

**USDA Climate Hubs
FY23 Q2 Publications**

White papers and grey literature:

Region	Product	Title and Links
CAR	Reference sheet	USDA Caribbean Climate Hub. What can we do with salvaged wood? (2023) Fact sheet. Available at: https://caribbeanclimatehub.org/wp-content/uploads/2023/01/ENG-SAWMILL-LIST.pdf
CAR	Reference sheet	USDA Caribbean Climate Hub. ¿Qué hacer con madera rescatada? (2023) Available at: https://caribbeanclimatehub.org/wp-content/uploads/2023/01/ESPANOL-LISTADO-DE-ASERRADEROS.pdf
CAR	Report	National Integrated Drought Information System (NIDIS), National Oceanic and Atmospheric Administration (NOAA) National Weather Service, the U.S. Department of Agriculture (USDA), and the University of the Virgin Islands. (2023) February Drought Update for Puerto Rico and the U.S. Virgin Islands. Available at: https://myemail.constantcontact.com/February-2023-Puerto-Rico-and-USVI-Drought-Update.html?soid=1107257096495&aid=XYzic6BbT7U
CAR	Report	National Integrated Drought Information System (NIDIS), National Oceanic and Atmospheric Administration (NOAA) National Weather Service, the U.S. Department of Agriculture (USDA), and the University of the Virgin Islands. (2023) Actualización del estado de la sequía en Puerto Rico y las Islas Vírgenes de EE. UU. Available at: https://myemail.constantcontact.com/Febrero-de-2023-Actualizaci-n-sobre-la-sequ-a-en-Puerto-Rico-y-las-Islas-V-rgenes-Estadounidenses.html?soid=1107257096495&aid=wTILwvbrevg
MW	Report	Quarterly Climate Impacts and Outlook for the Great Lakes Region - March 2023
MW	Report	Quarterly Climate Impacts and Outlook for the Midwest Region - March 2023
MW	Report	Quarterly Climate Impacts and Outlook for the Missouri River Basin - March 2023
MW	Report	Drought Status Update for the Midwest U.S.
MW	Report	https://www.climatehubs.usda.gov/sites/default/files/2023_03_24_MidwestFocusAgOutlook.pdf
MW	Report	https://www.climatehubs.usda.gov/sites/default/files/2023_03_03_MidwestFocusAgOutlook.pdf
MW	Report	https://www.climatehubs.usda.gov/sites/default/files/2023_02_06_MidwestFocusAgOutlook_0.pdf
MW	Report	https://www.climatehubs.usda.gov/sites/default/files/2023_01_06_MidwestFocusAgOutlook.pdf
NE	Newsletter article	Daily runoff forecasting in agricultural watersheds: A promising tool for nutrient management
NE	Newsletter article	Testing the Novel Shallow Well at Hart Farm in Maine
NE	The Pulse, Issue 1 - 1/12	http://n151.mjt.lu/nl3/07OJydZ5SDcm6XS-d8AXTA?hl=en
NE	The Pulse, Issue 2 - 1/19	http://n151.mjt.lu/nl3/2boSnFpU6pauu-S4ZsgQBA?hl=en
NE	The Pulse, Issue 3 - 1/26	http://n151.mjt.lu/nl3/8-ncaO-7rmEWeRRrGfdCtw?hl=en
NE	The Pulse, Issue 4 - 2/2	http://n151.mjt.lu/nl3/S6UF8RxTEJkcB-W3BzCRAg?hl=en

NE	The Pulse, Issue 5 - 2/9	http://n151.mjt.lu/n13/CNOmotBSSPg_xYxJWq_kDw?hl=en
NE	The Pulse, Issue 6 - 2/16	http://n151.mjt.lu/n13/aW3-KJ99AGsggQFQsadLoA?hl=en
NE	The Pulse, Issue 7 - 2/23	http://n151.mjt.lu/n13/nlqkiljQ3YbBiv1r11hZhA?hl=en
NE	The Pulse, Issue 8 - 3/2	http://n151.mjt.lu/n13/DWcPH2JTnyJkxm4npDRxQ?hl=en
NE	The Pulse, Issue 9 - 3/9	http://n151.mjt.lu/n13/A9P9kYeRqI8SsQwK_-KqQ?hl=en
NE	The Pulse, Issue 10 - 3/16	http://n151.mjt.lu/n13/wZeDULRVG5i3iieeMnuhUA?m=AWAAAA-3NkAAAac3DATQAAQuPjuoAAyCrzkIAJunsAAmJRABkEyDmLh2Lv2XITZSwJYrIMY6G7gAJC WQ&b=5a4fc100&e=1f01e3c8&x=PZcG1MdrGsHzcORV6_Ko7Ai30eJ0b-bCvsCn8xTKhOw
NF	Story map	Butler-Leopold, P.R.; Chavez, Q.; Janowiak, M.; Swanston, C. 2022. Climate change and adaptation: Central Appalachians Forests . Madison, WI: U.S. Department of Agriculture, Forest Service, Northern Research Station.
NP	Report	Umphlett, N.A., M. Woloszyn, B.A. Parker, F.A. Akyuz, A.R. Bergantino, S. Brotherson, D. Crow Ghost, M. Downey, L. Edwards, T. Hadwen, Z. Hoylman, K. Jencso, W. Kelley, A. Klein, D. Kluck, D. Longknife, K. Low, R. Mahmood, M. Meehan, G. Rush, C.J. Stiles, and S. Tangen. 2022. 2020–2021 Drought in the U.S. Northern Plains and Canadian Prairies: Initial Assessment of Impacts and Response to Build Resilience During an Ongoing Drought. NOAA National Integrated Drought Information System. https://bit.ly/3MAaqWd
NP	Newspaper column	Kelley, W. 2023. "Connecting Ag & Climate," February 18th edition. Monthly column in the Wyoming Livestock Roundup (5,600 print subscribers & ~ 100 on-line subscribers)
NP	Newspaper column	Kelley, W. 2023. "Connecting Ag & Climate," March 18th edition. Monthly column in the Wyoming Livestock Roundup (5,600 print subscribers & ~ 100 on-line subscribers)
NW	Web article	USDA Northwest Climate Hub 2023. Northwest Pollinators and Climate Change. https://www.climatehubs.usda.gov/hubs/northwest/topic/northwest-pollinators-and-climate-change
NW	Fact sheet	USDA Northwest Climate Hub 2023. Northwest Pollinators and Climate Change. https://www.climatehubs.usda.gov/sites/default/files/NW_Pollinators%20and%20Climate%20Change.pdf
NW	Fact sheet	USDA Northwest Climate Hub 2023. Climate Change and Wildfire in Alaska Fact Sheet. https://www.climatehubs.usda.gov/sites/default/files/wildfires-and-c_60510451.pdf
NW	Web article	USDA Northwest Climate Hub 2023. Overview of Weather Water Land Sites (OWWLS) https://www.climatehubs.usda.gov/hubs/northwest/tools/overview-weather-water-land-sites-owwls
NW	Web article	USDA Northwest Climate Hub 2023 Climate Resilient Hazelnuts in Oregon and Washington. https://www.climatehubs.usda.gov/hubs/northwest/topic/climate-resilient-hazelnuts-oregon-and-washington
NW	Web article	USDA Northwest Climate Hub 2023. Northwest Adaptation in Action. https://www.climatehubs.usda.gov/hubs/northwest/topic/northwest-adaptation-action
NW	Web article	USDA Northwest Climate Hub 2023. Atmospheric Rivers in the Northwest https://www.climatehubs.usda.gov/hubs/northwest/topic/atmospheric-rivers-northwest-0
NW	Web article	USDA Northwest Climate Hub 2023. Climate change and coastal storms in western Alaska https://www.climatehubs.usda.gov/hubs/northwest/topic/storm-brewing-climate-change-and-coastal-storms-western-alaska

NW	Web article	USDA Northwest Climate Hub 2023. Extreme Weather: Northwest Drought https://www.climatehubs.usda.gov/hubs/northwest/topic/extreme-weather-northwest-drought
NW	Web article	USDA Northwest Climate Hub 2023. Climate change and mental health in the Northwest https://www.climatehubs.usda.gov/hubs/northwest/topic/climate-change-and-mental-health-northwest
NW	Web article	USDA Northwest Climate Hub 2023. Online tools for Northwest federal rangeland managers https://www.climatehubs.usda.gov/hubs/northwest/topic/online-tools-northwest-federal-rangeland-managers
NW	Web article	USDA Northwest Climate Hub 2023. Urban Agriculture and Climate Change in the Northwest https://www.climatehubs.usda.gov/hubs/northwest/topic/urban-agriculture-and-climate-change-northwest
NW	Web article	USDA Forest Service Rocky Mountain Research Station Biochar https://www.fs.usda.gov/research/rmrs/forestproducts/biochar
SE	Extension article	Kreye, M., VanderSchaaf, C.L., Kowalczyk, T., Clay, K. 2023. How to manage forests for carbon: an introduction for family forest owners. https://extension.psu.edu/how-to-manage-forests-for-carbon-an-introduction-for-family-forest-owners
SE	Extension article	Kreye, M., Norman, C., VanderSchaaf, C.L., Susaeta, A. 2023. Forest carbon pools: where are they? https://extension.psu.edu/forest-carbon-pools-where-are-they
SE	Extension article	Kreye, M., VanderSchaaf, C.L., Larrain, A.S., Tanger, S. 2023. Methods for estimating carbon within forests. https://extension.psu.edu/methods-for-estimating-carbon-within-forests
SE	Extension article	Kreye, M., Norman, C., VanderSchaaf, C.L., Susaeta, A., Tanger, S. 2023. Carbon accounting in forest management. https://extension.psu.edu/carbon-accounting-in-forest-management
SE	Extension article	Norman, C., Kreye, M. 2023. What do forest carbon "sequestration" and "storage" mean? https://extension.psu.edu/what-do-forest-carbon-sequestration-and-storage-mean
SE	Extension article	Kreye, M., El Afandi, G.S. 2023. Climate regulation and change: what is causing it? https://extension.psu.edu/climate-regulation-and-change-what-is-causing-it
SE	Extension article	Kreye, M. 2023. The economic value of private forests and climate change mitigation. https://extension.psu.edu/the-economic-value-of-private-forests-and-climate-change-mitigation
SE	Extension article	Kreye, M., Kowalczyk, T., Khanal, P., Sharma, S. 2023. How much should I be paid to manage forest carbon. https://extension.psu.edu/how-much-should-i-be-paid-to-manage-forest-carbon
SE	Extension article	Kreye, M., VanderSchaaf, C.L., Susaeta, A., Tanger, S. 2023. Conversions commonly used when comparing timber and carbon values. https://extension.psu.edu/conversions-commonly-used-when-comparing-timber-and-carbon-values
SE	Extension article	Kreye, M., Larrain, A.S., VanderSchaaf, C.L., Tanger, S. 2023. Long-term financial planning for timber and carbon. https://extension.psu.edu/long-term-financial-planning-for-timber-and-carbon
SE	Extension article	Kreye, M., Norman, C., Cushing, T., Tanger, S. 2023. https://extension.psu.edu/what-should-i-think-about-before-signing-a-forest-carbon-contract
SE	Extension article	Norman, C., Kreye, M. 2023. Questions to ask before joining a carbon program. https://extension.psu.edu/questions-to-ask-before-joining-a-carbon-program
SE	Case study	Kreye, M., Norman, C. 2023. Case study 1: two landowners' experiences with carbon payment programs. https://extension.psu.edu/case-study-1-two-landowners-experiences-with-carbon-payment-programs
SE	Case study	Kreye, M., Norman, C. 2023. Case study 2: three landowners' experiences with climate smart forest programs. https://extension.psu.edu/case-study-2-three-landowners-experiences-with-climate-smart-forest-programs
SW	Storymap	Aquatic-Riparian Climate Change Vulnerability Assessment, https://storymaps.arcgis.com/stories/2d998ed0bc8743c9b6f36edc18e88ee8
SW	Fact Sheet	Sustainable SW Beef Project Year 3 Top 10 Accomplishments, https://southwestbeef.org/wp-content/uploads/SSWB_Year_1_Top_10_final_508.pdf

SW	Fact Sheet	Habitat Restoration and Ciénaga Conservation on the Pitchfork Ranch, https://usbr.maps.arcgis.com/apps/MapSeries/index.html?appid=8ee22f591a354ed5887903055c86ff9d
SW	Story map	Habitat Restoration and Ciénaga Conservation on the Pitchfork Ranch, https://lccnetwork.org/sites/default/files/Resources/Habitat%20Restoration%20and%20Ciénaga%20Conservation%20on%20the%20Pitchfork%20Ranch.pdf
SW	Fact Sheet	Virtual Fence Collars Fact Sheet, https://southwestbeef.org/wp-content/uploads/virtual_fencing_508.pdf
SW	Fact Sheet	Virtual Fence Collars Fact Sheet - Spanish Translation, https://southwestbeef.org/resources/fact-sheets/

Peer reviewed

Region	Product	Citation
CA	Research Article	Zakowski E, Parker L, Johnson D, Aguirre J, Ostoja S (in press). California winegrape growers need support to manage risks from wildfire and smoke. California Agriculture.
CA	Research Article	Johnson D, Parker L, Crothers L, Pathak T, Ostoja S (in press). Technical assistance providers identify climate change adaptation practices and barriers to adoption among California agricultural producers. Sustainability. https://www.mdpi.com/2071-1050/15/7/5973
CAR	Meeting Summary	Mercado-Díaz, J.A.; Holupchinski, E.; Álvarez-Berrios, N.; Gould, W.A.; Miller, P.; Mote, T.; Ramseyer, C.; González, G. 2023. Fostering knowledge-exchange and collaboration among drought-related initiatives in the Caribbean. Bull. Amer. Meteor. Soc. DOI 10.1175/BAMS-D-23-0054.1 https://doi.org/10.1175/BAMS-D-23-0054.1
MW	Research Article	Nowatzke, Laurie W., and J. Gordon Arbuckle. "Measuring and Predicting Iowa Farmers' Current and Potential Future Use of Cover Crops." Society & Natural Resources (2023): 1-21. https://doi.org/10.1080/08941920.2023.2183442
NF	Proceedings	The Rocky Mountain Research Station published the Proceedings from the 2022 National Silviculture Workshop (https://www.fs.usda.gov/rm/pubs_series/rmrs/proc/rmrs_p080.pdf).
NP	Research Article	Subhashree, S.N., I. Cannayen, J. Hendrickson, D. Archer, M. Liebig, J. Halvorson, S. Kronberg, D. Toledo, K. Sedivec, D. Peck. 2023. Forage economics calculator web tool: a decision support system for forage management. Computers and Electronics in Agriculture 208: 107775. https://doi.org/10.1016/j.compag.2023.107775
SE	Research Article	Franzluebbers, A.J. and Poore, M.H. 2023. Soil fertility characteristics in North Carolina pastures as affected by spatial separation and renovation with annual forages. Agronomy Journal, 115:1, pp. 384-394. https://doi.org/10.1002/agj2.21218
SE	Research Article	Franzluebbers, A.J. 2023. Soil organic carbon and nitrogen storage estimated with the root-zone enrichment method under conventional and conservation land management across North Carolina. Journal of Soil and Water Conservation 78:2, pp. 124-140. https://doi.org/10.2489/jswc.2023.00064
SP	Research Article	Torell, G.L. L. A. Torell, J. Enyinnaya, S. Spiegall, R. E. Estell, A. F. Cibils, D. M. Anderson, A. L. Gonzalez. 2023. Economics of Raramuri Criollo and British Crossbred Cattle Production in the Chihuahuan Desert: Effects of foraging distribution and finishing strategy Journal of Arid Environments 211: 104922 https://doi.org/10.1016/j.jaridenv.2022.104922
SP	Research Article	McIntosh, M.M., S. A. Spiegall, S. Z. McIntosh, J. Castaño Sanchez, R. E. Estell, C. M. Steele, E. H. Elias, D.W. Bailey, J. R. Brown, A. F. Cibils. 2023 Matching beef cattle breeds to the environment for desired outcomes in a changing climate: a systematic review. Journal of Arid Environments 211: 104905 https://doi.org/10.1016/j.jaridenv.2022.104905
SP	Research Article	Roacho Estrada, O., F.A. Rodríguez Almeida, S.A. Utsumi, E.L. Fredrickson, G.A. Bezanilla Enríquez, A.F. Cibils, R.E. Estell, A.L. Gonzalez. 2023. Foraging behavior of Raramuri Criollo vs. commercial crossbred cows on rangelands of the southwestern United States and Northern Mexico. Journal of Arid Environments 212: 104943 https://dx.doi.org/10.2139/ssrn.4221768

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Article

Duni, D.M., M. M. McIntosh, S. Nyamuryekung'e, A. F. Cibils, M. C. Duniway, R. E. Estell, S. A. Spiegel, A. L. Gonzalez, M. G. Gedefaw, M. Redd, R. Paulin, C. M. Steele, S. A. Utsumi, A. R. Perea. 2023. Foraging behavior of Raramuri Criollo vs. Angus cattle grazing California Chaparral and Colorado Plateau shrublands. *Journal of Arid Environments* 213:104975
<https://doi.org/10.1016/j.jaridenv.2023.104975>