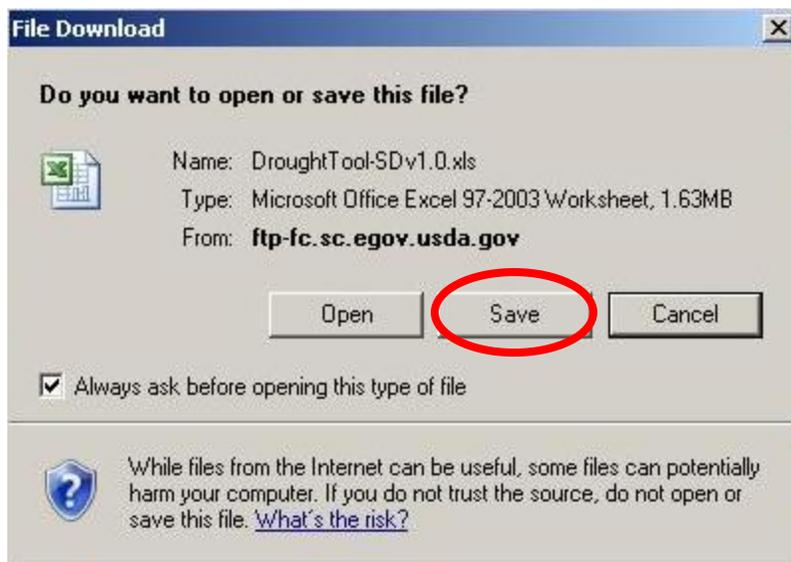


South Dakota Drought Tool

User's Quick Guide

Important: Must have Microsoft excel and enable “macros” and “external content”
Refer to <http://office.microsoft.com/en-us/excel-help/> for help.

The South Dakota Drought Tool can be accessed at www.sd.nrcs.usda.gov .
Click “Range and Pasture” under **Quick Access on the left hand side.**



It is recommended to choose the “Save” button, and save the Excel file to your local computer (desktop) and then run it from there. However, you can choose the “Open” button as well and run the program through the internet connection.

South Dakota Drought Tool

Drought will always be a challenging component of the livestock industry. While we cannot control drought, we can capitalize on our resources in good years, and plan to conserve in drought years. Drought has long term effects, and takes a long term recovery. Since 1940, drought historically occurred an average of 21% of years in the northern great plains.

The [South Dakota Drought Tool](#) is a tool to monitor current drought status specific to your operation and assist making management decisions in drought years. Having a drought plan will help sustain your livestock operation for years to come.

Choose your County, Weather station, and click "Next" to continue.

Day Month Year

1 Now ▾ Now ▾ Now ▾

2 Choose County ▾

3 Choose Weather Station ▾ ?

4 Next

Stan Boltz, Shane Deranleau, Mitch Faulkner, Doug Vik



- 1 Select a date from which to run the analysis. Choosing "Now" runs current date. Selecting past dates may be helpful to compare current conditions to past conditions.
- 2 Choose the County of interest.
- 3 Choose the nearest climate station. Click the ? for a map of climate stations. A "Back" button is provided on the map so you can return to the first screen.
- 4 Click on the "Next" button to run analysis.

Local Precipitation

Back

Please Verify Local Precipitation data.* Changes can be entered in the Precipitation Adjustment Table.**

3

Next

**Values that report as a 0.00 may not be accurate or data may be missing. Consider adjusting in th Precipitation Adjustment Table

1

Historic and short-term precipitation values for Perkins County *

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum
Hist -Ave	0.44	0.49	1.00	1.76	2.67	3.15	2.10	1.64	1.20	1.12	0.52	0.39	16.48
2010/2011	0.11	0.50	0.87	1.91	5.58	2.18	2.90	2.70	2.81	0.77	0.36	0.32	21.01
2011/2012	0.74	1.39	0.93	2.32	4.56	3.31	2.53	4.19	0.00	0.53	0.60	0.46	21.56

Enter alternative or custom precipitation values here. Values entered overwrite automatic precipitation values.

Precipitation Adjustment Table

2

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
2010/2011													
2011/2012													

References

<http://wrrac.sdstate.edu/pubs/range/ec91-123.pdf>
http://climate.sdstate.edu/climate_site/climate.htm
<http://www.hprcc.unl.edu/>

Drought Management on Range and Pastureland
 South Dakota State Universities Climate Website
 High Plains Regional Climate Center Website

- 1 Review precipitation data to see if it “makes sense” and to see if there are any “0” values that might indicate missing data. Note the months change as “rolling water years” based on the analysis date.
- 2 If you collect your own precipitation data (recommended), or you have other sources which you feel are more reliable, you can enter that data here. Entries will change in the table above.
- 3 When you are satisfied that the precipitation values represent the conditions for the time and place you are analyzing, click on the “Next” button to see the results.

Drought Status

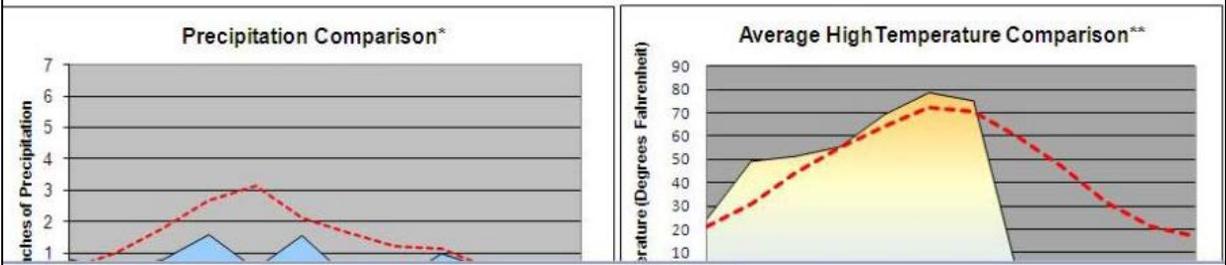
Back

Precipitation is significantly reduced. Forage resources may be damaged even with livestock reduction. Potential for soil erosion to occur.

5 Finish

Drought Status		Click for Drought Phase information		
Drought status as of	2/27/2013	3 Current Drought Status Phase 1: Normal Phase 2: Risk Phase 3: Drought		
County Selection	Perkins			
Weather Station	BISON (COOP)			
1	This value represents a current status of estimated soil moisture conditions and potential production.	63.4%		
2	This is the future prediction of the July 1 or peak production if future conditions are average.	76.3%		

4



- 1** This number represents the drought status currently, or for the dates selected. When the tool is run in the winter and early spring, think of this as the current soil moisture conditions which will impact plant growth in the coming spring.
- 2** When the tool is run from November through May, this number represents the predicted peak forage production as of July 1st. It is calculated based on the assumption of normal precipitation in the months leading up to July 1st.
- 3** This graphic represents the current drought status: normal, at risk, or drought. Drought plans can be triggered by these status's.
- 4** This is a graphical representation of the previous 12 months precipitation and average monthly high temperature, both compared to the historic average (the red line).
- 5** Click on the "Finish" button to go to the drought planning page.

USDA NRCS Summary Page

Drought **1** Name _____ 2/27/2013
 Location _____ Print Status and Summary

Drought Status Phase 3 Drought

2

Current Status	63.4%
Projected Peak Production	76.3%
Suggested percent of normal stocking	52.1%

Precipitation is significantly reduced. Forage resources may be damaged even with livestock reduction. Potential for soil erosion to occur. Implement appropriate management decisions immediately.

% Norm. Production	63%	Date	2/27/2013	County	Perkins	Precip station	BISON (COOP)					
Month	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
Hist -Ave	0.49	1.00	1.76	2.67	3.15	2.10	1.64	1.20	1.12	0.52	0.39	0.44
2011/2012	1.39	0.93	2.32	4.56	3.31	2.53	4.19	0.00	0.63	0.60	0.46	0.27
2012/2013	0.81	0.53	0.79	1.61	0.50	1.58	0.22	0.00	1.00	0.50	0.30	0.40

Precipitation Comparison

Average High Temperature Comparison

This is the summary page and the beginning of a drought contingency plan. It contains all the pertinent data from the previous screens and is formatted for printing. You can **1** enter a name and location to keep for future reference, and the “Print Status and Summary” button will print the formatted information.

Also included with this page is a suggested “percent of normal stocking” value. **2** . This number provides a recommended percent of normal stocking based on the specific drought assessment and can be used to aid in the development of a personalized drought contingency plan.

Page Down to begin developing a Drought Contingency Plan.

Drought Contingency Plan

In the event of Drought Conditions, initiating a plan of action will alleviate stress on grazinglands, preventing a loss of production, vigor, and diversity in subsequent years. Create a customized drought contingency plan for your operation. The NRCS example drought contingency plan recommendations are also provided below.

Phase 1 Normal Status

Observe field conditions, forage growth rates, observable plant stress etc.

Observations:

Phase 2 Risk Status

Take risk management actions to relieve plant stress

Early culling/weaning of livestock:

Alternative feed/forages:

Herd consolidation

Other:

Phase 3 Drought Status

Take Drought management actions to relieve plant stress

Early culling/weaning of livestock:

Alternative feed/forages:

Herd consolidation

Other:

Example/ Recommendations Page 1

Drought Contingency Plan

Review previous 12 to 24 months of precipitation records and compare to the historic average for the nearest established climate station. Using local monthly precipitation records to compare monthly shortfall. Develop a marketing strategy plan that utilizes all possible marketing sources, price protection, and contracting possibilities in order to obtain flexibility in implementing this contingency plan.

Phase I is at the normal level of forage production, but plants can begin showing stress due to a lack of precipitation. Phase II corresponds to a drought risk level where resources (i.e., animal, forage, business, etc.) can be impaired without adjustments to management. Phase III corresponds to well-below average conditions or active drought. At this level, forage resources will be obviously reduced/stressed, and management changes will be needed to avoid detrimental effects to the ranch resources. This will likely include some level of destocking.

Phase I

Implement Phase I (Normal Phase) when plants begin to show signs of moisture stress and/or when stock dams are lower than expected for the time of year. This corresponds to approximately 95 percent of average precipitation or less, or when the critical spring period (April - June) is below average (or a combination of these). Typical Phase I actions include continuing observations relative to precipitation, production, and stock water levels. In the event of impending drought conditions, progressively cull early and remove 10 percent of the total herd during the first month of grazing (this can include animals you would likely cull later in the year). Phase I drought management actions may

This is the blank Drought Contingency Plan. It is color coded to align with the Drought Tool assessments. When any of the three status are triggered, it will provide planned proaction items.

This drought contingency and action plan is designed and personalized by each landowner. It can include any and all items landowners have found historically successful in mitigating drought stress. Additionally, landowners can find a list of examples and recommendations provided by the South Dakota NRCS below the drought plan.

“Normal” status items typically include monitoring and observation. “Risk” items prepare for possibility of drought. “Drought” items are those that immediately begin reducing stress on grasslands.

The power of drought planning and mitigation is the plan. Each plan is strengthened through progressively learning from, reviewing, and updating a personal drought. This will enable landowners to be proactive, not reactive, when drought risk or drought occurs.