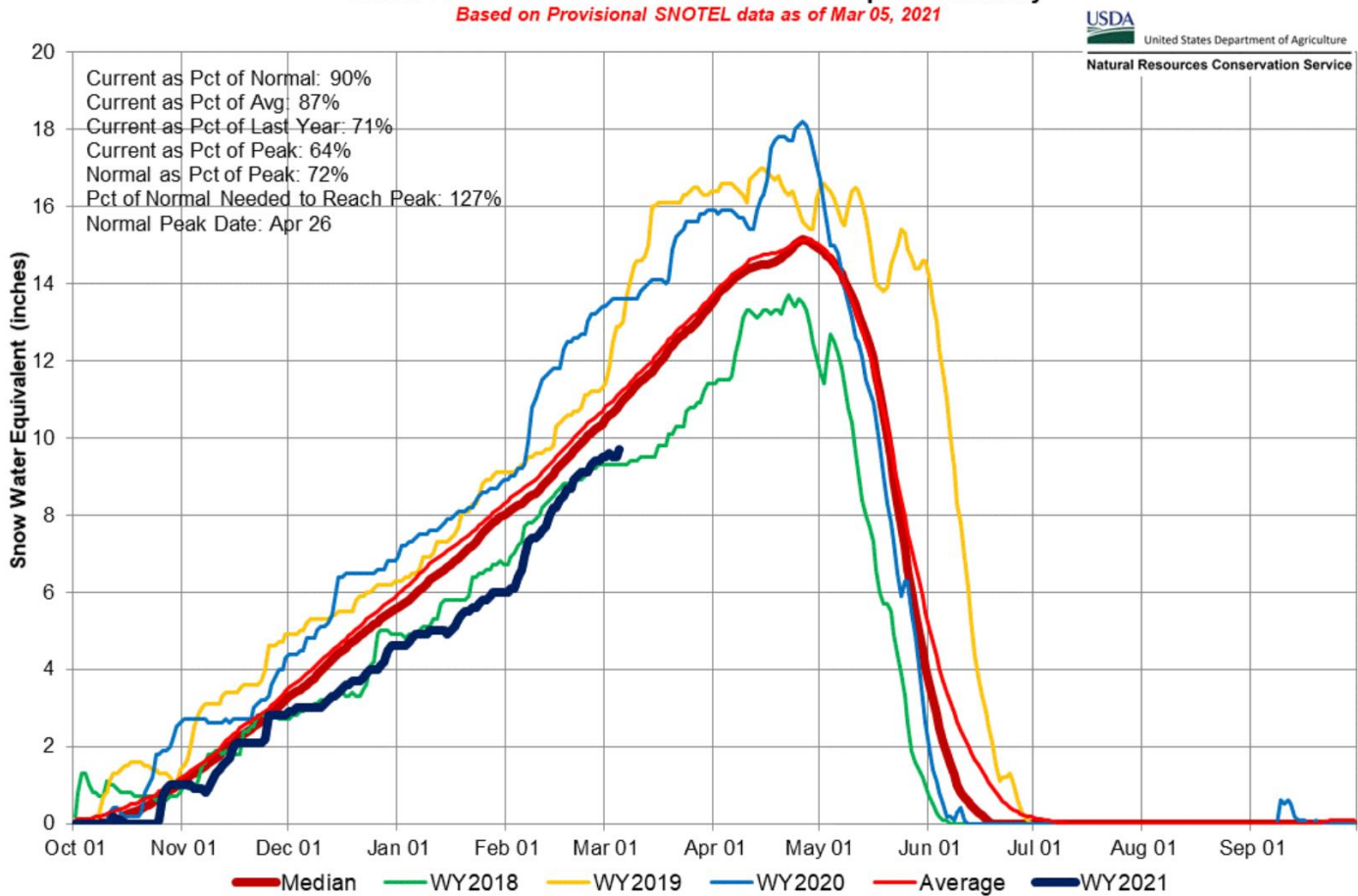JOB ASSIGNMENT #2

What is the Average Snowpack for Your City?

The snow that the mountains receive, also called snowpack, is measured regularly throughout the winter months to help Cities plan for how much water will be available to use for the rest of the year. Snowpack is reported as inches of water.

If the snowpack is below average, Cities may require the community to follow outdoor watering restrictions to ensure that everybody has enough water.

South Platte River Basin Time Series Snowpack Summary
Based on Provisional SNOTEL data as of Mar 05, 2021

USDA
United States Department of Agriculture
Natural Resources Conservation Service

Current as Pct of Normal: 90%
Current as Pct of Avg: 87%
Current as Pct of Last Year: 71%
Current as Pct of Peak: 64%
Normal as Pct of Peak: 72%
Pct of Normal Needed to Reach Peak: 127%
Normal Peak Date: Apr 26

Legend: Median — WY2018 — WY2019 — WY2020 — Average — WY2021

Snowpack charts like the one above, help water providers plan for the water needs of the entire community.

WITHOUT WATER *life would be* PRETTY DRY | City of Thornton | WESTMINSTER

Exercise:

Using the data in Figure 1, create a bar graph of the snowpack for your watershed on Figure 2. Graph all 5 years of snowpack, then calculate the average inches of snowpack during those 5 years. Draw an average line across all the bars on the Figure 2 graph.

Year	South Platte Snowpack Peak (inches of water)
2016	17
2017	14
2018	13
2019	17
2020	18

Figure 1

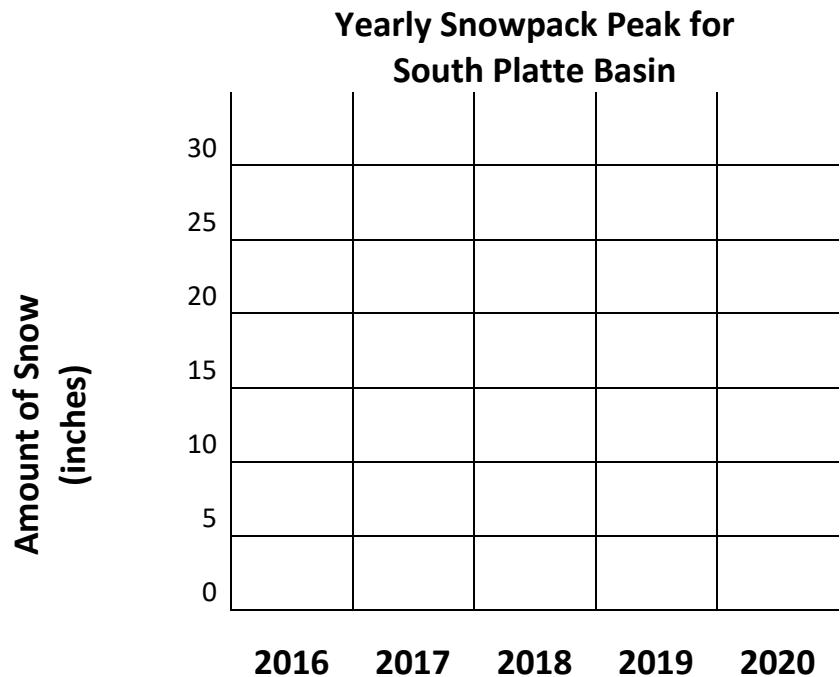**Yearly Snowpack Peak for South Platte Basin**

Figure 2

Discovery Questions:

1. What is snowpack and why is important?

2. What is drought? Looking at the snowpack data, which year were we in a drought?

3. What can you do in a drought to help save water?

4. Word problem: A city's snowpack is at 100%, the town gets 10,000 acre feet (AF) of water from the rivers into its reservoir. If snowpack was only 50% of average, how many acre feet of water would the city get into its reservoir?

5. How many acre feet of water will the town get if snowpack is 25% of average? How about 150% of average?

6. Based on current snowpack* levels, how is your City water supply looking? Is it below average or higher than average? *To see what the current snowpack levels are for the South Platte River Basin visit this link https://www.wcc.nrcs.usda.gov/ftpref/states/co/charts/basinplotsprb21.gif