

Climate Data Jam Answer Key

Goal - Examine data on predicted future temperature and precipitation data from several New Mexico counties, and then design a creative project that explains one part of these data to a non-scientist audience. A good Data Jam project is:

Clear: Represent the data accurately and in a way that is understandable to non-scientists. Make sure to include a legend explaining how you represent the data (e.g., one water droplet picture represents 1 millimeter of precipitation).

Creative: Use your imagination! This could be a song, demonstration, physical model, poem, skit, newscast, infographic, dance, rap, etc.

Concise: Keep it short and to the point. Focus on one important trend in the data.

Project Directions

1. Decide if you would like to work alone or with one or two other students to complete your Climate Data Jam project.
2. Fill out the Planning and Brainstorming Notes section below.
3. Create your Climate Data Jam project (infographic, skit, etc.).
4. Fill out the Presentation Summary section on the worksheet.
5. Practice your presentation.

Planning and Brainstorming Notes

1. Look at the datasets carefully and list trends you might like to explain to your audience.

Possible trends include (but are not limited to):

- ***All counties are predicted to have warmer annual temperatures with the greatest increases in spring in three of the four counties.***
- ***Some counties are predicted to get more precipitation and some are predicted to get less. However, all counties should expect a drier spring, an important season for crops and native plants.***
- ***While Dona Aña and Otero Counties have the exact same temperature predictions, the precipitation predictions are very different with Otero County getting drier overall and Dona Aña County getting wetter overall.***

2. List some possible ways to present the data (song, rap, interpretive dance, etc.). Think about the time it would take to complete.

This will vary by student group, but possible projects could include:

- ***Physical model comparing the predicted precipitation in 2 – 4 of the counties.***
- ***Newscast explaining the forecasts for chosen counties.***
- ***Scaled drawing of plants trying to survive with differing temperatures.***

Data: Predicted Temperature and Precipitation Changes in New Mexico Counties

These data were acquired from the USDA Southwest Regional Climate Hub’s “Precipitation By County” and “Temperature by County” maps. The change in the temperature and precipitation values were calculated by subtracting the historic (1971-2000) data values from the predicted values for 2040-2069. Historic data were derived from PRISM data generalized to the county level. The predicted future values are based on the mean of 20 Coupled Model Intercomparison Project general circulation models.

Table 1: New Mexico Predicted Temperature Changes By County

Temperature Category	Bernalillo County (includes Albuquerque)	Doña Ana County (includes Las Cruces)	Otero County (includes Alamogordo)	Union County (includes Clayton)
Annual Total	3.5 °C warmer	3.3 °C warmer	3.3 °C warmer	3.3 °C warmer
Winter Total	3.3 °C warmer	3.1 °C warmer	3.1 °C warmer	2.9 °C warmer
Spring Total	3.6 °C warmer	3.4 °C warmer	3.4 °C warmer	3.3 °C warmer
Summer Total	3.5 °C warmer	3.2 °C warmer	3.2 °C warmer	3.5 °C warmer
Fall Total	3.5 °C warmer	3.4 °C warmer	3.4 °C warmer	3.5 °C warmer

Table 2: New Mexico Predicted Precipitation Changes By County

Precipitation Category	Bernalillo County (includes Albuquerque)	Doña Ana County (includes Las Cruces)	Otero County (includes Alamogordo)	Union County (includes Clayton)
Annual Total	0.2 mm wetter	3.3 mm wetter	1.0 mm drier	11.6 mm drier
Winter Total	1.2 mm wetter	3.8 mm drier	3.9 mm drier	3.4 mm wetter
Spring Total	4.7 mm drier	2.2 mm drier	2.7 mm drier	0.7 mm drier
Summer Total	1.1 mm wetter	6.5 mm wetter	2.6 mm wetter	14.9 mm drier
Fall Total	2.6 mm wetter	2.8 mm wetter	3.0 mm wetter	0.5 mm wetter

Climate Data Jam Presentation Summary

Each group will have a **maximum of 3 minutes** to present their Data Jam project to the rest of the class. During these presentations, you will “show” your project. This will look different depending on your project. For example, you may act out your skit, read your poem, or show and discuss your physical project. While these presentations will vary depending on your project, the components listed below should be included in all presentations. Use this page to write answers that will help as you plan and prepare your presentation.

1. Introduce all of the students who worked on the project.

Student answers will vary.

2. Give the title of your project. Make sure it is descriptive.

Titles should relate to the creative project and the data trend chosen.

3. Explain the data trend you are trying to get across in your project.

See list of possible data trends on page 1.

4. Showcase your project. For example, read your poem, act out your play, or give a tour of your physical model. Make sure to explain your legend (how the data is represented). Work with your teammates to decide how to best show your project to the audience. Practice!

Students should write down a brief description of how they are going to present their data jam project. For example:

- ***Maia will read the first part of the poem then Kathryn will read the second part of the poem.***
- ***Kirk will introduce the group, while Jessica explains the idea behind the physical model and Derek explains the scale and the data trend chosen.***