

On Monday, April 8, 2024, a total solar eclipse will traverse North America, casting its shadow across Mexico, the United States, and Canada. This rare event places thirty-one million Americans directly in the path of totality. Remarkably, the next North American total solar eclipse of such magnitude won't happen again until 2045.



In light of this extraordinary celestial event, our Design 5505 Information Design class (for non-designers) has focused our project on exploring and celebrating the solar eclipse. We invite everyone to welcome the new year by joining us in uncovering fascinating insights about the eclipse. Through the power of visual storytelling, we aim to reveal and share the incredible aspects of this astronomical wonder.



Solar Eclipse Myths Across the Globe by Elizabeth Tisdale & Catherine Wu ( (

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Understanding

**Solar Eclipses** 

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Eclipse @ OSU

by Cody Collins & Julia Dreiling







Shortost

16

150

50

2000 '02 '04

Shortest - N. America/Australia/Asia

'06

'08

'10

'12

'14

4

5

Year

28

22

24



## Scientific Phenomena Observed





11

LESS Intelligence

**MORE Intelligence** 





## Eclipse Economics

## **Tourism Change Projections**



#### Solar Eclipse Foot Traffic Change **Nights Stayed** Within Totality • Near Totality • 50-200 Miles From Totality Out-of-30 State Visitors 20 Percent Change 10 3+ nights 1 night 0 2 nights 0 nights -10 -20 2 days prio 1 day prior eclpise day 1 day after 2 days after In-State Visitors { Data: 2017 "Great American Eclipse" across USA }

### **Total Expenditure by Lodging Type**

5000

Hotel

/Motel

Camp

Visiting

Friends

/Family

Other

Day Trip

0



15000

**Total USD Spent In Thousands of Dollars** 

Other

25000

20000

# Wyoming totaled <u>63.5 Million Dollars</u> in Revenue due to the 2017 Solar Eclipse!

10000

30000





### References

#### Understanding Solar Eclipses

Exploratorium. (n.d.). Total, partial, & annular solar eclipses | exploratorium.

https://www.exploratorium.edu/eclipse/three-kinds-solar-eclipses

NASA. (n.d.). Solar eclipse page. NASA. https://eclipse.gsfc.nasa.gov/solar.html

NASA. (2022, December 7). Lunar eclipses and solar eclipses. NASA. https://spaceplace.nasa.gov/eclipses/en/

US Department of Commerce, N. (2022, December 13). Solar and lunar eclipses.

National Weather Service. https://www.weather.gov/fsd/suneclipse#:"text=A%20solar%20eclipse%20can%20only, eclipse%20the%20rarest%20of%20all.

#### Solar Eclipse Myths Across the Globe

Aboriginal Astronomy. (n.d.). Eclipses in Australian Aboriginal Astronomy. http://www.aboriginalastronomy.com.au/wp-content/uploads/2020/02/Hamacher-2011-Aboriginal-Eclipses.pdf

Blakemore, E. (2023, October 30). Who are Aboriginal Australians-and why are they still fighting for recognition?. Culture. https://www.nationalgeographic.com/culture/article/aboriginal-australians#.\*\*text=Australia\*s%20first%20 people%E2%80%94known%20as,Australia\*s%20population%20has%20Aboriginal%20heritage.

Boeckmann, C. (2023, October 5). Solar eclipse folklore, myths, and Superstitions. Almanac.com. https://www.almanac.com/ solar-eclipse-folklore-myths-and-superstitions

Book, O. W. and M. (2017, August 20). A Norse Solar Eclipse. https://ofwolfandmanbook.wordpress.com/2017/08/20/ norsesolareclipse/

Bromwich, J. E. (2017, August 18). The Demons of Darkness Will Eat Men, and Other Solar Eclipse Myths. The New York Times. https://www.nytimes.com/2017/08/18/science/solar-eclipse-myths.html

Culver, R. (2017, August 19). How ancient cultures explained eclipses. Online Athens. https://www.onlineathens.com/story/ lifestyle/2017/08/20/how-ancient-cultures-explained-eclipses/15412275007/

Dowdeswell, M. (2023, January 7). Celestial Siblings: Norse Sun and Moon Gods Chased Across the Sky. Ancient Origins: Reconstructing the story of humanity's past. https://www.ancient-origins.net/myths-legends-europe/norse-sun-and-moongods-0017387

Eclipse Legends Around The World. Exploratorium. (n.d.).https://www.exploratorium.edu/eclipse/eclipse-stories-fromaround-the-world

Eidt, J. (2021, February 24). Indigenous Traditions and Wisdom Confront Climate Chaos. WilderUtopia. https://wilderutopia.com/international/earth/dark-omen-climate-chaos-converges-with-solar-eclipse-wisdom/

Feng shui ism. (2023, October 12). Eclipses in Chinese Cosmology. Feng shui ism.https://www.fengshuiism.com/feng-shuiblog/solar-eclipse-chinese-cosmology

Fire Dogs and Angry Demons: Solar and Lunar Eclipse Myths from Asia. Pearl River Mart. (2017, August 17). https://pearlriver. com/blogs/blog/a-total-solar-eclipse

Kher, A. (n.d.). Myths and Superstitions Around Solar Eclipses. Solar Eclipse Myths and Superstitions. https://www. timeanddate.com/eclipse/solar-eclipse-myths.html

Petruzzello, M. (n.d.). The Sun Was Eaten: 6 Ways Cultures Have Explained Eclipses. Encyclopædia Britannica.https://www. britannica.com/list/the-sun-was-eaten-6-ways-cultures-have-explained-eclipses#:\*\*:text=West%20African,other%20and%20C caused%202an%20eclipse

Press, T. A. (1994, November 4). In the Andes, a Puma brings a solar eclipse (published 1994). The New York Times. https:// www.nytimes.com/1994/11/04/world/in-the-andes-a-puma-brings-a-solar-eclipse.html

Striebel, J. (n.d.). Eclipse Myth: Batammaliba of Africa. Dribbble. https://dribbble.com/shots/3743610-Eclipse-Myth-Batammaliba-of-Africa

Vahia, M. (n.d.). Eclipses in ancient cultures. https://www2.nao.ac.jp/~mitsurusoma/WS2014/vahia.pdf

#### Scientific Phenomena during a Total Solar Eclipse

All About Solar Eclipses. (n.d.). Vanderbilt University. Retrieved November 30, 2023, from https://dyervanderbilt.edu/ teacher-resources/solar-eclipse/

Eclipse 2017: Science from the Moon's Shadow - NASA. (2017, December 11). https://www.nasa.gov/science-research/heliophysics/eclipse-2017-science-from-the-moons-shadow/

FAQ - NASA Science. (n.d.). Retrieved November 30, 2023, from https://science.nasa.gov/eclipses/future-eclipses/eclipse-2024/faq/

Science from the ground | Total Solar Eclipse 2017. (n.d.). Retrieved November 30, 2023, from https://eclipse2017.nasa.gov/science-ground

Total Solar Eclipse: What to See | Exploratorium. (2023, March 11). https://www.exploratorium.edu/eclipse/what-to-seeduring-eclipse

#### Nature's Responses to a Solar Eclipse by Intelligence

Branch, J.E, Gust, D.A. (1986). Effect of Solar Eclipse on the Bahavior of a Captive Group of Chimpanzees. Wiley Online Library. https://onlinelibrary.wiley.com/doi/abs/10.1002/ajp.1350110407.

Beverly, D.P., Guadagno, C.R., Bretfeld, M., Speckman, H.N., Albeke, S.E., Ewers, B.E. (2019).

Hydraulic and Photosynthesis Responses of Big Sagebrush to the 2017 Total Solar Eclipse. Nature. https://www.nature.com/ articles/s41598-019-45400-y.

Jones, N.M., Goldy, S.P., Piff, P.K. (2022). The Social Effects of An Awesome Solar Eclipse. U.S. National Library of Medicine. Pubmed.ncbi.nlm.nih.gov/359442889/.

Wheeler, W.M., MacCoy, C.V., Griscom, L., Allen, G.M., Coolidge, H.J. (1935). Observations on the Behavior of Animals During the Total Solar Eclipse of August 31, 1932. Proceedings of the American Academy of Arts and Sciences. 70, 2. https://www.jstor.org/stable/20023118?seq=9#fndtn-page\_scan\_tab\_contents.

#### Eclipse in Films

Campbell. (1968). The hero with a thousand faces. Pantheon Books.

Wikimedia Foundation. (2023a, October 29). List of films featuring eclipses. Wikipedia. https://en.wikipedia.org/wiki/List\_of\_films\_featuring\_eclipses

Wikimedia Foundation. (2023b, November 3). Hero's journey. Wikipedia. https://en.wikipedia.org/wiki/Hero%27s\_journey

#### Eclipse Economics

Dean Runyan Associates, Destination Analysts Inc. (2017). 2017 Eclipse Economic Impact Study Summary of Findings. Wyoming Office of Tourism. https://buckrail.com/wp-content/uploads/2017/12/Wyoming-Office-of-Tourism-2017-Eclipse-Economic-Impact-Study.pdf

Key stats: Total eclipse weekend Columbia, S.C. Total Eclipse Weekend Columbia, SC. (2018, August 21). https:// totaleclipsecolumbiasc.com/key-stats-total-eclipse-weekend-columbia-s-c/

Lakind, Sean (September, 2017), The Great American Eclipse and Its Effect on Retail Traffic, Forbes, https://www.forbes.com/ sites/forbescommunicationscouncil/2017/09/12/the-great-american-eclipse-and-its-effect-on-retail-traffic/?sh=26373fa44b0e

Shihan (David) Ma, Andrei P. Kirilenko, Svetlana Stepchenkova (2020), Special interest tourism is not so special after all: Big data evidence from the 2017 Great American Solar Eclipse, Tourism Management, Volume 77, https://doi.org/10.1016/j. tourman.2019.104021. https://www.sciencedirect.com/science/article/pii/S0261517719302195

#### Total Eclipse Safety Guide

Arévalo JF, Kong J, Bressler NM. Safely Viewing Solar Eclipses. JAMA. 2017;318(11):1080. doi:10.1001/jama.2017.9495

NASA. (n.d.-a). Eclipse Safety. NASA. https://science.nasa.gov/eclipses/safety/

NASA. (n.d.-b). Total Solar Eclipse Safety. NASA. https://science.nasa.gov/eclipses/future-eclipses/eclipse-2024/safety/

Pramik, W. (2017, August 15). How to safely view the total solar eclipse. The Ohio State University Wexner Medical Center. https://wexnermedical.osu.edu/blog/how-to-safely-view-the-total-solar-eclipse

Rick.Fienberg. (2023, October 9). How to View a Solar Eclipse Safely. Solar Eclipse Across America. https://eclipse.aas.org/ eye-safety

U.S. Department of the Interior. (n.d.). How to View a Solar Eclipse Safely (U.S. National Park Service).

National Parks Service. https://www.nps.gov/articles/eclipsesafety.htm

#### Eclipse @OSU

"2024 Total Eclipse: Where & When" NASA.https://science.nasa.gov/eclipses/future-eclipses/eclipse-2024/where-when/

Bradley, D. (2017, August 22) "Stop and stare at what these nine brands did for the eclipse" Campaign UK https://www. campaignlive.co.uk/article/stop-stare-nine-brands-eclipse/1442592

Builder, M. (2018, February 13) "Krispy Kreme's Solar Eclipse Doughnuts Are Covered in Chocolate" MyRecipes. https://www. myrecipes.com/extracrispy/krispy-kremes-solar-eclipse-doughnuts-are-covered-in-chocolate

"Founding of Ohio State FAQs" The Ohio State University Library System. https://library.osu.edu/site/anniversaries/foundingof-ohio-state-faqs/

"July 20, 1969: One Giant Leap For Mankind" (2023 September 29). NASA. https://www.nasa.gov/history/july-20-1969-one-giant-leap-for-mankind/

"Nike SB Dunk Low Lunar Eclipse (East)" StockX. https://stockx.com/nike-sb-dunk-low-lunar-eclipse-east

"Path of Total Eclipse through the US and Parts of Canada" The State of Ohio. https://ema.ohio.gov/media-publications/ohio-total-solar-eclipse#:":text=On%20April%208%2C%202024%2C%20a,will%20experience%20a%20partial%20eclipse.



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