



Jornada Newsletter

January 2020

Photo by Helena Deswood



News from the Jornada

[The Jornada](#)

Science-based knowledge for sustainability of drylands

[Learn More](#)

[Awards and Kudos](#)

The Jornada wins a Federal Energy and Water Management Award

[Learn More](#)

Julian Reyes awarded an American Association for the Advancement of Science (AAAS) fellowship

[Research Results](#)

New publications on the assessment of wind erosion, plant phenology, cropland adaptation, and land restoration

[Learn More](#)

[Events](#)

2019 Jornada symposium

[Learn More](#)

[Web and Media](#)

Sustainable Southwestern Beef website is live

[Learn More](#)

[Tools](#)

New ecological site description access tool is live

[Learn More](#)

USDA Southwest and Southern Plains Climate Hubs publish the Dust Mitigation Handbook

[Learn More](#)

The Jornada

Science-based knowledge for sustainability of drylands.

Our mission is to conduct long-term, collaborative research to sustain agriculture and other land uses in rangelands. Our research group a collaboration of the USDA Agricultural Research Service and New Mexico State University in Las Cruces, New Mexico. We link site-based research on ecological processes, innovative livestock production systems, and ecosystem restoration with national and global research on land monitoring and decision support tools. We are a part of the USDA Long-Term Agroecosystem Research and Long-Term Ecological Research Networks. We host the USDA Southwest Climate Hub. [See our website](#)

[Top of Page](#)

Awards and Kudos

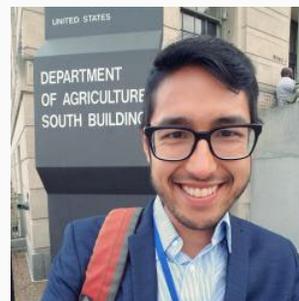
The Jornada was awarded a Federal Energy and Water Management Award for the 80 Kw solar project that powers the Jornada Experimental Range. The award recognizes the ARS team that made the project possible and provided a proving ground for such projects in the agency. The ranch is the first ARS facility to receive such an award and be a net zero electricity facility.



The team responsible for the net-zero solar energy project on the Jornada Experimental

Dr. Julian Reyes, a former Climate Hub postdoctoral fellow at the Jornada, began his new position in Washington, DC as an [AAAS Science and Technology Policy Fellow](#). The AAAS program places top scientists and engineers in both Congress and federal agencies and is hosting its 47th cohort. Julian will be in the Office of Global Change at the U.S. Department of State within their oceans, environment, and science bureau. He will provide support on three major fronts: international climate negotiations, interagency review of the Intergovernmental Panel on Climate Change (IPCC) reports, and technical review of various scientific reports. Congratulations Julian!

[Top of Page](#)



Research Results

Four recently published papers are highlighted below. We constantly update our papers and abstracts--over 3,300 of them-[here](#). Most papers are available for download.

Indicators and benchmarks for wind erosion monitoring, assessment and management

Wind erosion and blowing dust threaten food security, human health and ecosystem services across global drylands. This paper reviews indicators of wind erosion and blowing dust and describes approaches for establishing benchmarks to support wind erosion assessments and management. See the paper [here](#).

Plant Phenology: Taking the Pulse of Rangelands

Plant phenology—timing of seasonal life cycle events—can be used to design better management systems by adjusting the timing of grazing or managed burns relative to growth stages of key species and planning restoration activities, such as targeted grazing. This paper is an accessible introduction to the uses of plant phenology information. See the paper [here](#).

Crop Vulnerability to Weather and Climate Risk: Analysis of Interacting Systems and Adaptation Efficacy for Sustainable Crop Production

Climate change is increasing mean and extreme temperatures in the Southwestern United States, leading to a suite of changes affecting agricultural production. This paper reviews the interacting components and vulnerabilities of agroecosystems, as well as adaptive measures to reduce near- and long-term climate risk. See the paper [here](#).

Land restoration for achieving the Sustainable Development Goals

This report from the United Nations International Resource Panel, led by Jornada scientist Dr. Jeff Herrick, highlights that how land restoration can help the world limit climate change and achieve its aims for sustainable development. The report provides diverse reflections for policymakers, academics and practitioners for the development of strategies to maximize the co-benefits of land restoration and make progress toward the 2030 Sustainable Development Goals. See the report [here](#)

[Top of page](#)

Events



The 2019 Jornada Symposium was held at the Jornada Experimental Range on October 23, 2019. Over 100 scientists, land managers, producers, and students attended. Following the presentations, attendees from various disciplines, generations, and countries gathered to reflect on the day. They explored the murky, but critical, topic of sustainability: what it is, how it should look into the future, and where the Jornada can improve achieving it. Sustainability, or meeting societal needs without compromising ecological or economic integrity, is vital to ensuring harmony among people and the environment now and for generations to come. Attendees noted how change – whether on the landscape, in climate, or among people – can challenge the prospect of sustainability, requiring solution-based thinking to adapt successfully to an increasingly variable world. They assessed the trade-offs associated with management solutions presented throughout the day, such as the challenges of creating a market for Criollo cattle breeds, identifying incentives for operators to make the switch from other breeds, and the feasibility of maintaining livestock-based lifestyles. While no solution is ironclad, attendees agreed that sustainability concerns should guide innovations, technologies, and collaborations at the Jornada. As we look forward, attendees urged us to accelerate information sharing and idea implementation to ensure that the public is ready for the future’s challenges.

Have a look at some scenes from our 2019 Symposium day [here](#).

[Top of Page](#)

Web and Media

The new Sustainable Southwestern Beef Coordinated Agricultural Project is evaluating Raramuri Criollo cattle, precision technologies, and tradeoffs among beef supply chain options to enhance ranch and rangeland resilience in the Southwestern US. The new website is live at <https://southwestbeef.org/>.

[Top of Page](#)

Tools

Ecological sites are the basic component of a land-type classification system that describes ecological potential and ecosystem dynamics of land areas. Information and data pertaining to a particular ecological site are organized into a reference document known as an Ecological Site Description (ESD). ESDs function as a primary repository of ecological knowledge for land management. The Jornada is collaborating with the USDA-NRCS to develop a new tool for developing and accessing ESDs called the Ecosystem Dynamics Interpretive Tool (EDIT) <https://edit.jornada.nmsu.edu/>. You can discover specific ESDs here: <https://edit.jornada.nmsu.edu/catalogs/esd>

Dust emission from cropland and rangeland is a problem where there are dry conditions and high winds. The Dust Mitigation Handbook provides in-depth solutions to specific dust and wind erosion problems. See the handbook here: <https://dust.swclimatehub.info/> and a webinar on the handbook here: <http://www.conservationwebinars.net/webinars/introducing-a-one-stop-resource-for-wind-erosion-air-quality-and-dust-mitigation>

[Top of Page](#)



Copyright © 2019 USDA-ARS, Jornada Experimental Range, All rights reserved.

Our mailing address is:

USDA/ARS JORNADA EXPERIMENTAL RANGE
PO BOX 30003. MSC 3JER. NMSU
Las Cruces, NM 88003

[unsubscribe from this list](#) [update subscription preferences](#)