

LPGCD Production & Drawdown Analysis



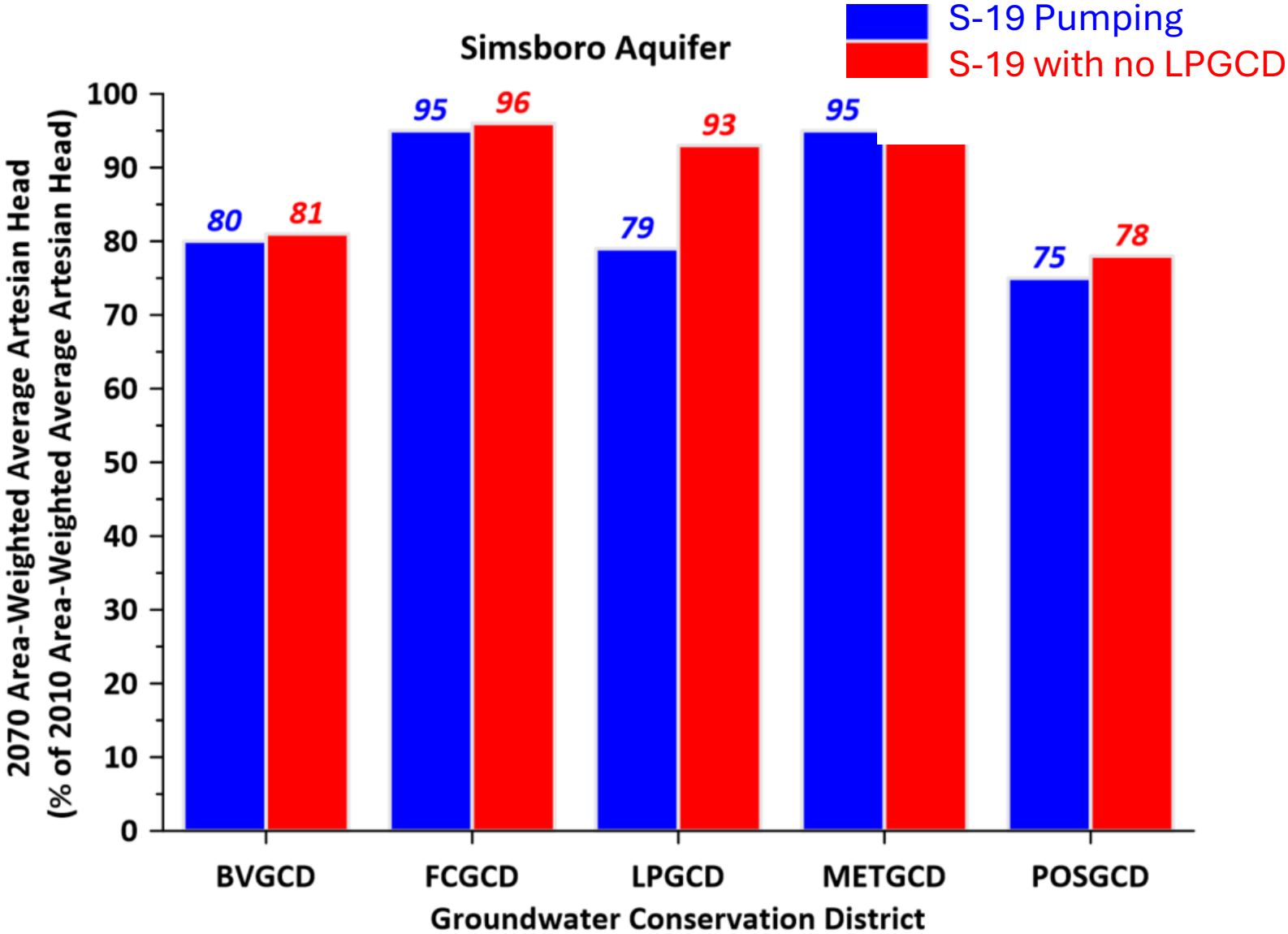
October 10, 2025

GMA12 Meeting

Objectives

- Analyze impact of individual GCD production upon other GMA12 GCDs
- Show spatial variability in drawdown and percent remaining artesian head

LPGCD production has low impact on the other GMA12 GCDs



BVGCD has significant impact on flows from POSGCD

**BVGCD Groundwater Budget Layered,
Carrizo-Wilcox**

S-19 (2011 to 2070) (AF/yr)

S-19 Plus BV (2011 to 2070) (AF/yr)

Difference (AF/yr)

Source of Increased Pumping (% of Pumping)

Inflows

From Alluvium (Layer 1)	56	277	221	0.11
From Shallow Flow System (Layer 2)	43,639	78,882	35,243	17.56
From Reklaw (Layer 6)	3,184	11,377	8,192	4.08
From METGCD	1,516	10,935	9,418	4.69
From POSGCD	36,117	122,892	86,775	43.23
From Falls County	1,360	1,758	399	0.20
From Grimes County	7,545	17,208	9,663	4.81
From Limestone County	5,623	7,327	1,704	0.85
From Washington County	244	1,051	807	0.40
Total Inflow	99,284	251,707	152,423	75.93

Outflows

Pumping	109,062	309,800	200,738	100.00
Total Outflow	109,062	309,800	200,738	100.00

Storage

Inflow minus Outflow	-9,778	-58,093	-48,315	24.07
Model Storage Change	-9,778	-58,093		

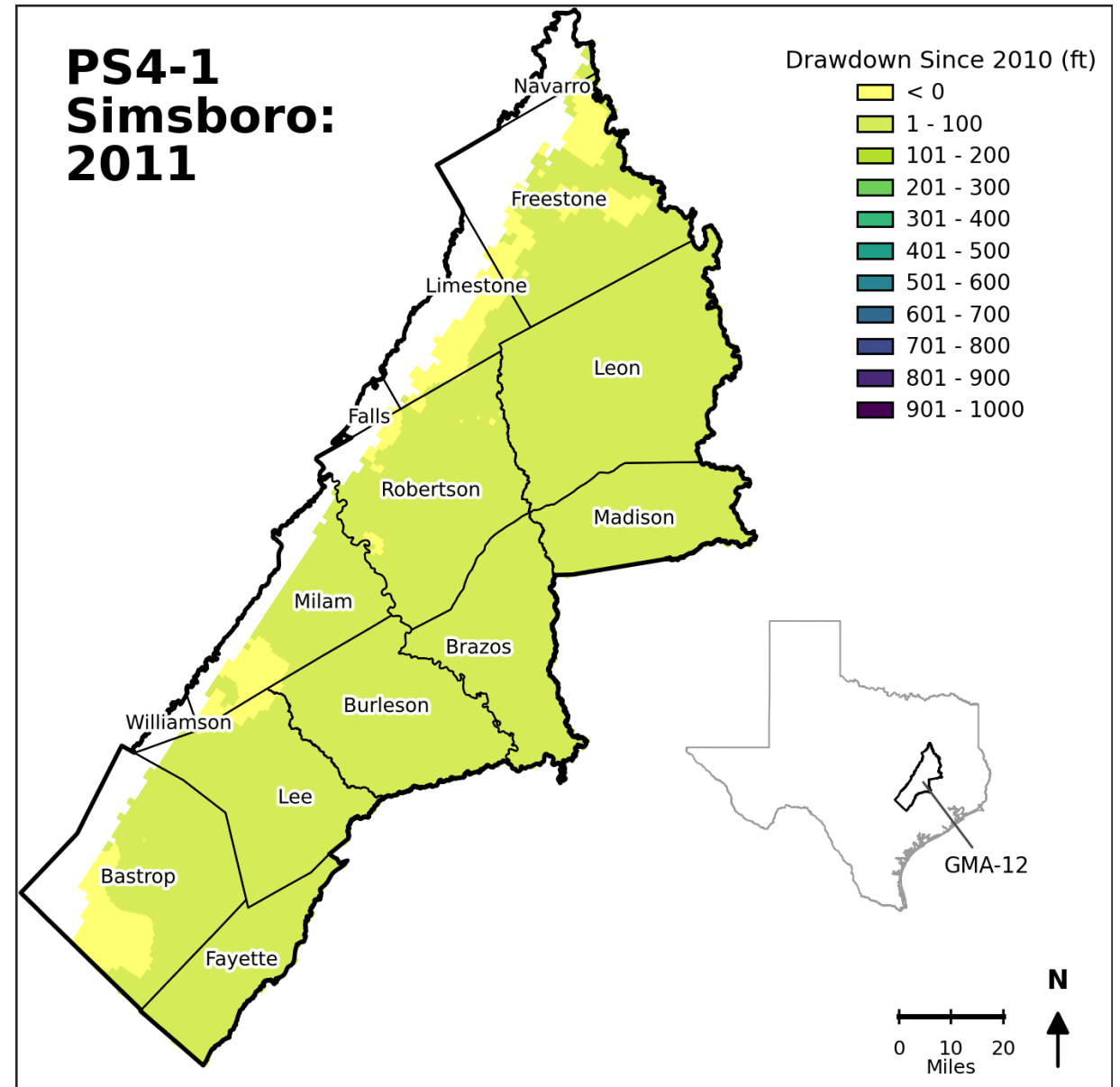
Water Balance Error

0

0

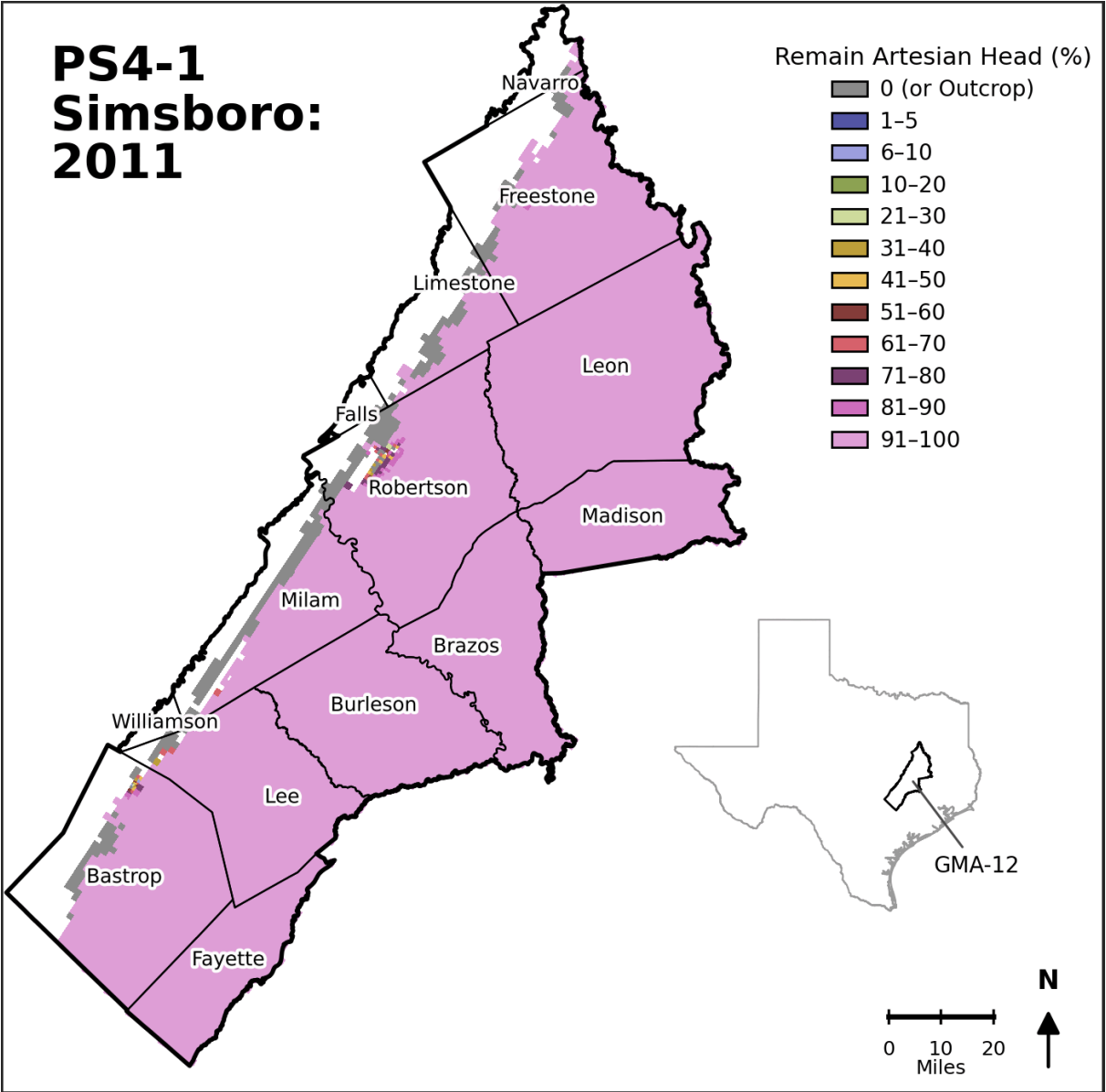
Spatial variability in drawdown matters, even if DFCs are averages

Central SP-QC-CW GAM v.3.02
Layer 9



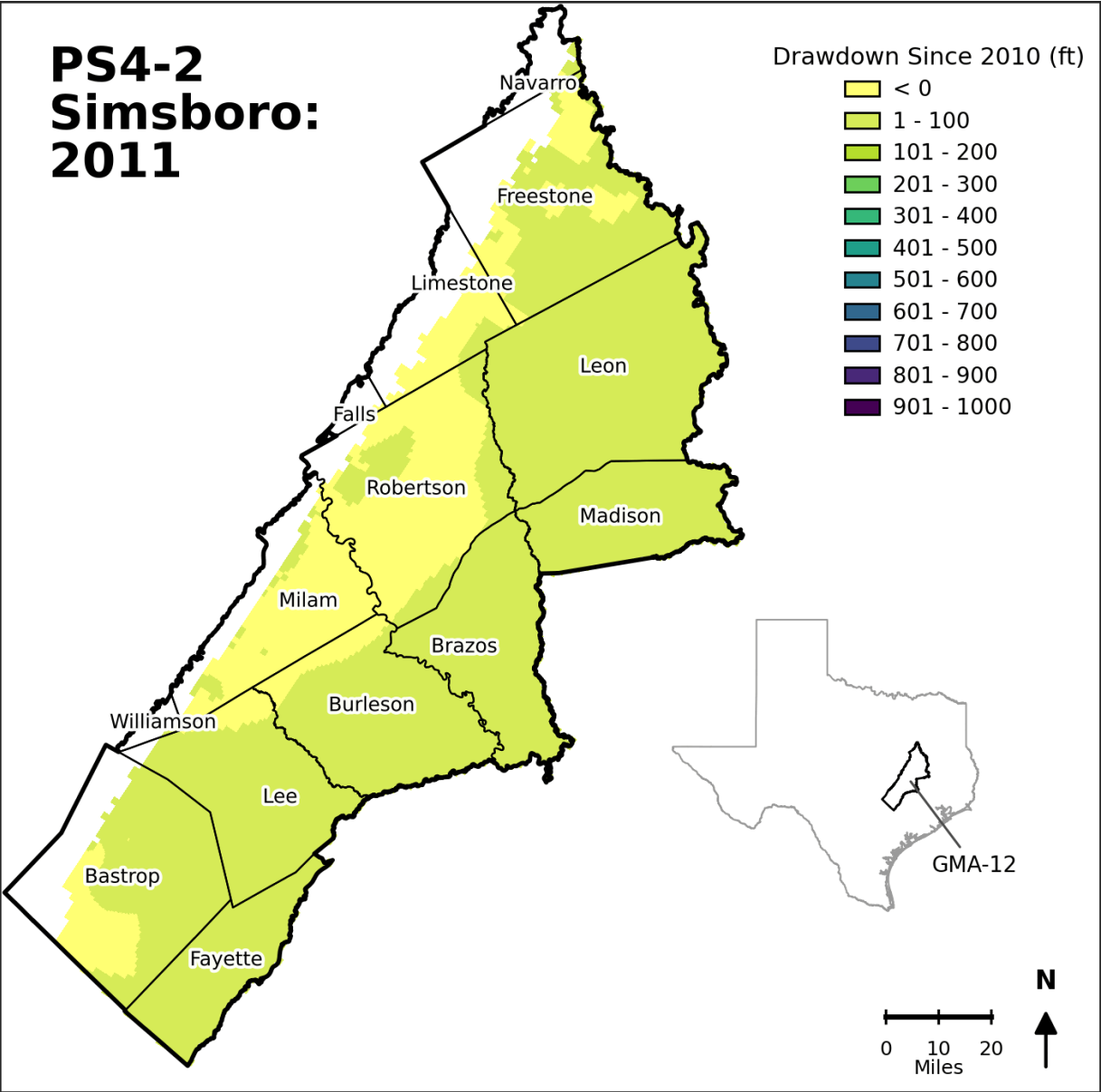
Maps of remaining artesian head shows grey where aquifer desaturates

Central SP-QC-CW GAM v.3.02
Layers 2 and 9



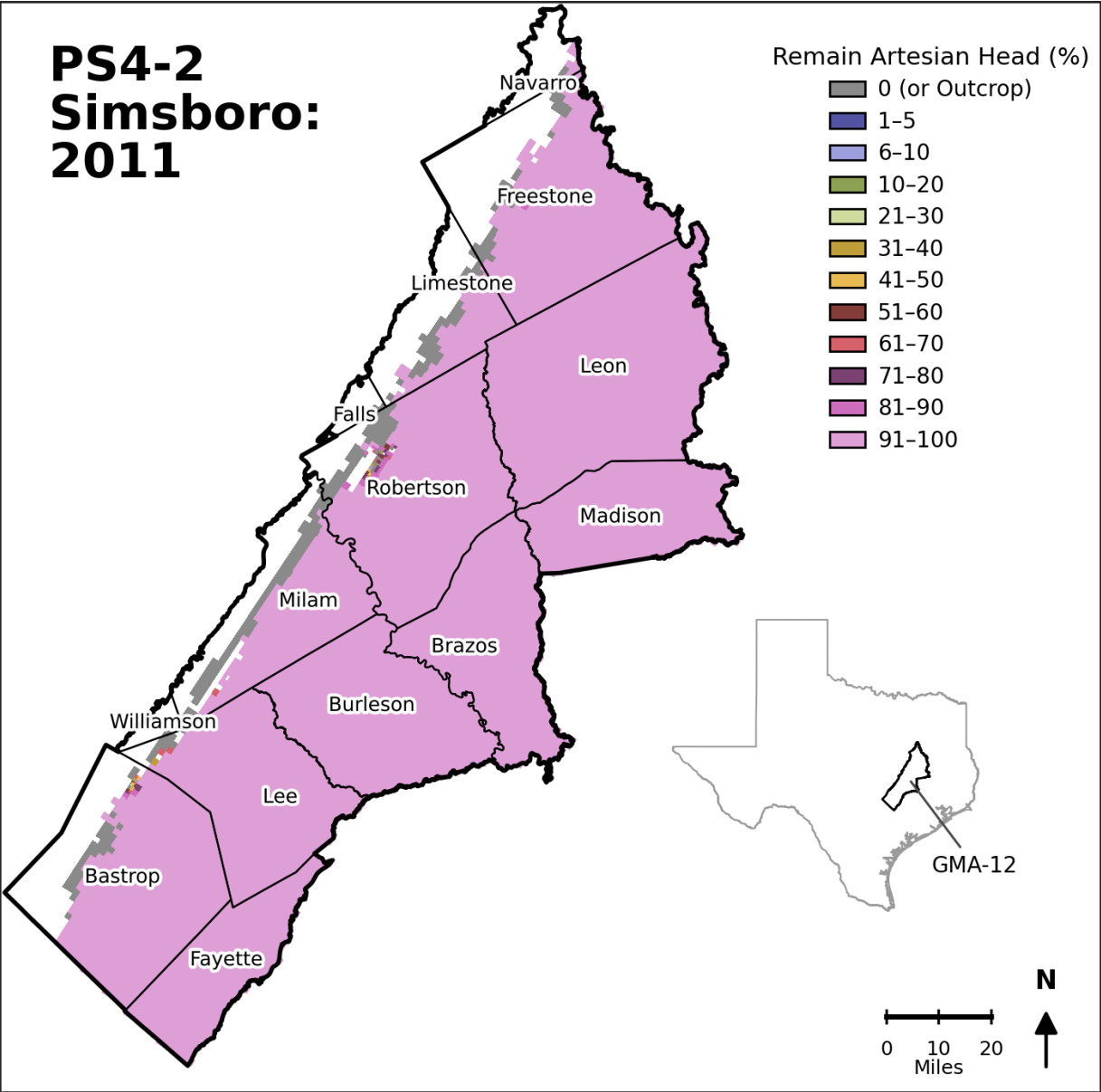
PS4-2 pumping scenario, and current DFCs, help limit maximum drawdown

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PS4-2 pumping scenario, and current DFCs, help limit desaturation

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LPGCD Position

- GMA12, in all past cycles, has included all granted permits. In this cycle, it appears that granted permits and exempt wells are being excluded.
- In past cycles, non-permitted, speculative production was never included in model runs - like in BVGCD's "Potential PS4-3". GCDs should refrain from using PS4 naming for runs that are not approved by the GMA12, which may confuse the public.
- PS4-2 is the LPGCD desired model run. The goal of PS4-2 was to maintain similar DFCs to those adopted.
- PS4-2 includes all LPGCD permits and is the best data available. PS3-19 is out of date.
- PS3-19 does not include Gatehouse, the second largest LPGCD permit.
- PS3-19 is not, "the Best Available Science". PS3-19 includes predictive pumping from 2020 - 2025, rather than the actual production data - as in PS4-2.

Vista Ridge impacts to Lee County

- Vista Ridge impacts to Lee County are significant. To date, since 2021, the LPGCD has spent \$481,813.17 mitigating 71 wells in Lexington, TX due to Vista Ridge drawdowns. This does not include staff hours, legal and consulting expenses. The LPGCD may need to hire staff just to work on VR mitigations and monitoring.
- Carrizo wells have seen over 110' of static drawdown (2070 DFC is 134'). Also, well pump drawdown levels are increasing (i.e. when the pump turns on, the well water levels are getting lower - below the pump) and well recovery rates are getting worse and slower once the pump is turned off. It's not just about static water levels...pumps are burning up due to pump drawdowns - which is difficult to monitor.
- Calvert Bluff wells are now being impacted.
- HB 1689 allows for Mitigation ILA. LPGCD receives none the VR fees meanwhile receives half the impacts and has to pay to fix the damages caused by Vista Ridge permits. Lexington, TX residents are beyond frustrated and constantly stressed over ongoing water level declines, since 2021.

Example Mitigation Costs



DATE 06/06/2025



DESCRIPTION	QTY	RATE	AMOUNT
Labor to drill up to 600' set 4.5" SDR-17 casing and screens, gravel pack, set surface sleeve, and cement to the surface.	600	40.00	24,000.00
5 HP 20 GPM Pump and motor	1	5,390.80	5,390.80T
420 ft sch 120 1.25 drop pipe	420	2.40	1,008.00T
460 ft #6 wire	460	5.98	2,750.80T
5 HP Control box	1	744.00	744.00T
21 SS Couplings	21	16.50	346.50T
Labor to install well supplies	1	1,000.00	1,000.00

This must be signed and returned to be put on waiting list along with a \$1,000-dollar non-refundable deposit. Estimate does not include electricity to the well or piping water to any location.
Regulated by: Texas Department of Licensing & Regulation PO Box 12157
Austin, TX. 78711
800-803-9202 or 512-463-7880

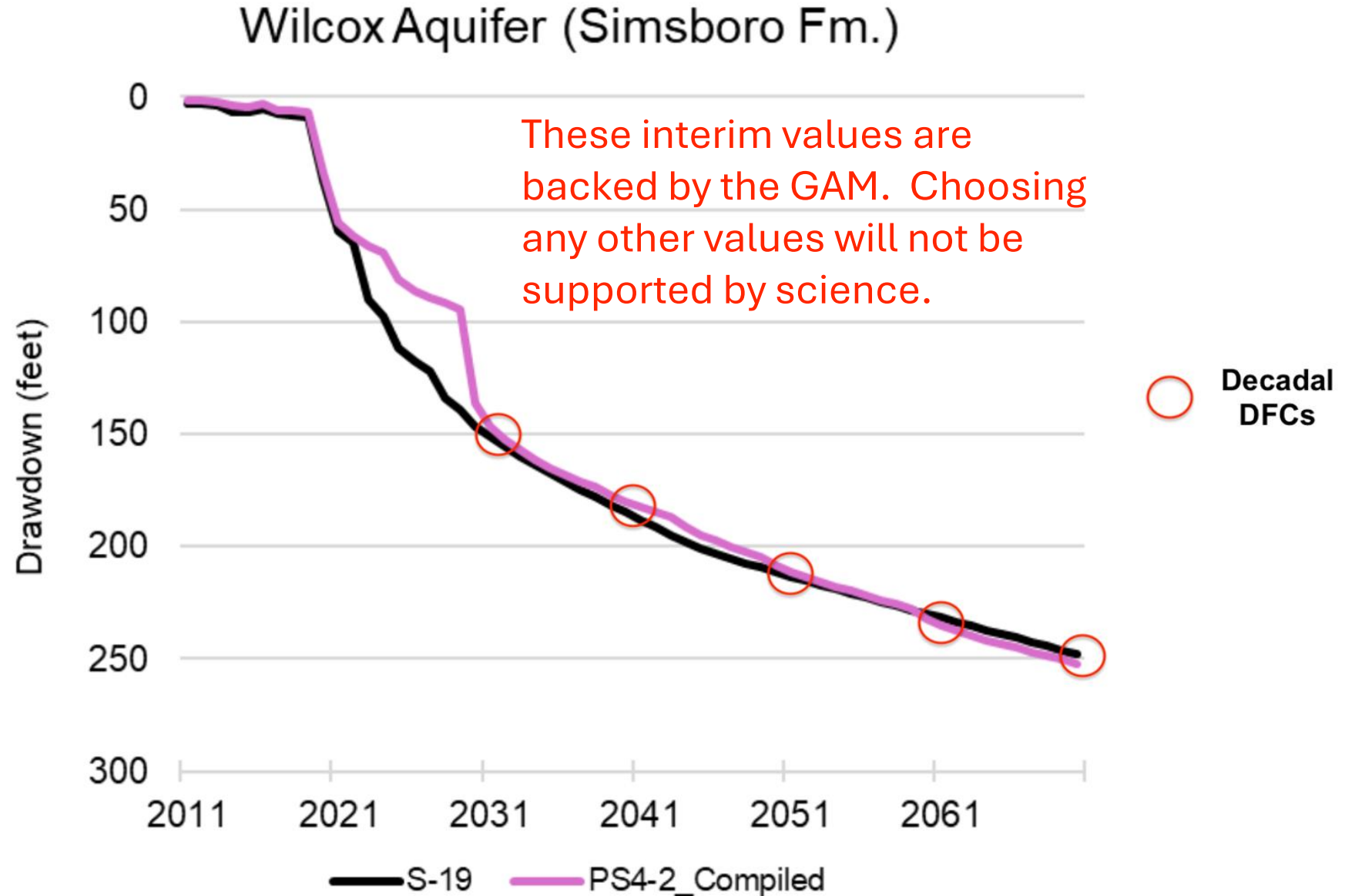
SUBTOTAL 35,240.10
TAX (6.75%) 691.21

TOTAL \$35,931.31

Summary of Impacts Analysis

- LPGCD production does not impact any GMA12 GCD, other than POSGCD, and only then minimally.
- 4 out of the 5 GMA12 GCDs are largely impacted by production from outside their District and beyond their control.
- A significant amount of BVGCD Simsboro production is sourced from POSGCD.
- Vista Ridge production is causing ongoing impacts to Lee Co. First in the Carrizo and now in the Calvert Bluff.
- Coordinated managed aquifer drawdowns, on a regional level, is the only viable solution. It makes little sense for a GCD to curtail, if the neighboring GCDs aren't. Otherwise, it is a race to the bottom to see who hits the DFC first.

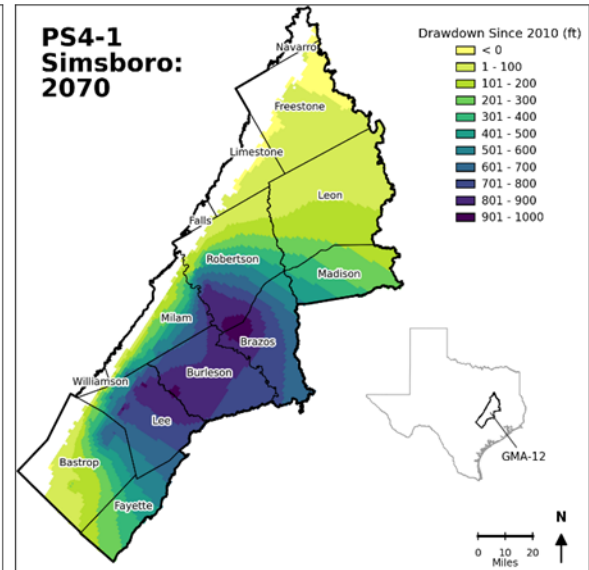
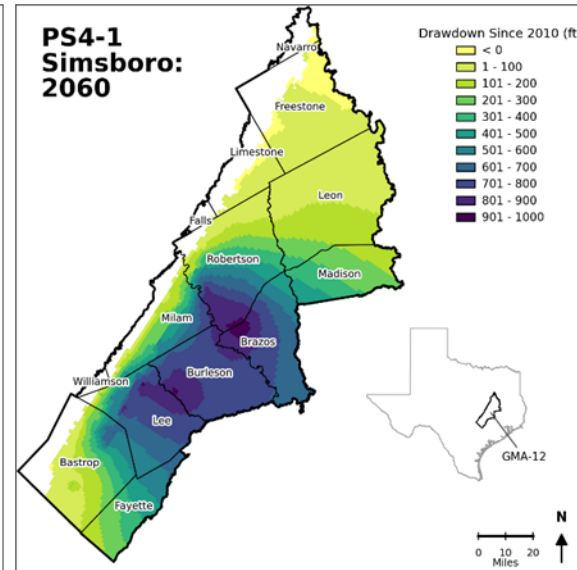
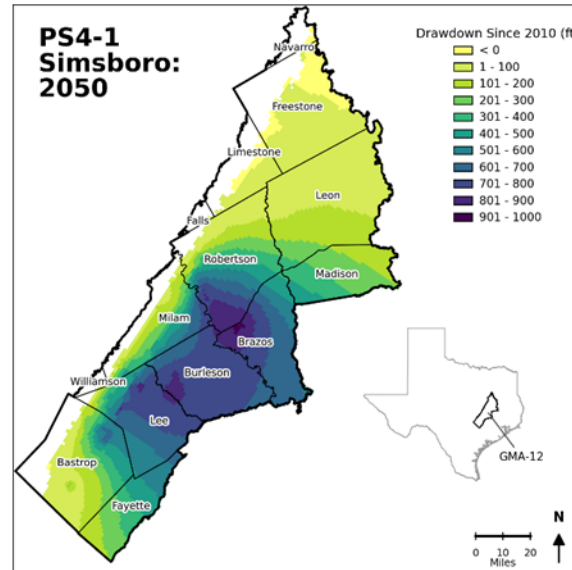
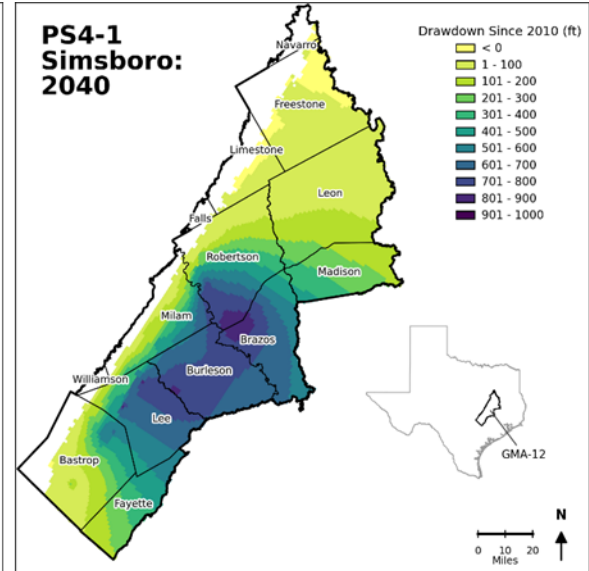
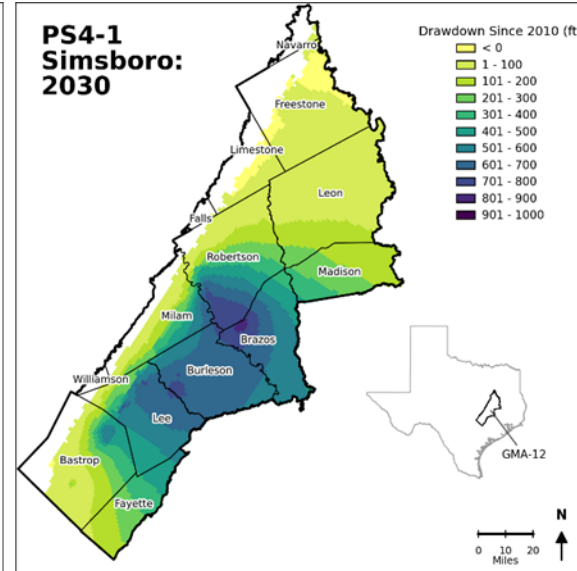
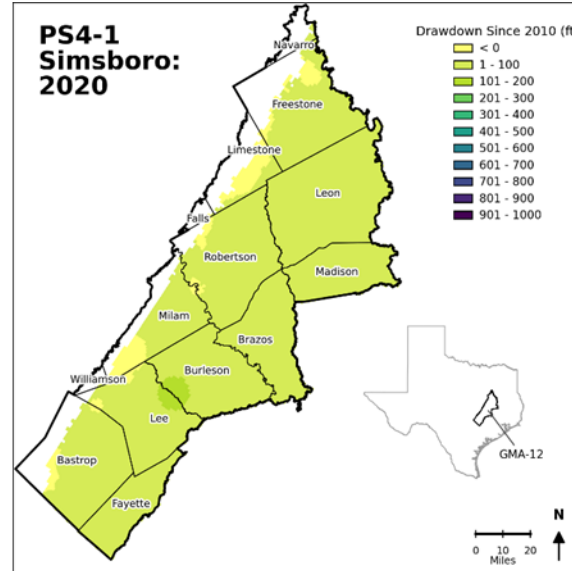
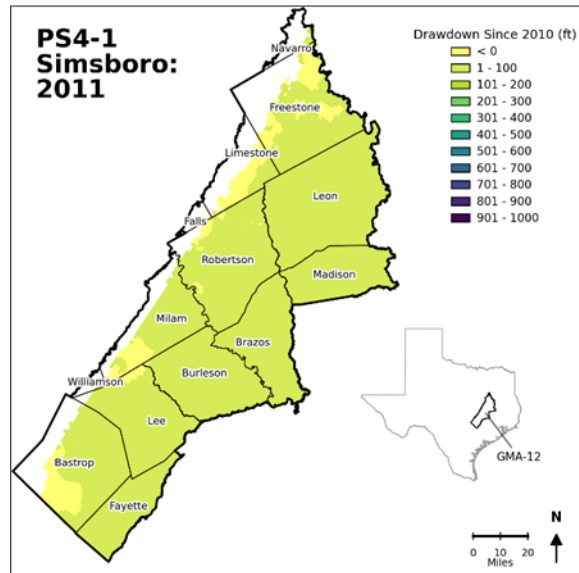
Interim decadal values are “solely to assist the districts in monitoring interim progress in achieving the DFC”



Static figures from animations on previous slides

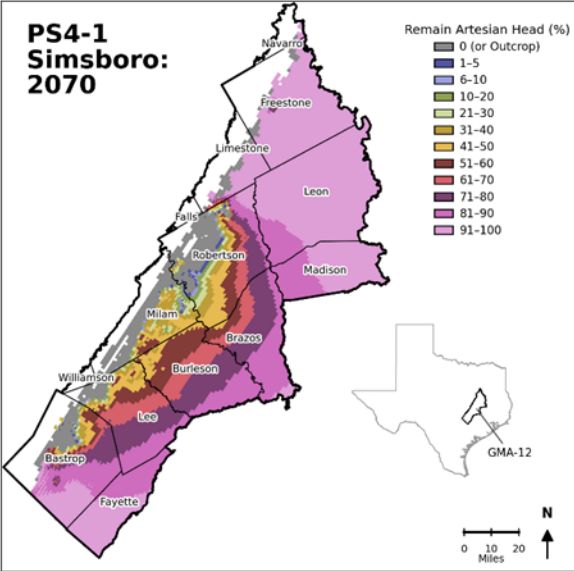
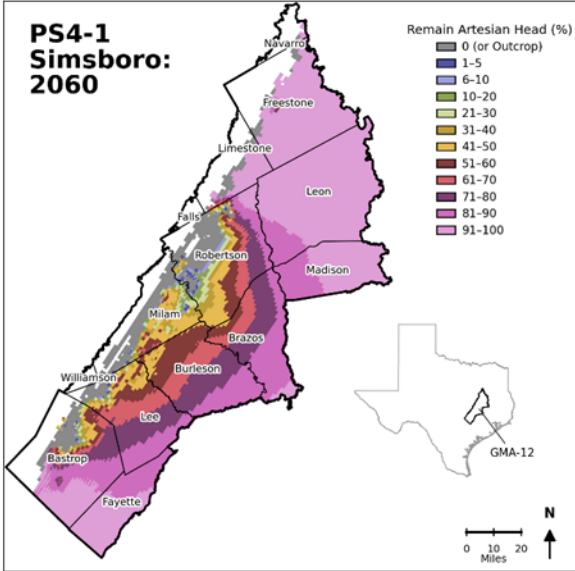
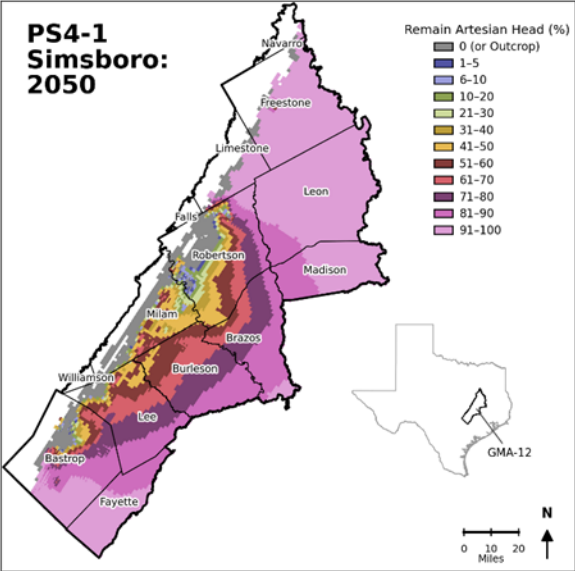
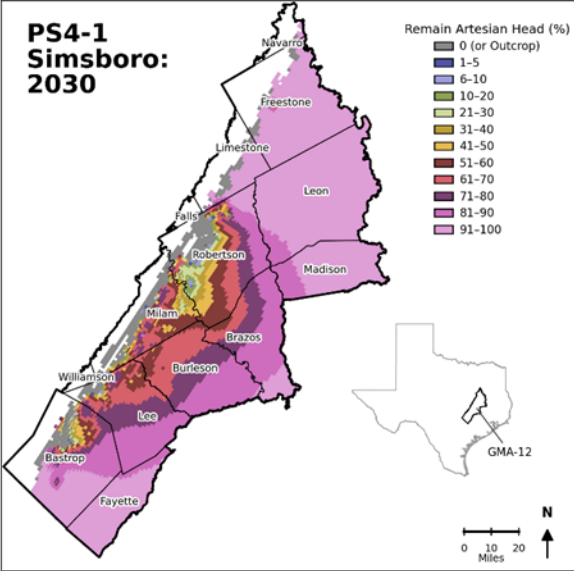
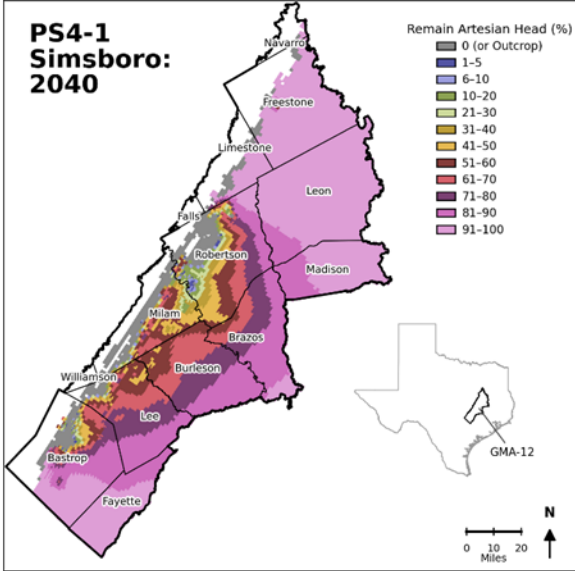
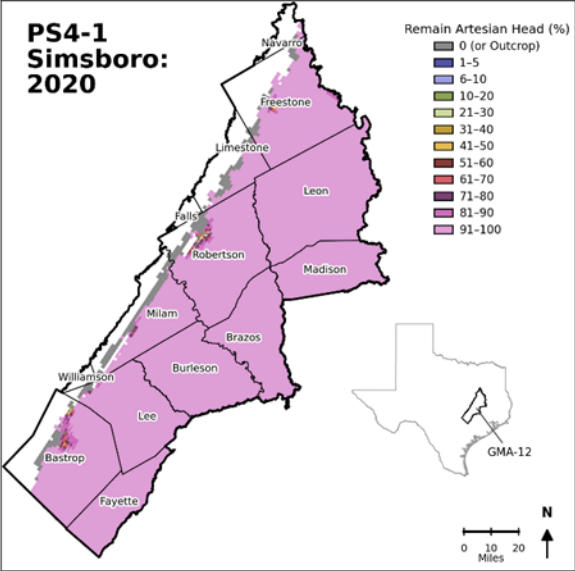
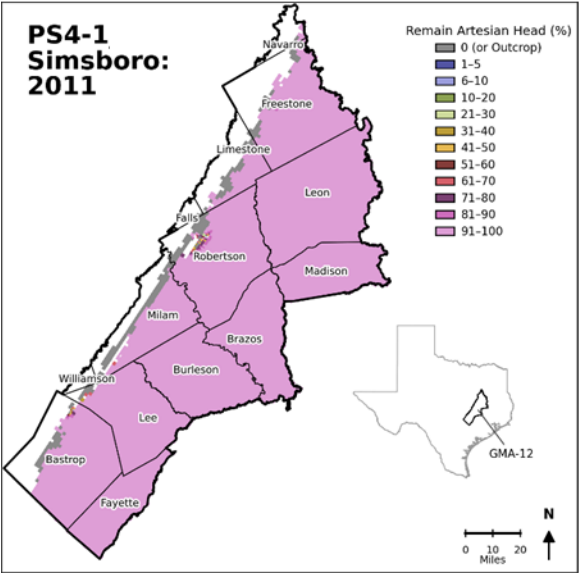
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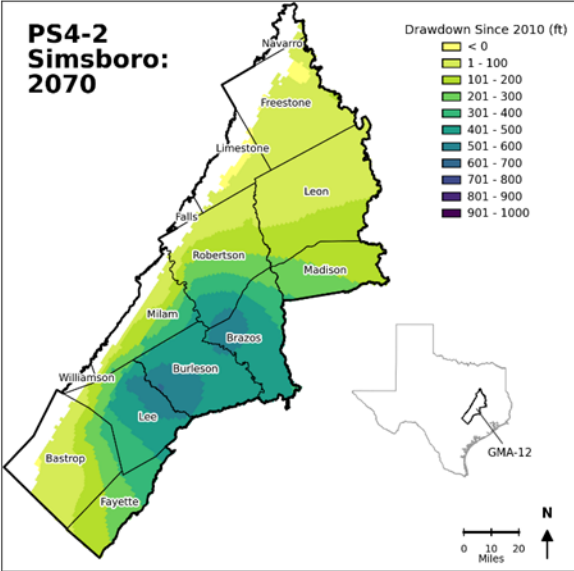
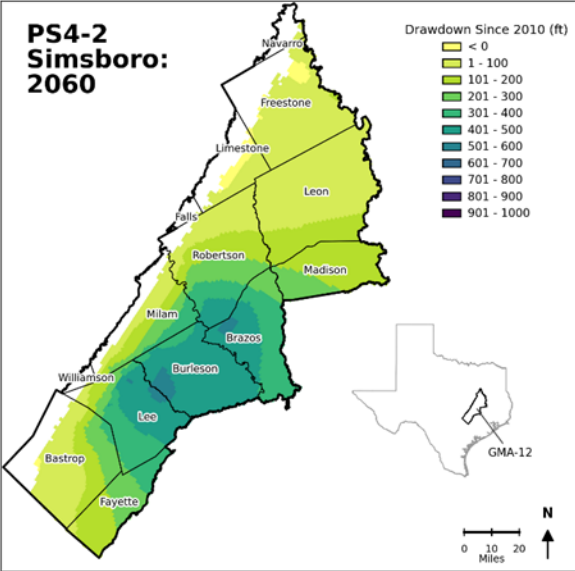
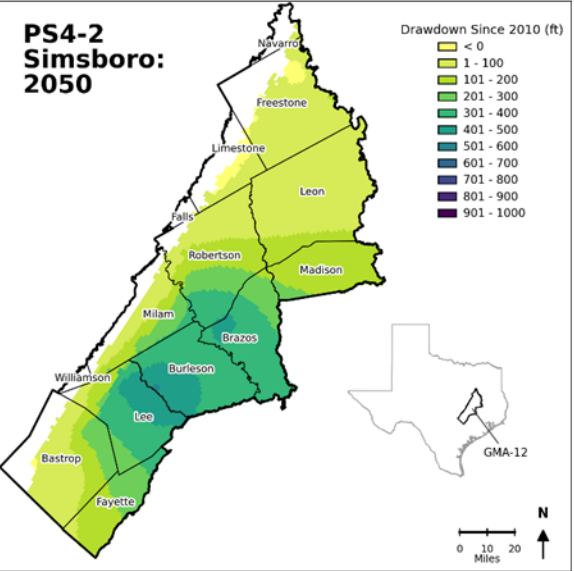
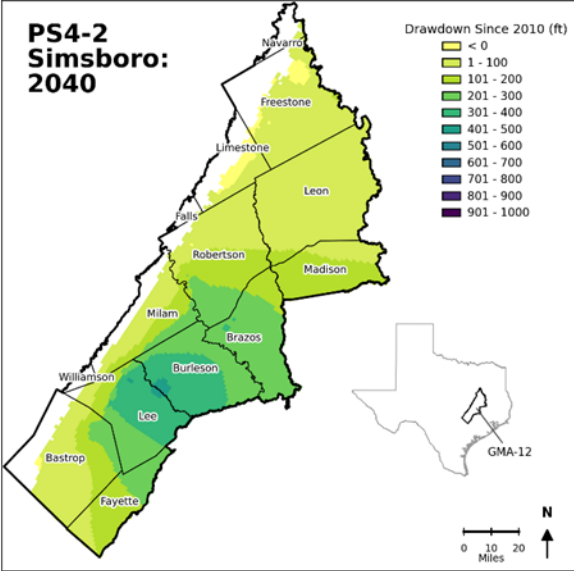
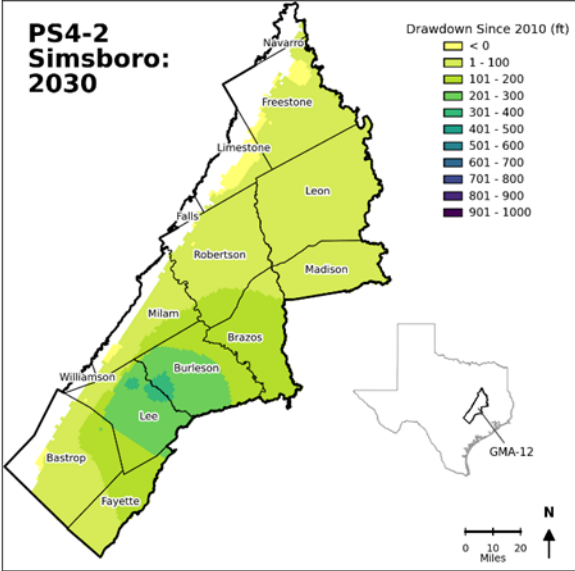
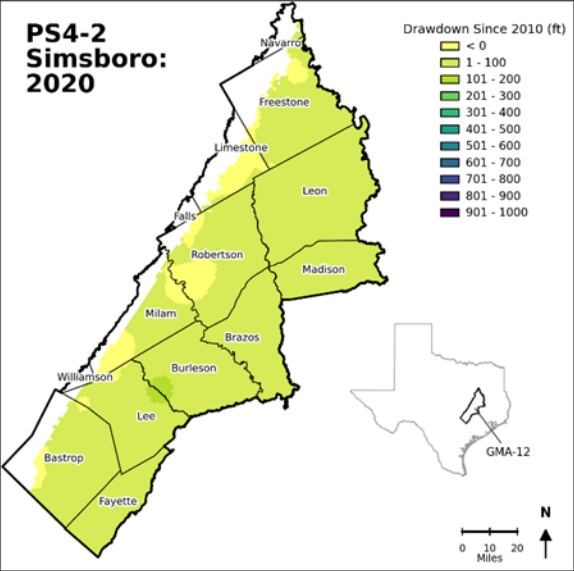
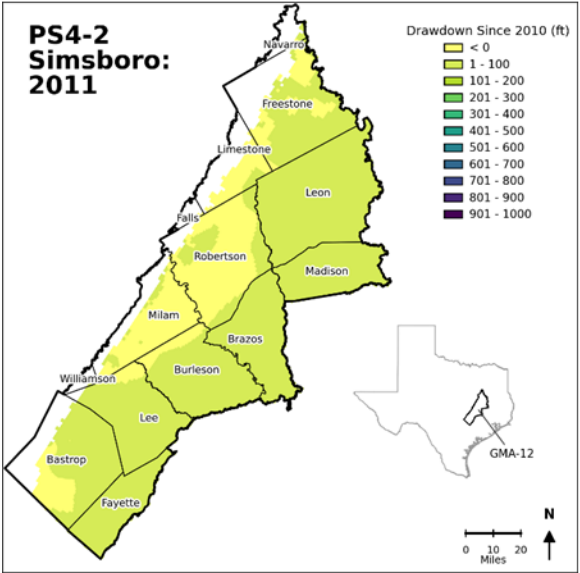
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