Drought Planning Resources for Agriculture

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COLORADO STATE UNIVERSITY EXTENSION

Rocky Mountain Farmers Union

Agricultural Water Quality Program

NDMC NATIONAL DROUGHT MITIGATION CENTER UNIVERSITY OF NEBRASKA

USDA Northern Plains Climate Hub
U.S. DEPARTMENT OF AGRICULTURE

Colorado Ag Water Alliance
"Committed to the preservation of agriculture through the wise use of Colorado's water resources"

DARCA
Ditch And Reservoir Company Alliance

DNR

CDA

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Drought Bad

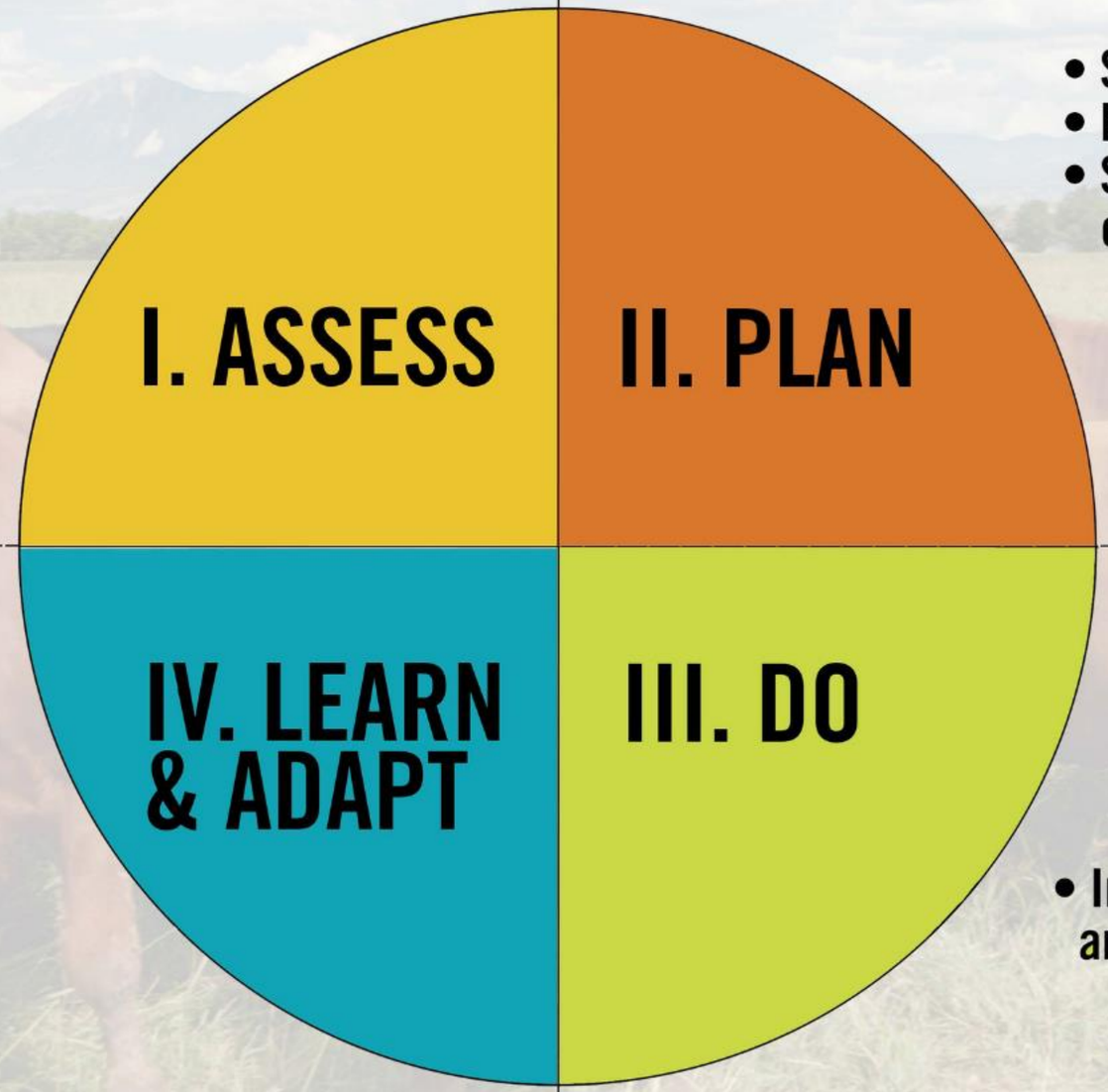
7/25/12 4:00PM

Water Good

KANSAS CITY, MO—Sources nationwide are confirming this week that the current drought is bad and that water is very good. "We don't like the drought," local farmer Dan Rickey told reporters. "We like water." At press time, sources are confirming that the drought is still happening and that it's bad.


Hoping for rain
is not a drought strategy

MAKING A DROUGHT PLAN



- Make an Inventory
- Observe
- Determine Risk
- Lessons Learned

- Set Goals
- Brainstorm Strategies
- Set Decision Points or Triggers

- Evaluate the Plan and Change

- Implement Proactive and Reactive Practices

RESILIENT
Weather-Ready Ranching

LIVESTOCK AND RANGE
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Why Drought Planning?

> A rain doesn’t get you out of the drought the next day. If you don’t set a timetable and stick to what you say you’ll do, you’ll say: ‘Well, I saw on the news where there’s a 20% chance of rain a week from Friday. So, let’s wait until then.' Well, you’ve got to quit doing that"

- John Welch, rancher and Past President and CEO of Spade Ranches.
  Welch Cattle Company is a family cow/calf operation

Why Drought Planning?

01

A 2016 study in the U.S. Northern Plains found that ranchers with a drought plan:

- Were more likely to destock herds
- Saw less harm to range productivity

02

After 2012 and 2016 droughts, ranchers with a plan reported

- Decreased decision-making angst and uncertainty
- Faster and healthier recovery from drought

Drought Advisors

Drought Advisors is a network of professionals committed to improving access to technical resources for drought preparation and response among Colorado producers.

What we do

- Connect interested producers with technical professionals to create drought plans
- Build a network of producers and professionals to increase capacity to cope with drought
- Improve access to drought planning resources through trainings, online and written materials, and one-on-one consulting

Resources

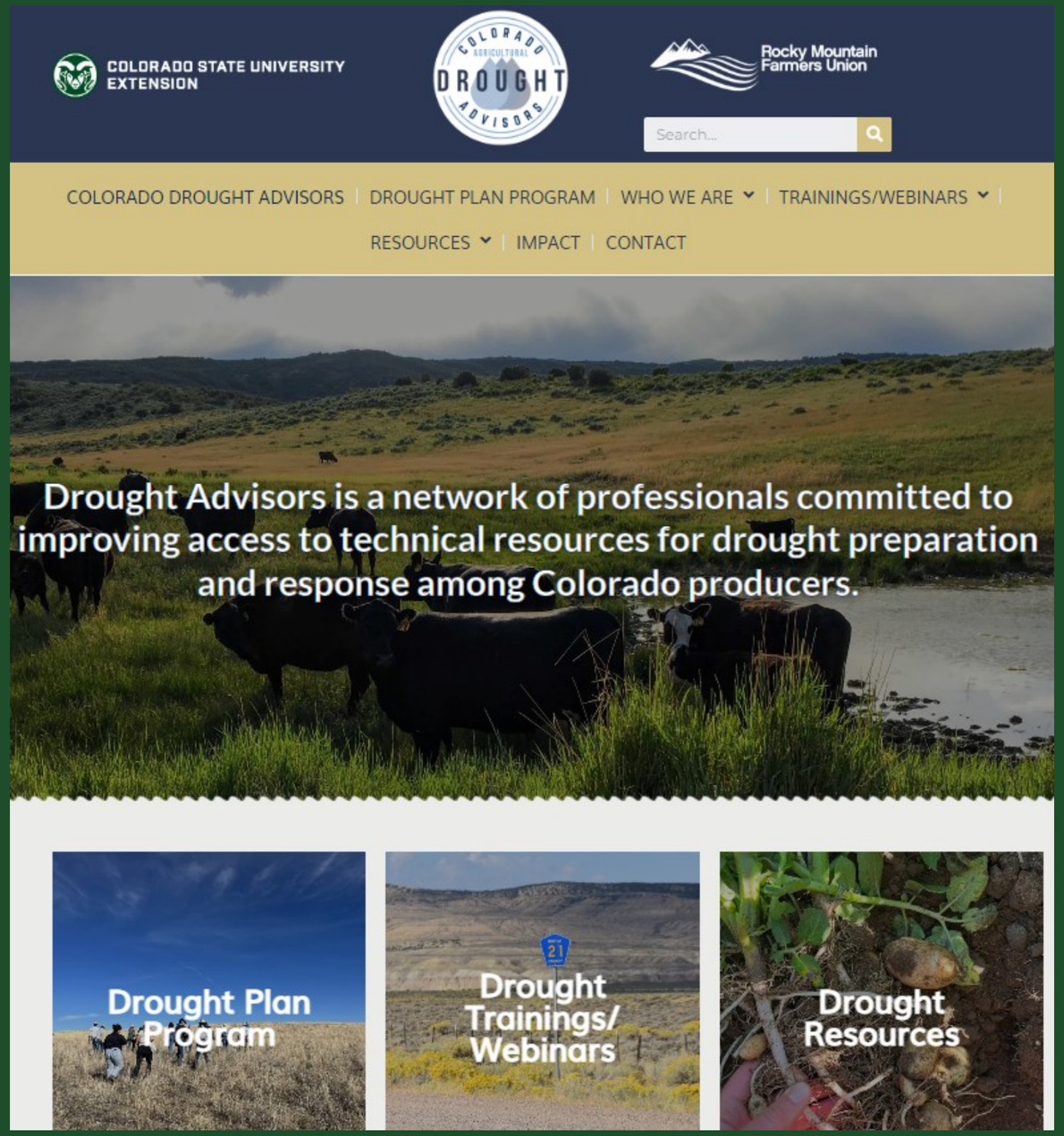
droughtadvisors.org

01 Drought Leadership Training

02 Drought Handbook

03 Drought website

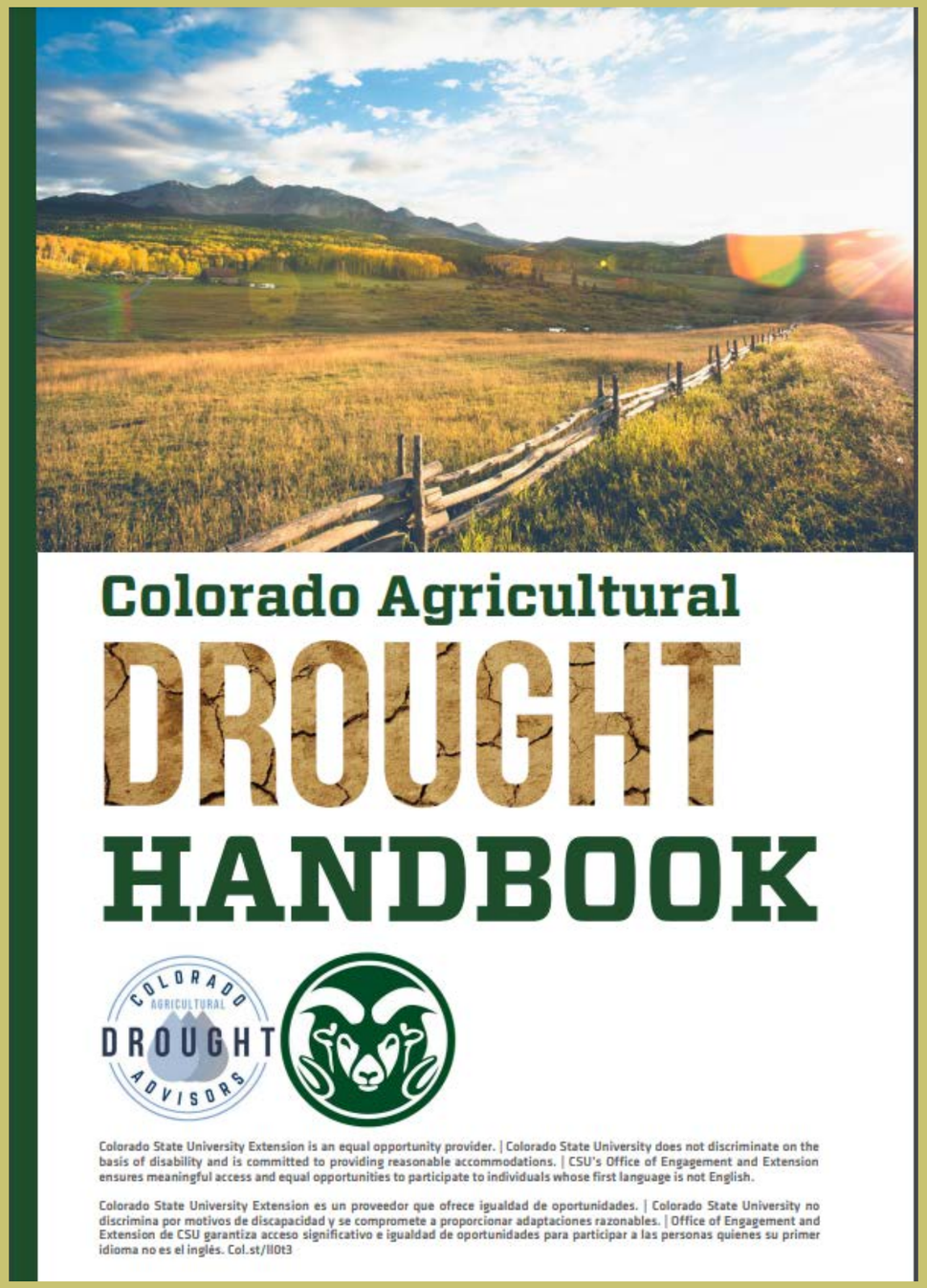
04 Drought Plan Program



Website

droughtadvisors.org

- Drought Leadership Training Searchable able of all past webinars
- Searchable table of all CSUE+ fact sheets Drought handbook



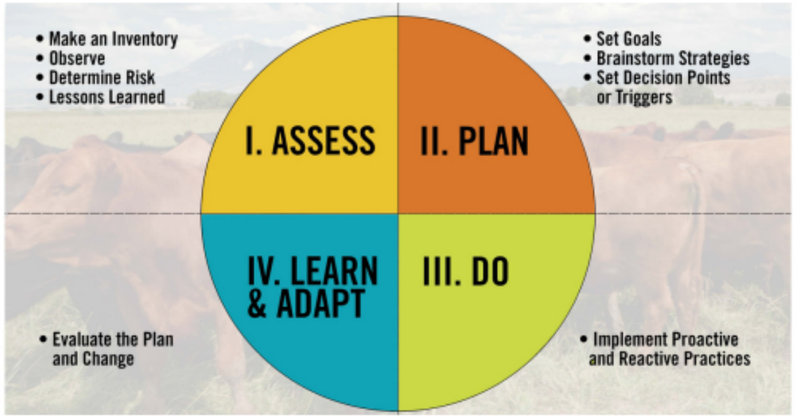
Drought Handbook

droughtadvisors.org

- **Making a Drought Plan**
- **Climate, Drought & Trigger Dates**
  - Weather in CO
  - Critical Periods by Region
  - Using Forecasts & Forecast Accuracy
  - Trigger Dates by Crop and Region

- **Drought Strategies**
  - Range and Livestock
  - Crops and Cropping Systems
  - Risk Management

Making A Drought Plan



Drought planning consists of six parts:

1. assessing the operation and resources,
2. creating a plan which includes
   a. defining drought preparedness goals for the operation,
   b. determining critical points (triggers) for making decisions,
   c. identifying strategies to reduce risk,
   d. using simple scenarios to prioritize strategies,
3. implementing the plan, and finally
4. adapting the plan based on what one learned.

In the following sections, we elaborate on each element of a drought plan and include links to corresponding worksheets which may be used in the planning process.

A drought plan can take many forms. It can be as simple as a one page written document (see examples in Appendix 1, and Drought Plan template below and in Appendix 4).

In addition, each section of the Making a Drought Plan chapter has worksheets associated with it. These worksheets are intended to help users brainstorm aspects of creating a plan.

Regardless of the written form, the key ingredients are defining goals, triggers, and strategies. How the plan is written down depends on what is meaningful and useful to the producer acting on the plan.

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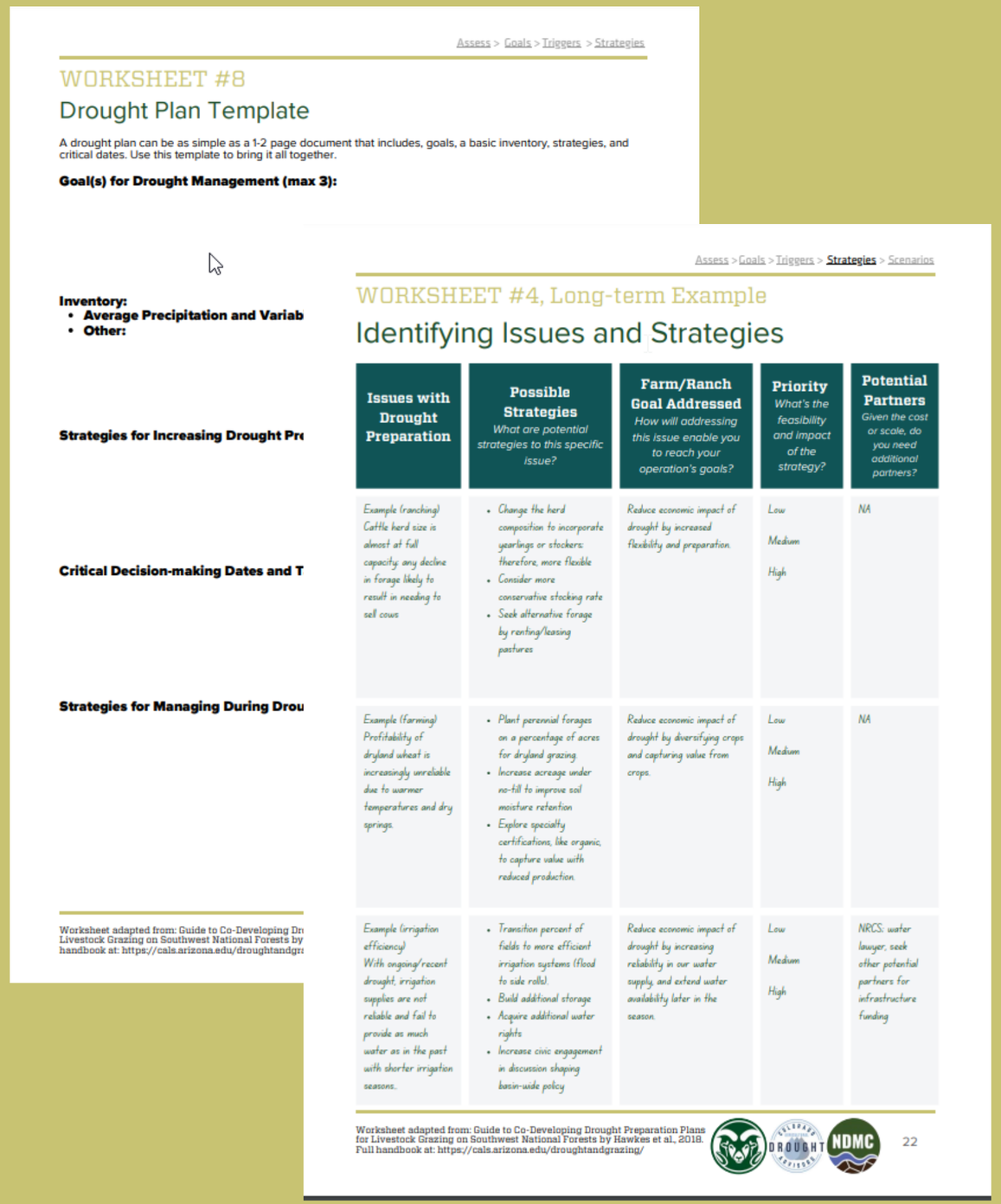

Assess > Goals > Triggers > Strategies

WORKSHEET #8

Drought Plan Template

A drought plan can be as simple as a 1-2 page document that includes, goals, a basic inventory, strategies, and critical dates. Use this template to bring it all together.

Goal(s) for Drought Management (max 3):

Inventory:
- **Average Precipitation and Variab**
- **Other:**

Strategies for Increasing Drought Pr

Critical Decision-making Dates and T

Strategies for Managing During Drou

Worksheet adapted from: Guide to Co-Developing Dr
Livestock Grazing on Southwest National Forests by
handbook at: https://cals.arizona.edu/droughtandgr

Assess > Goals > Triggers > Strategies > Scenarios

WORKSHEET #4, Long-term Example

Identifying Issues and Strategies

Issues with Drought Preparation	Possible Strategies *What are potential strategies to this specific issue?*	Farm/Ranch Goal Addressed *How will addressing this issue enable you to reach your operation's goals?*	Priority *What's the feasibility and impact of the strategy?*	Potential Partners *Given the cost or scale, do you need additional partners?*
Example (ranching) Cattle herd size is almost at full capacity; any decline in forage likely to result in needing to sell cows	• *Change the herd composition to incorporate yearlings or stockers; therefore, more flexible* • *Consider more conservative stocking rate* • *Seek alternative forage by renting/leasing pastures*	*Reduce economic impact of drought by increased flexibility and preparation.*	*Low* *Medium* *High*	*NA*
Example (farming) Profitability of dryland wheat is increasingly unreliable due to warmer temperatures and dry springs.	• *Plant perennial forages on a percentage of acres for dryland grazing.* • *Increase acreage under no-till to improve soil moisture retention* • *Explore specialty certifications, like organic, to capture value with reduced production.*	*Reduce economic impact of drought by diversifying crops and capturing value from crops.*	*Low* *Medium* *High*	*NA*
Example (irrigation efficiency) With ongoing/recent drought, irrigation supplies are not reliable and fail to provide as much water as in the past with shorter irrigation seasons.	• *Transition percent of fields to more efficient irrigation systems (flood to side rolls).* • *Build additional storage* • *Acquire additional water rights* • *Increase civic engagement in discussion shaping basin-wide policy*	*Reduce economic impact of drought by increasing reliability in our water supply, and extend water availability later in the season.*	*Low* *Medium* *High*	*NRCS, water lawyer, seek other potential partners for infrastructure funding*

Worksheet adapted from: Guide to Co-Developing Drought Preparation Plans for Livestock Grazing on Southwest National Forests by Hawkes et al., 2018. Full handbook at: https://cals.arizona.edu/droughtandgrazing/

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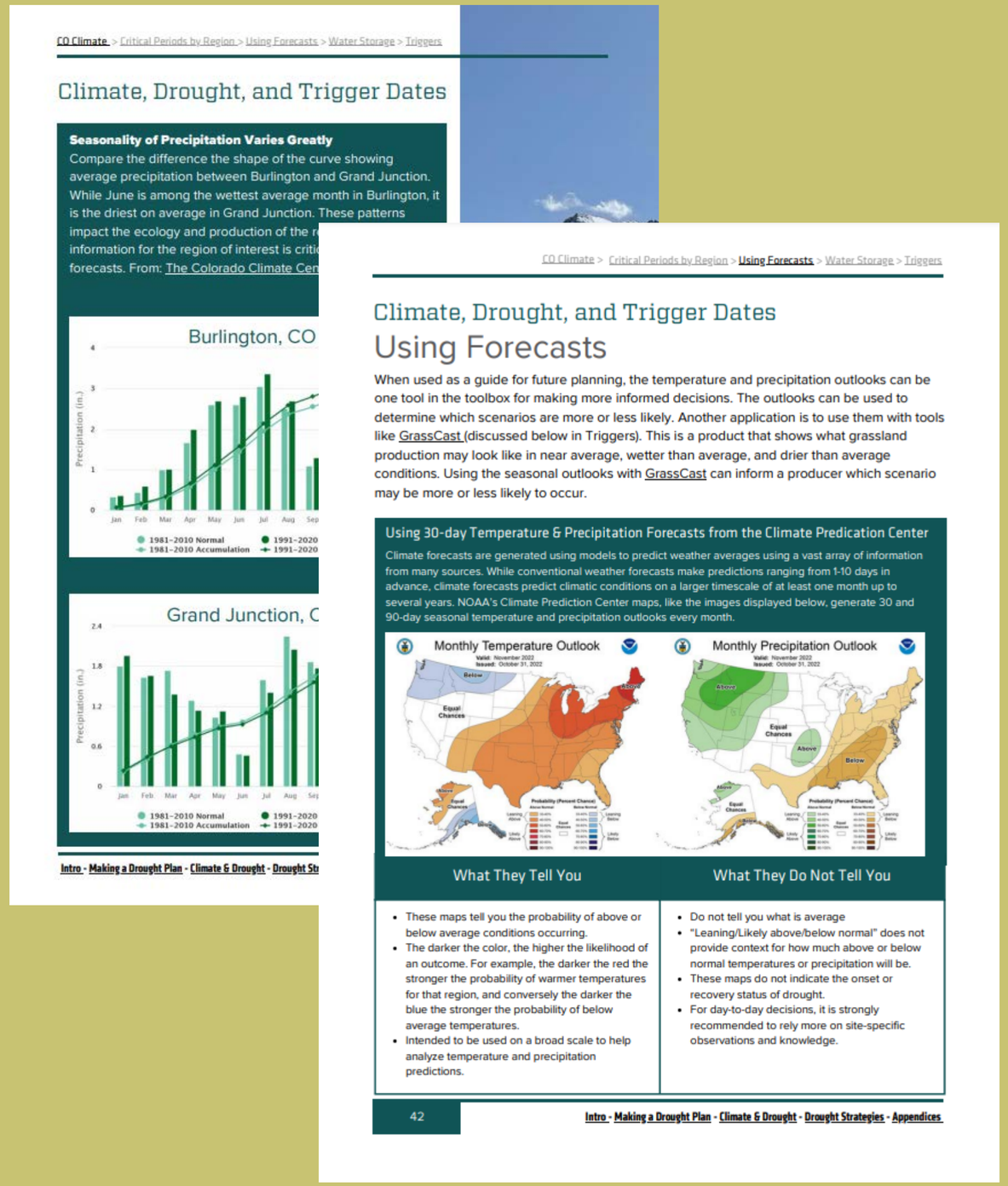

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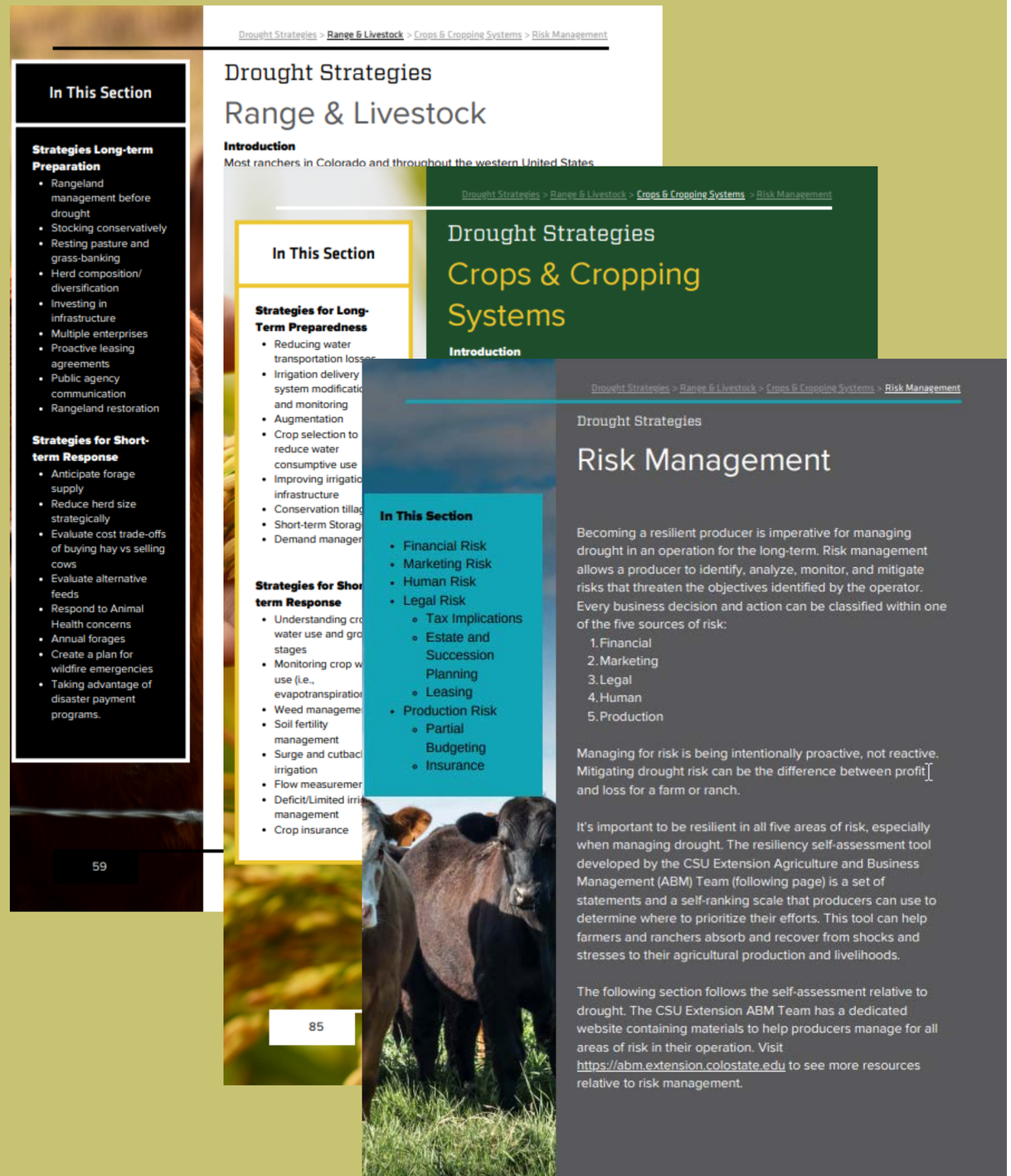

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Thank You

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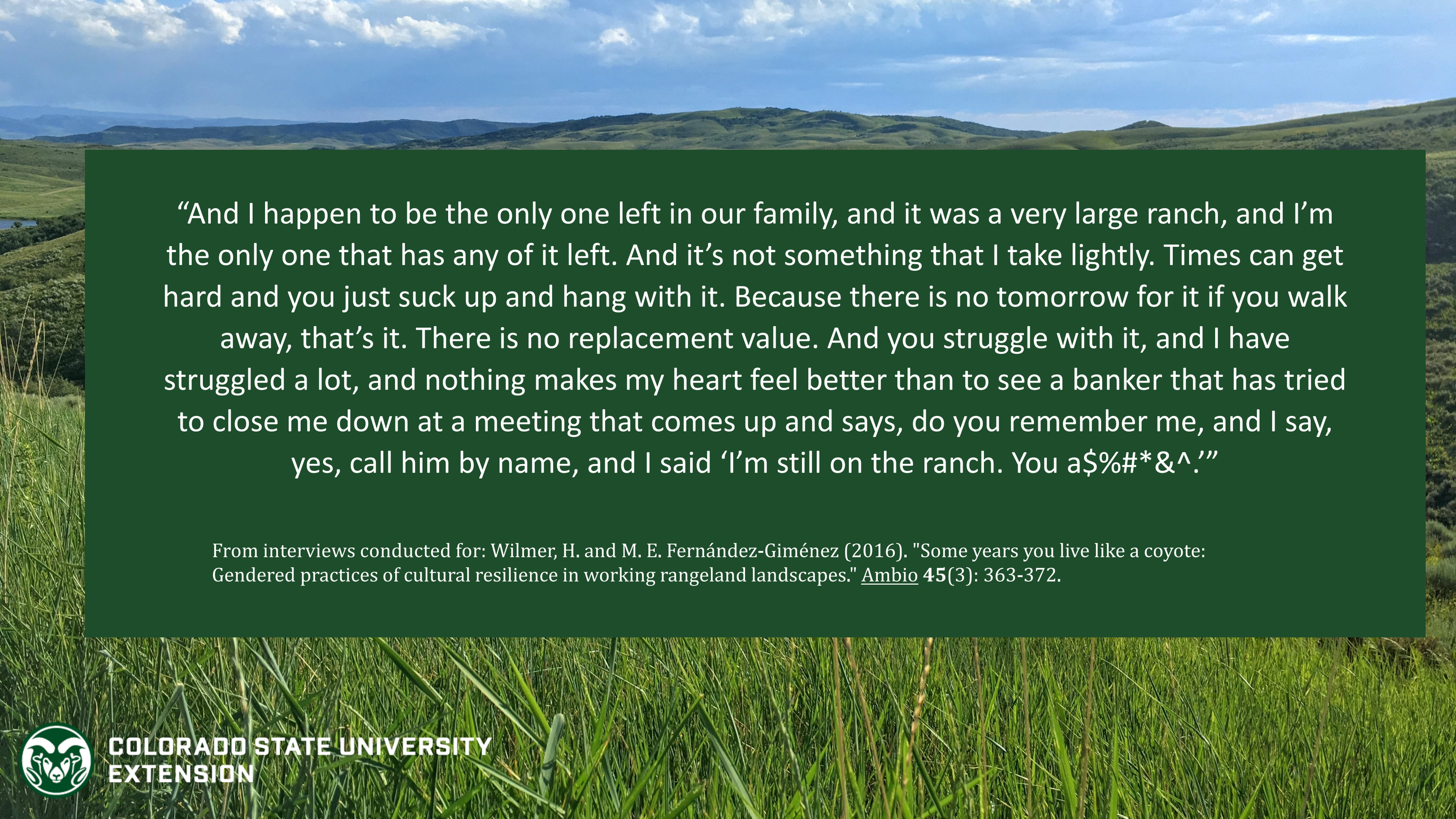

“And I happen to be the only one left in our family, and it was a very large ranch, and I’m the only one that has any of it left. And it’s not something that I take lightly. Times can get hard and you just suck up and hang with it. Because there is no tomorrow for it if you walk away, that’s it. There is no replacement value. And you struggle with it, and I have struggled a lot, and nothing makes my heart feel better than to see a banker that has tried to close me down at a meeting that comes up and says, do you remember me, and I say, yes, call him by name, and I said ‘I’m still on the ranch. You a$%#*&^.’”

From interviews conducted for: Wilmer, H. and M. E. Fernández-Giménez (2016). "Some years you live like a coyote: Gendered practices of cultural resilience in working rangeland landscapes." Ambio **45**(3): 363-372.

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