



# Thurs 1-17-19

1. **Sample dataset**
2. **Matlab introduction**
3. **other.zip**
4. **Read notes\_1.pdf, appendixa.pdf**
5. **Should have your data gathered by next Thurs (1/24)**

# Sample Data

## Tree-ring and hydroclimatic dataset

V1



11 series

V2



10 series

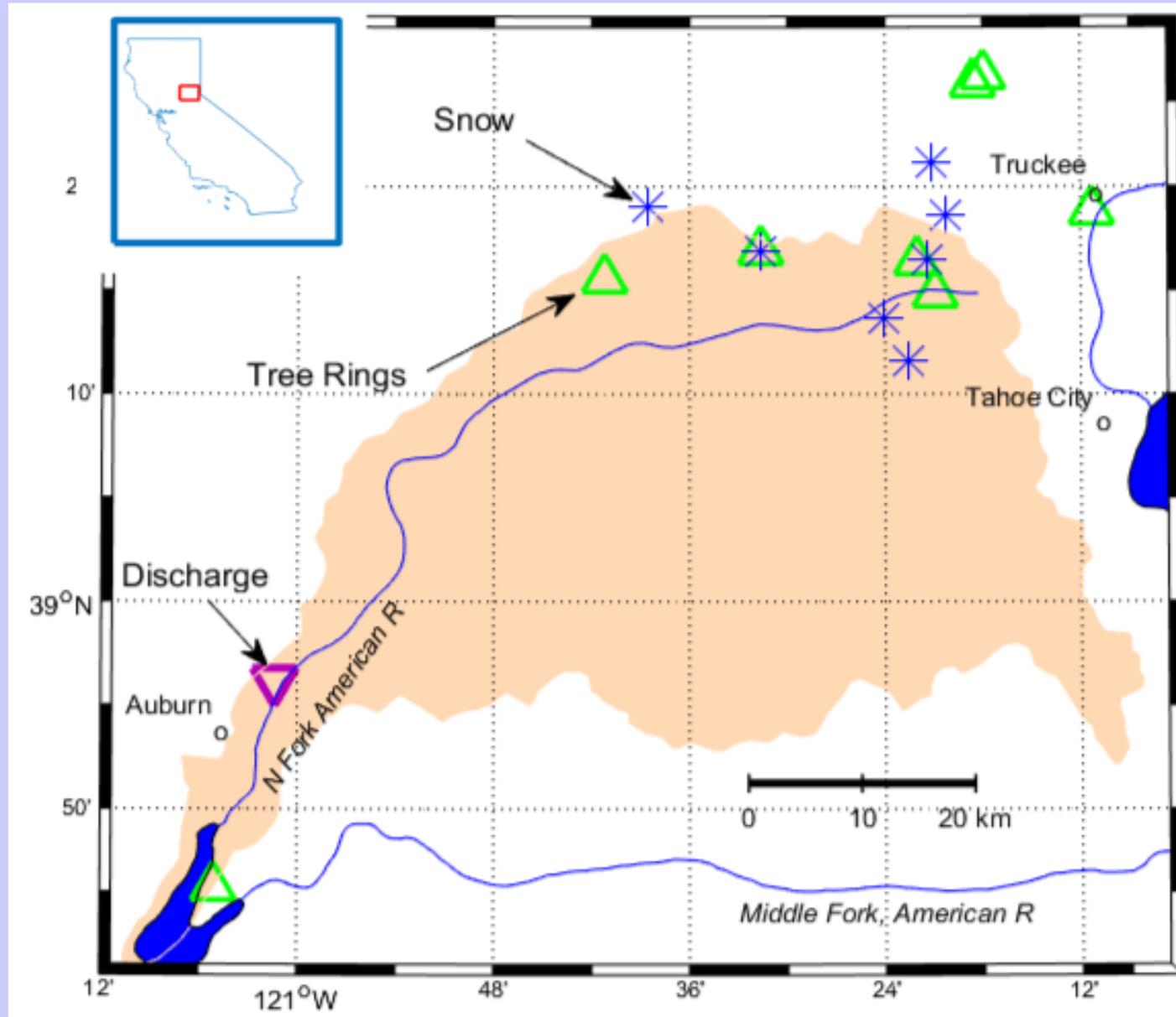
V3

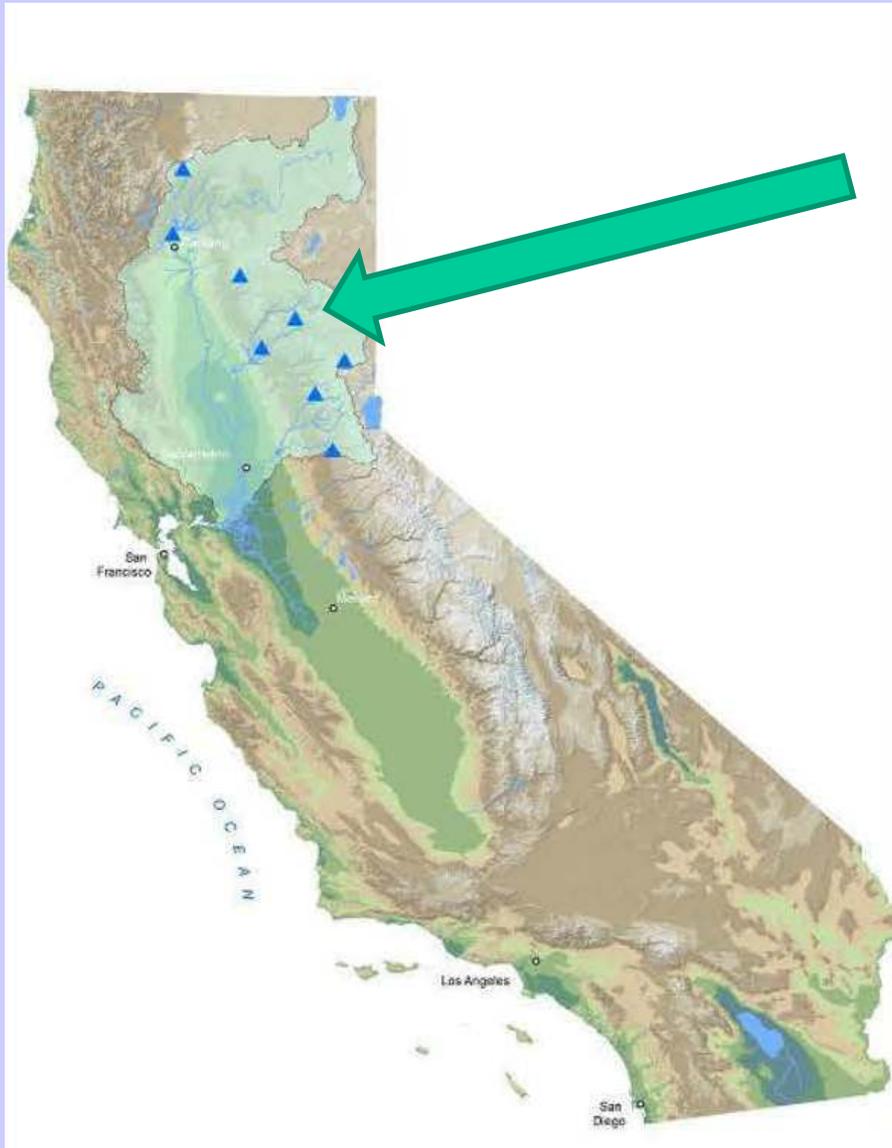


6 series

Note: you do not need so many series:  
3 V1, 3 V2 and 2 V3 would suffice

# Basin of North Fork American River





**Northern Sierra 8-  
station precipitation  
network  
+  
A few additional  
miscellaneous time  
series**

# V1 = “output” = “response”

## 11 V1 series

'AMERICAN R AT FOLSOM'

'AMERICAN NF AT N FORK DAM'

'Folsom Rec Area blue oak'

'Onion Creek incense cedar'

'Huysink red fir'

'Rocky Ridge juniper'

'Fulma Creek P. pine'

'Truckee pond. pine'

'Truckee white fir'

'Carpenter Ridge hemlock'

'Carpenter Ridge red fir'

River

Discharge

Tree-ring

Indices

# V2 = “input” = “stimulus”

## 10 V2 series

precipitation

'NORTHERN SIERRA 8-STATION PRECIP INDEX'

'Onion Creek Apr 1 SWE'

'Wabena Meadows Apr 1 SWE'

'Huysink Apr 1 SWE'

'Talbot Camp Apr 1 SWE'

'Cottonwood Pass Apr 1 SWE'

'Castle Creek 5 Apr 1 SWE'

'Webber Peak Apr 1 SWE'

'Donner Summit Apr 1 SWE'

'Lake Spaulding Apr 1 SWE'

Snow water  
content

## V3: intended primarily to illustrate trend

### 6 V3 series

'Annual mean sunspot number'

'Nino 3.4 index, Nov-Apr mean'

'CO2 concentration, annual average at Mauna Loa'

'Ringwidth series AMR05C from site ca620.rwl'

'Ringwidth series AMR08B from site ca620.rwl'

'Ringwidth series AMR37B from site ca620.rwl'

} misc.

} ring width

# The first Matlab script you run will expect:

3 tab-separated  
data files

Make using Excel

3 \$-separated  
metadata files

Write using text editor

**Those files for the sample datasets ...**

# Scripts vs Functions

- Both are collections of matlab commands
- Both are used in the assignments
- Functions can be Matlab's or "user-written"
- No coding required in this course
- Best way to learn is by example
- Can see by way of script Tsp\_examples.m and functions it calls

## Script

1. One-time task
2. Variables in workspace

## Function

1. Repetitive tasks
2. Variables in function space

- Use of functions to do lower-level repetitive tasks is structured programming
- Coding some tasks as function is time-saving in long run
- Online user-written function repositories are available and can save much work

# other.zip

- Holds miscellaneous files
  - Pdfs of powerpoint slides from lectures
  - Demo scripts, functions and data used in lectures
- Cumulative
- Updated after every lecture
- Made available in D2L under Contents