

## TRANSCRIPT for “How to Read the Maps” Tutorial Video

**(0:00; 1<sup>st</sup> slide)** Hi everyone, my name is Dannele Peck, and I am a member of the Grass-Cast team, and this is a quick tutorial on how to interpret the three Grass-Cast maps.

**(0:10; 2<sup>nd</sup> slide)** First, let’s look at single map. Find your location of interest on this map. And what it’s trying to tell you is this: based on observed weather up to the day that the map was made, plus seasonal forecasts for the rest of the growing season, we expect grassland productivity in your area to be some percent higher or lower than your area’s 38-year average.

**(0:34; 3<sup>rd</sup> slide)** Now, before, we were trying to present a single map to you, but we realized that that was heavily dependent on that seasonal forecast. And those are not always correct. So, we replaced the seasonal forecast with three possible scenarios: what if precipitation from the day the map is made through the rest of the growing season is above-normal, or near-normal, or below-normal? So, three different possibilities.

**(1:04; 4<sup>th</sup> slide)** And this led us to three different Grass-Cast maps that you’re seeing here. The maps here were made on April 2<sup>nd</sup> of 2019. At that time, the maps told us “What if...?” What if precipitation from April through the end of August was above-normal? Then we would look at the map on the left. We would find the location we’re interested in and check the color of that location. What if instead the precipitation was near-normal? Well, then we would look at the middle map. Again, we would find that same location of interest, and check its color. And that color, again, is telling us how much or how well we expect grass to be growing in your area. Finally, the third scenario: what if precipitation through the rest of the growing season is below normal? Then we would look at the map on the right, find your location, and check its color. Let’s walk through a quick example.

**(2:02; 5<sup>th</sup> slide)** The Northern Plains Climate Hub, who I work for, is located in northeast Colorado. I’ve outlined it here with a little black box. And the Grass-Cast maps on April 2<sup>nd</sup> told me that, on the left, if precipitation through the rest of the growing season were above-normal, then I should expect my area of Colorado to

enjoy 15 to 30 percent more pounds per acre than my area's 38-year average. But what if we're wrong? What if, instead, precipitation through the rest of the growing season is just near-normal? Well, then my area is in this light-green color. And that light green means that I should expect near-normal amounts of pounds per acre. You know, five percent less or five percent more, but right around the 38-year average. Finally, what if the rest of the growing season has below-normal precipitation—the spigot turns off? Well, then my location is in yellow. And that tells me, in those circumstances, I would expect 5 to 15 percent less pounds per acre than our 38-year average. So, this gives me three “What if?” scenarios to consider as a rangeland manager.

**(3:22; 6<sup>th</sup> slide)** Which scenario is more likely? We turn to NOAA's 3-month precipitation outlook, which you can find online, and we provide links to it on our website. And for my same location, in northeast Colorado, at the time the maps were made, NOAA was saying that they thought the forecasts were leaning towards having above-normal precipitation in this area. Now there was still a chance, a 33 percent chance, that we would have near-normal precipitation, and even a 13 percent chance we'd have below-normal precipitation. But at the time the maps were made, NOAA was leaning towards above-normal precipitation.

**(4:05; 7<sup>th</sup> slide)** And so, when I go back to my three maps of Grass-Cast for my area of interest, {I consider myself...um...that the} NOAA is leaning towards the map on {the right...sorry, the map on} the far LEFT (the above-normal map) being more likely than the others. Again, a 54 percent chance of above-normal precipitation, so the map on the left. So a 54 percent chance of having 15 to 30 percent more pounds per acre. The middle map has a 33 percent chance, so a 33 percent chance that I'll have about normal amounts of grass (pounds per acre). And only a 13 percent chance that that map on the far right, the below-normal map, {will be...um...} might occur.

**(4:59; 8<sup>th</sup> slide)** So, for my area in northern Colorado, it looks promising this year. Of course, as rangeland managers or ranchers, you always want to be prepared for the worst-case scenario. In this case, for my area, I need to be prepared for a 13 percent chance of having 5 to 15 percent less forage. And to do that, I need to go and study up again on how to wean my calves early perhaps, in case that low probability event does happen. I can strategize how I would go about reducing my

herd by up to 15 percent to match that reduction in forage. If I'm a cow-calf operation, I might identify ahead of time the low-production cows I think I should cull. If I'm a cow-calf-yearling operation, then I have a bit more flexibility. I can be prepared to sell some short-yearlings in the spring if I need to. And I can start building relationships so that, in the worst-case scenario, I can move cows to croplands somewhere, or I can move my cows to a drylot. But again, for my area, things are looking pretty positive in 2019; pretty good chances that I should have either near-normal or above-normal amounts of forage. But it's always good to have a drought plan in place. With that, I thank you for your time, and I wish you luck in using the Grass-Cast product. If you have questions, please feel free to reach out to me. My contact information is on the Grass-Cast webpage. Thank you!