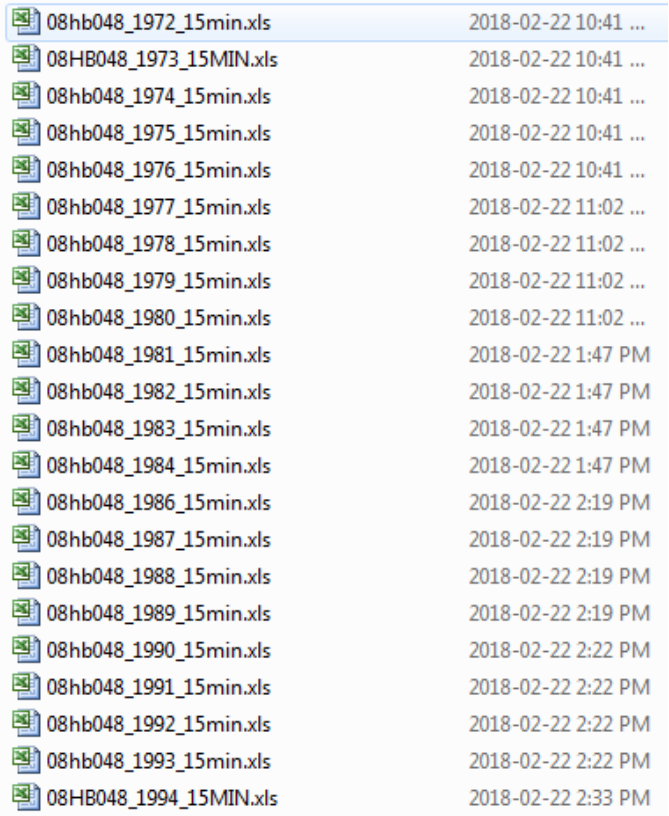
Date (PST)	Primary water level (m)	Discharge (m^3/s)
2018-05-03 07:10:00	7.097	6,070
2018-05-03 07:05:00	7.094	6,060
2018-05-03 07:00:00	7.086	6,040
2018-05-03 06:55:00	7.086	6,040
2018-05-03 06:50:00	7.079	6,030
2018-05-03 06:45:00	7.099	6,070
2018-05-03 06:40:00	7.098	6,070
2018-05-03 06:35:00	7.075	6,020
2018-05-03 06:30:00	7.066	6,010
2018-05-03 06:25:00	7.115	6,100
2018-05-03 06:20:00	7.099	6,070
2018-05-03 06:15:00	7.090	6,050
2018-05-03 06:10:00	7.060	6,000
2018-05-03 06:05:00	7.044	5,970
2018-05-03 06:00:00	7.114	6,100
2018-05-03 05:55:00	7.080	6,030
2018-05-03 05:50:00	7.097	6,070
2018-05-03 05:45:00	7.091	6,050

Results

Becomes a file storage issue

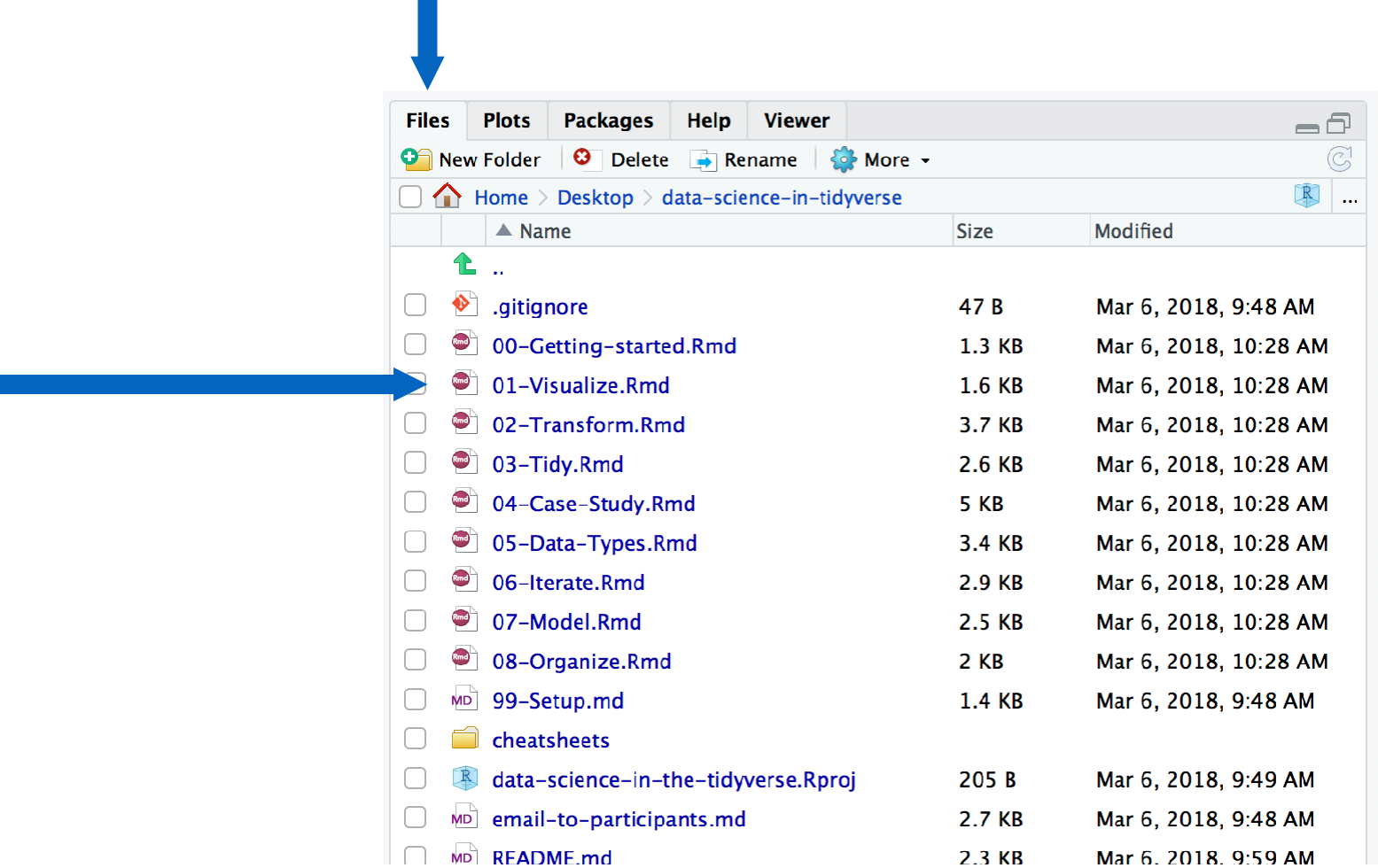
Not reproducible

Too many clicks!



Your turn

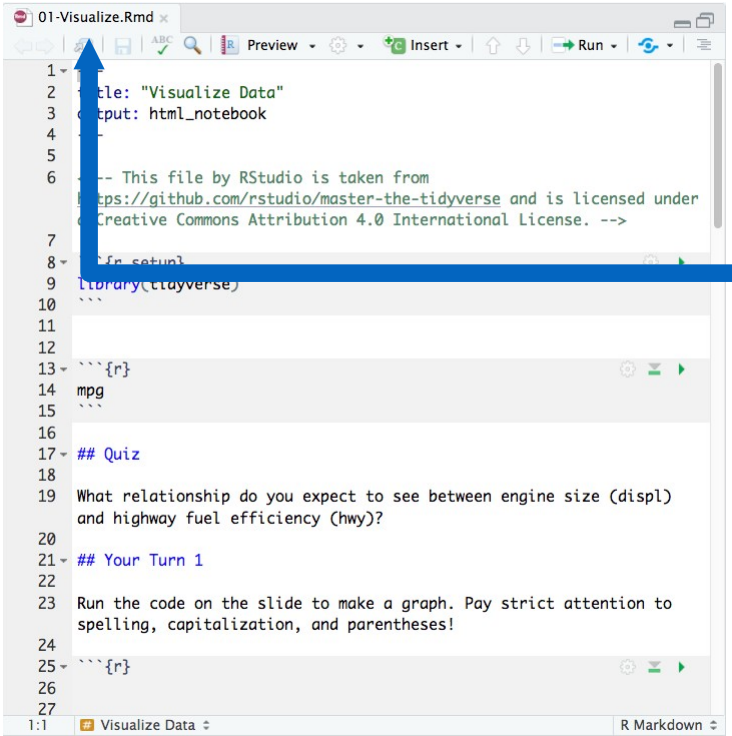
Open up 01-tidyhydat-intro.Rmd


Files
Plots
Packages
Help
Viewer
New Folder
Delete
Rename
More
Home
Desktop
data-science-in-tidyverse
Name
Size
Modified
..
.gitignore 47 B Mar 6, 2018, 9:48 AM
00-Getting-started.Rmd 1.3 KB Mar 6, 2018, 10:28 AM
01-Visualize.Rmd 1.6 KB Mar 6, 2018, 10:28 AM
02-Transform.Rmd 3.7 KB Mar 6, 2018, 10:28 AM
03-Tidy.Rmd 2.6 KB Mar 6, 2018, 10:28 AM
04-Case-Study.Rmd 5 KB Mar 6, 2018, 10:28 AM
05-Data-Types.Rmd 3.4 KB Mar 6, 2018, 10:28 AM
06-Iterate.Rmd 2.9 KB Mar 6, 2018, 10:28 AM
07-Model.Rmd 2.5 KB Mar 6, 2018, 10:28 AM
08-Organize.Rmd 2 KB Mar 6, 2018, 10:28 AM
99-Setup.md 1.4 KB Mar 6, 2018, 9:48 AM
cheatsheets
data-science-in-the-tidyverse.Rproj 205 B Mar 6, 2018, 9:49 AM
email-to-participants.md 2.7 KB Mar 6, 2018, 9:48 AM
README.md 2.3 KB Mar 6, 2018, 9:59 AM

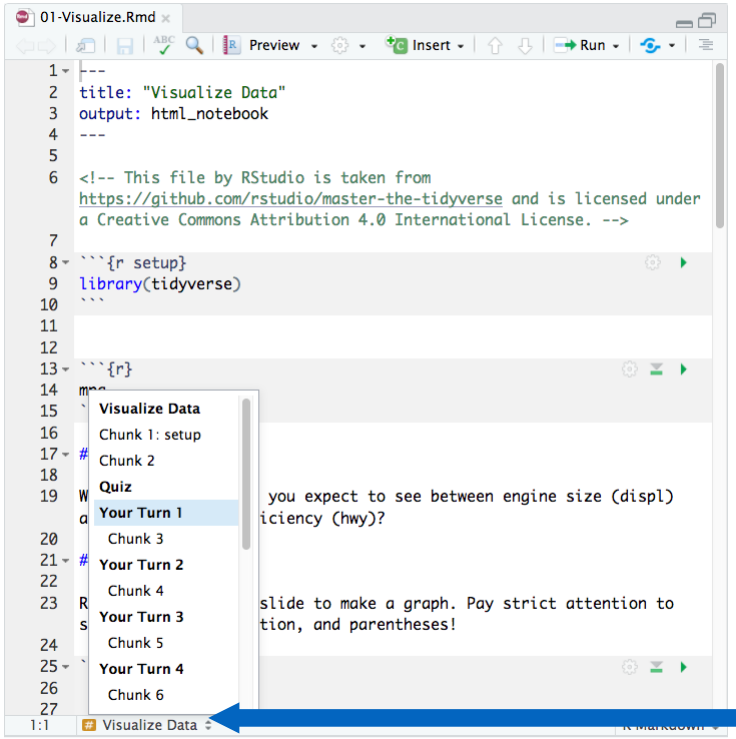
If you get lost

or need to restart

Check you are in the right file

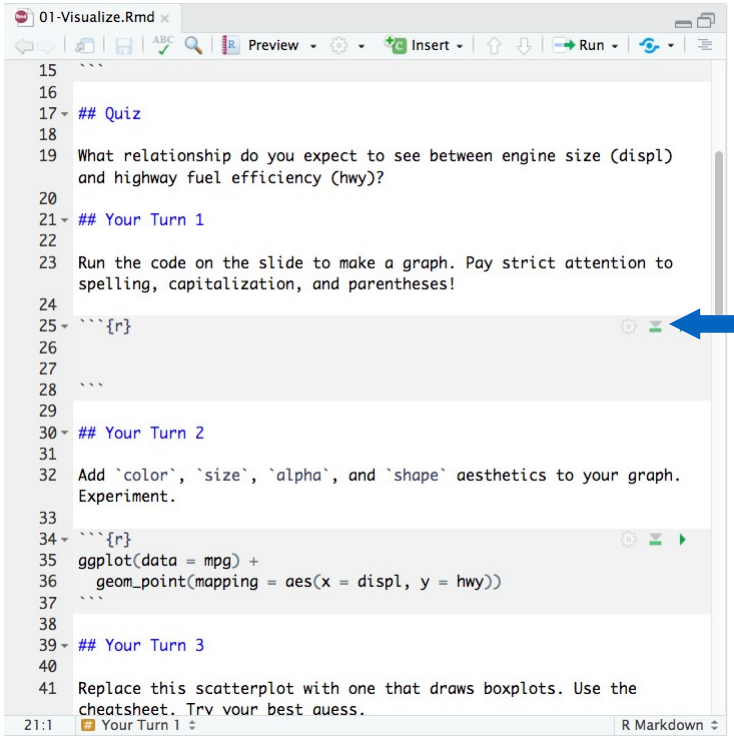


If you get lost or need to restart

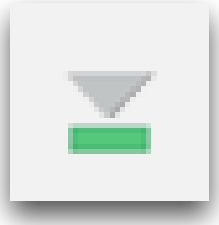


Use the section browser to quickly navigate to the right *Your Turn*

If you get lost or need to restart



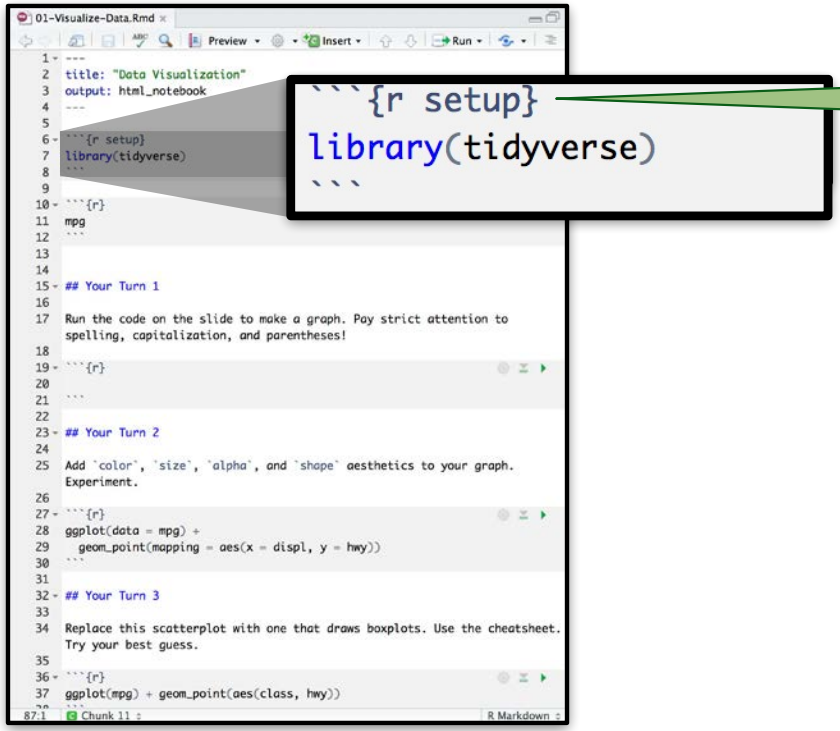
Click to run all chunks before this one.



You should be ready to go.

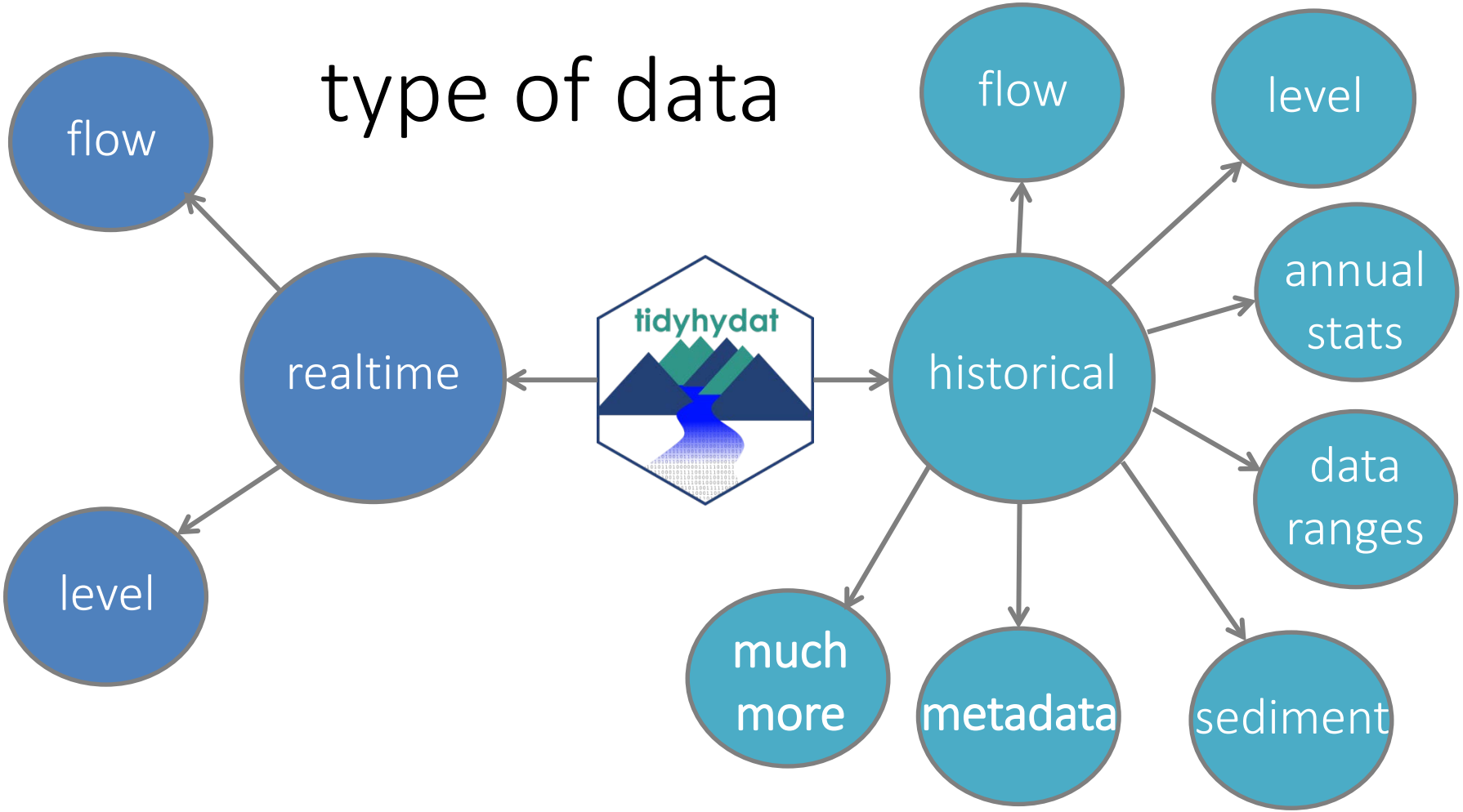
Setup

The setup chunk is always run once before anything else



Steps for tidyhydat

type of data


flow
realtime
level
tidyhydat
historical
flow
level
annual stats
data ranges
much more
metadata
sediment

Anatomy of an R function

```
fraser <- hy_daily_flows(station_number = "08MF005")
```




Object Function Argument Value

Realtime – functions with a `realtime` prefix

Historical – functions with a `hy` prefix

Getting help

- To find all the functions in a package we can input this line:

```
help(package = "tidyhydat")
```

- To seek out help for an individual function type

```
?function_name:
?hy_daily_levels
```

Your turn

- Try grabbing daily flow data for the following stations: 07EF001, 02HA013
- Give each resulting object a unique name
- Inspect the results

What stations are you interested in?

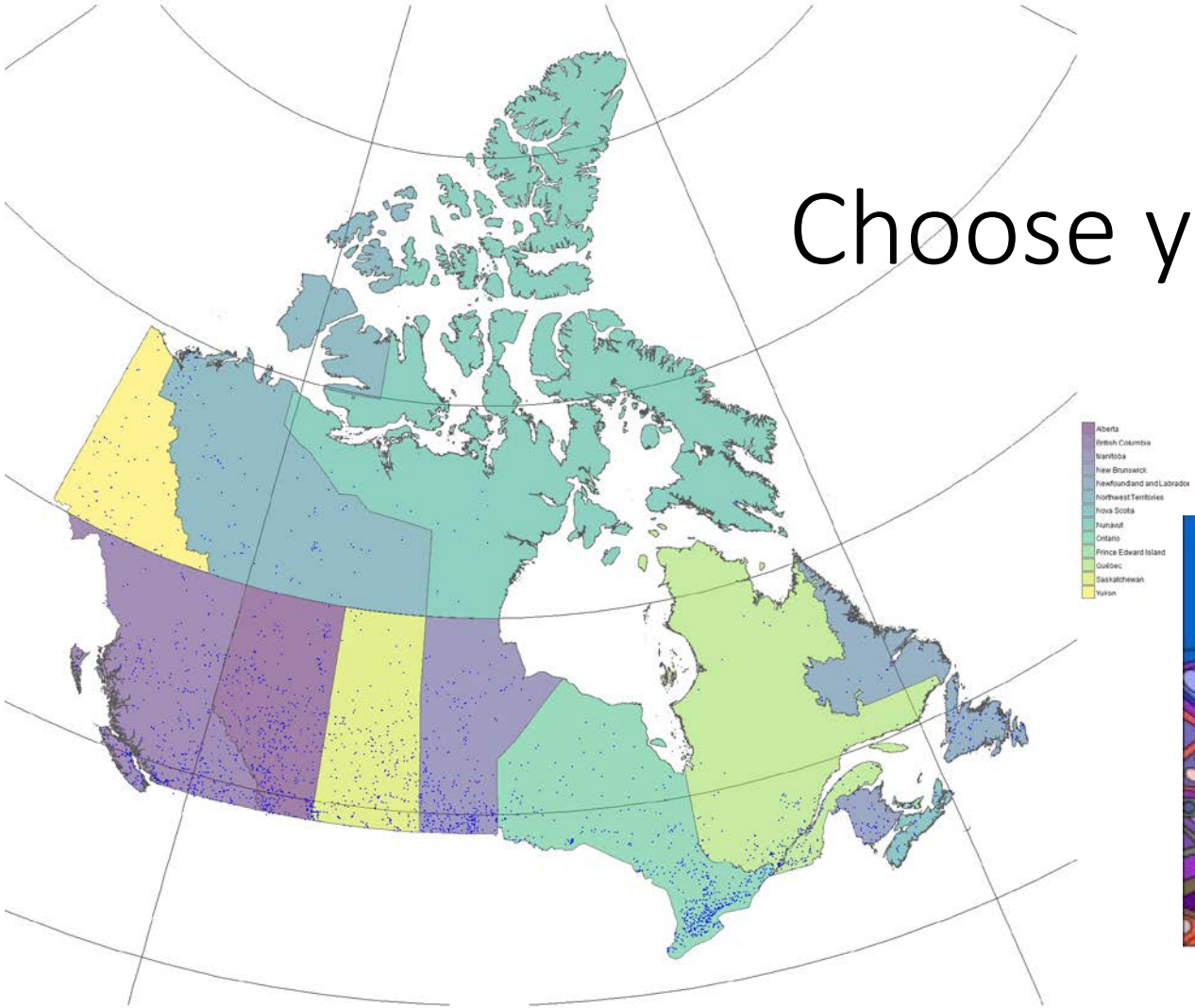
One station:

```
stns <- "07EF001"
```

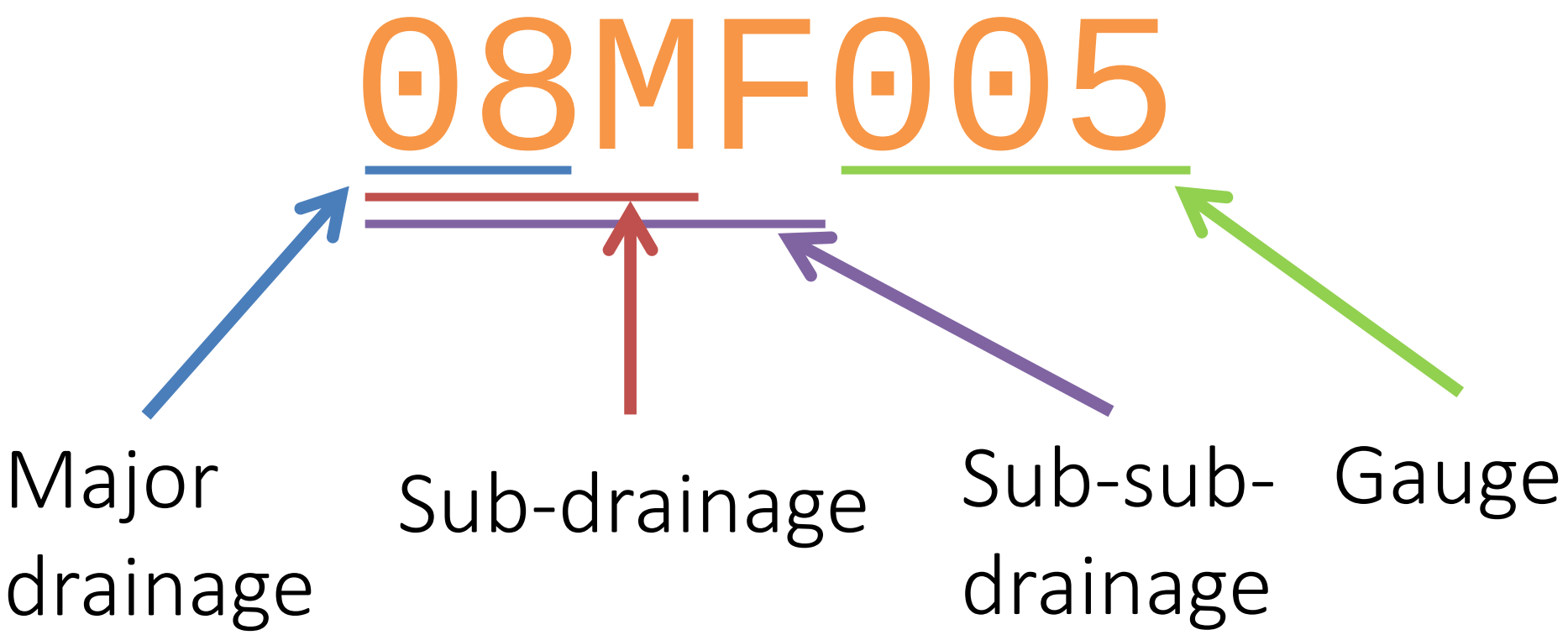
Two or more stations:

```
stns <- c("07EF001","02HA013")
```

Choose your station



Anatomy of a WSC station number



Your turn

- Create a vector using `c()` called `my_vector`
- Construct a data.frame object with `hy_daily_flows` that includes both stations
- Inspect that data.frame