



ERCOT, S2S

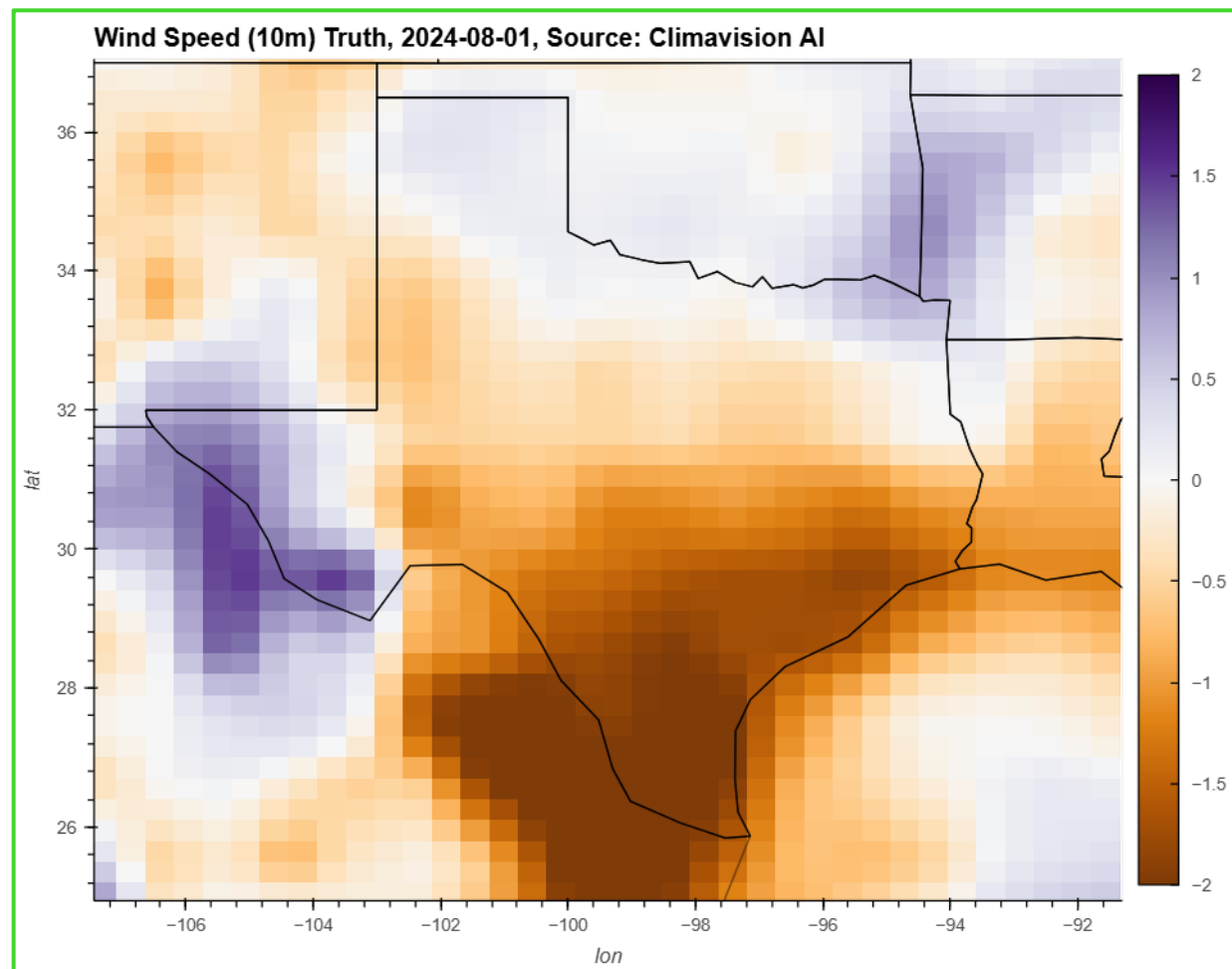
Seasonal Anomalies

Summer, 2024

ERCOT

Seasonal Anomalies

The summer of 2024 was marked by significant temperature and wind anomalies across the ERCOT region, creating challenges for grid operators and energy traders alike. Horizon AI S2S demonstrated its value by delivering early and consistent signals of these anomalies, helping users stay ahead of evolving weather conditions.



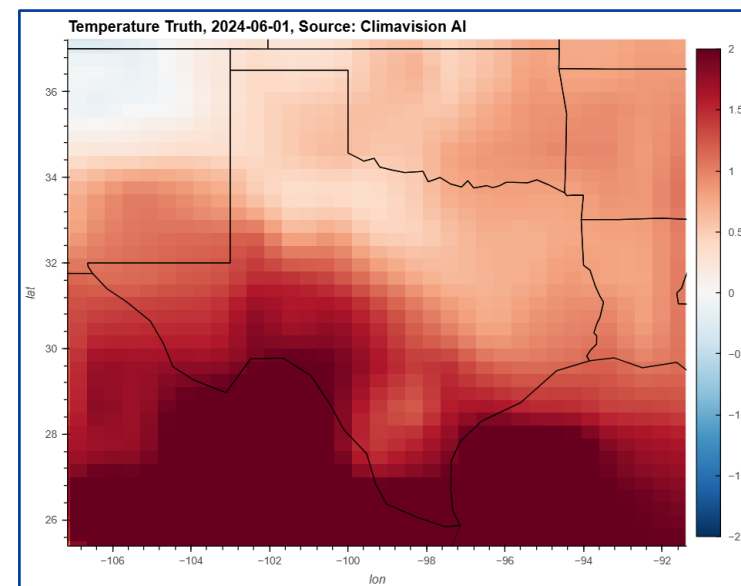
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June: Horizon AI S2S consistently forecasted a warmer-than-average June, particularly in west and central Texas. While SEAS5 trended cooler in northern Texas, Horizon AI S2S provided accurate early indications of stronger warm anomalies, aligning closely with observed conditions. Additionally, S2S identified near to below average winds, which matched observed anomalies. While the strength and coverage of the calm conditions was not captured, S2S still outperformed SEAS5, which lacked consistency in its wind forecasts and expected winds to be slightly above average.

Temp



Start Date	Forecast Label	Region	Backtest Anomaly	Truth Anomaly	Model Source	Issuance Date	Window Start	Forecast Window	Data Type
Jun-24	1 Month Out Forecast	ERCOT	0.851235032	1.43504858	Climavision AI	2024-05-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	1 Month Out Forecast	ERCOT	0.667991757	1.434528926	ECMWF SEAS5	2024-05-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	2 Month Out Forecast	ERCOT	0.838186979	1.43504858	Climavision AI	2024-04-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	2 Month Out Forecast	ERCOT	0.309958667	1.434528926	ECMWF SEAS5	2024-04-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	3 Month Out Forecast	ERCOT	0.710630655	1.43504858	Climavision AI	2024-03-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	3 Month Out Forecast	ERCOT	0.546942174	1.434528926	ECMWF SEAS5	2024-03-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	4 Month Out Forecast	ERCOT	0.502909064	1.40523243	Climavision AI	2024-02-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	4 Month Out Forecast	ERCOT	0.47027272	1.404561983	ECMWF SEAS5	2024-02-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	5 Month Out Forecast	ERCOT	0.509986043	1.40523243	Climavision AI	2024-01-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	5 Month Out Forecast	ERCOT	0.495859504	1.404561983	ECMWF SEAS5	2024-01-01	2024-06-01	1 month	Standardized Anomalies

Wind

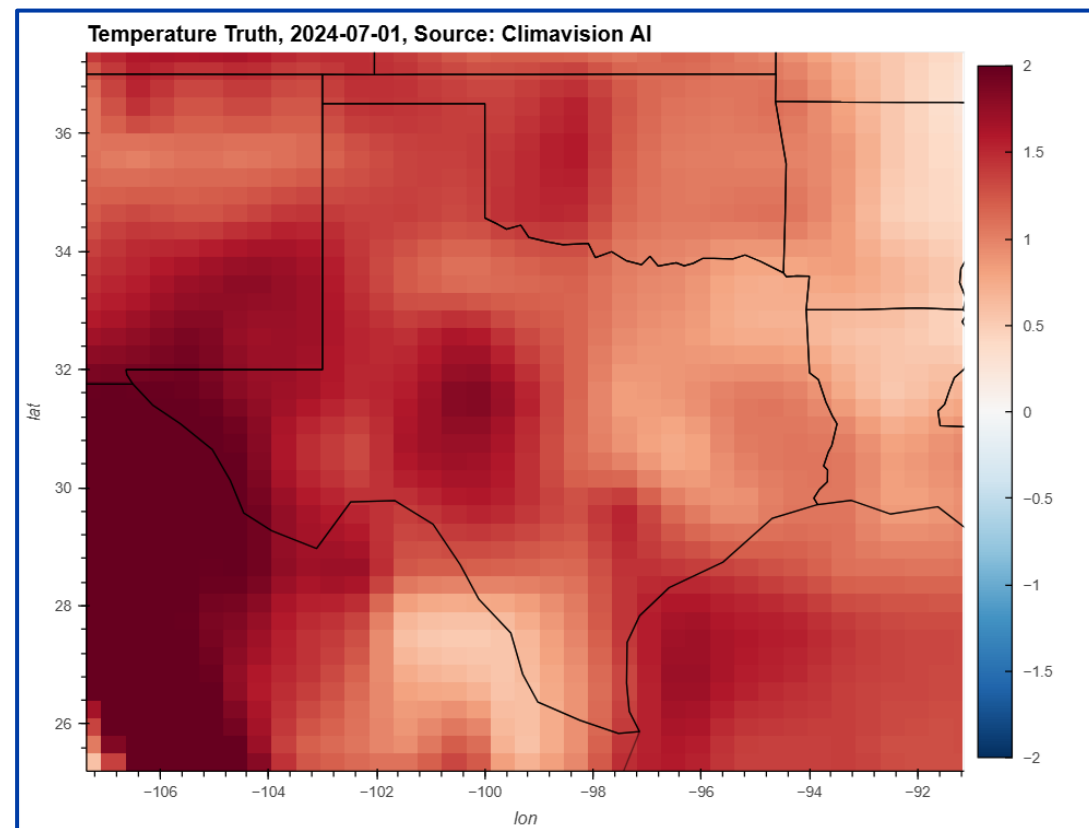
Start Date	Forecast Label	Region	Backtest Anomaly	Truth Anomaly	Model Source	Issuance Date	Window Start	Forecast Window	Data Type
Jun-24	1 Month Out Forecast	ERCOT	-0.04480527	-0.597456634	Climavision AI	2024-05-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	1 Month Out Forecast	ERCOT	0.367347121	-0.604297521	ECMWF SEAS5	2024-05-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	2 Month Out Forecast	ERCOT	0.055831611	-0.597456634	Climavision AI	2024-04-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	2 Month Out Forecast	ERCOT	-0.195454538	-0.604297521	ECMWF SEAS5	2024-04-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	3 Month Out Forecast	ERCOT	0.015825413	-0.597456634	Climavision AI	2024-03-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	3 Month Out Forecast	ERCOT	0.300008267	-0.604297521	ECMWF SEAS5	2024-03-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	4 Month Out Forecast	ERCOT	-0.274332643	-0.617050648	Climavision AI	2024-02-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	4 Month Out Forecast	ERCOT	0.273776859	-0.623561983	ECMWF SEAS5	2024-02-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	5 Month Out Forecast	ERCOT	-0.109195761	-0.617050648	Climavision AI	2024-01-01	2024-06-01	1 month	Standardized Anomalies
Jun-24	5 Month Out Forecast	ERCOT	0.304082632	-0.623561983	ECMWF SEAS5	2024-01-01	2024-06-01	1 month	Standardized Anomalies

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July: Temperatures were warmer than average across ERCOT in July, which S2S forecasted consistently and well in advance. In contrast, SEAS5 forecasted lower warm anomalies and gradually trended towards a cooler than average July in northeast Texas, which did not verify.



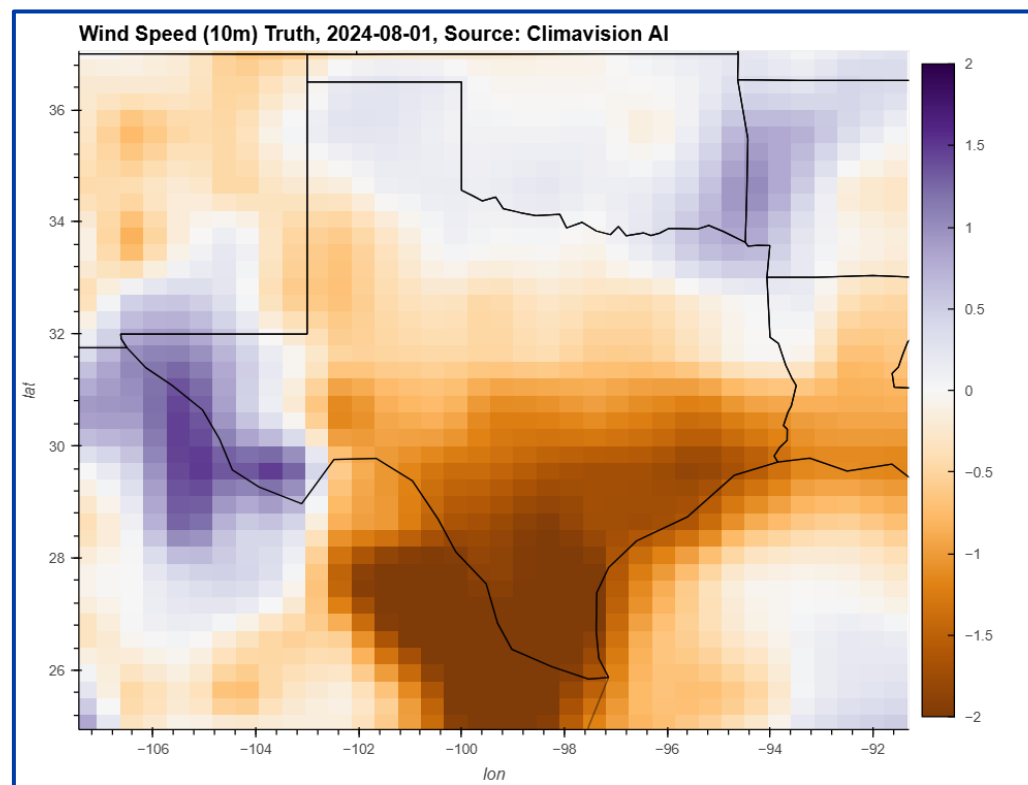
Start Date	Forecast Label	Region	Backtest Anomaly	Truth Anomaly	Model Source	Issuance Date	Window Start	Forecast Window	Data Type
Jul-24	1 Month Out Forecast	ERCOT	1.245928168	1.287866235	Climavision AI	2024-06-01	2024-07-01	1 month	Standardized Anomalies
Jul-24	1 Month Out Forecast	ERCOT	0.812090933	1.285793388	ECMWF SEAS5	2024-06-01	2024-07-01	1 month	Standardized Anomalies
Jul-24	2 Month Out Forecast	ERCOT	0.693082631	1.271292329	Climavision AI	2024-05-01	2024-07-01	1 month	Standardized Anomalies
Jul-24	2 Month Out Forecast	ERCOT	0.608008265	1.268966942	ECMWF SEAS5	2024-05-01	2024-07-01	1 month	Standardized Anomalies
Jul-24	3 Month Out Forecast	ERCOT	0.920362592	1.287866235	Climavision AI	2024-04-01	2024-07-01	1 month	Standardized Anomalies
Jul-24	3 Month Out Forecast	ERCOT	0.657768607	1.285793388	ECMWF SEAS5	2024-04-01	2024-07-01	1 month	Standardized Anomalies
Jul-24	4 Month Out Forecast	ERCOT	0.73771745	1.271292329	Climavision AI	2024-03-01	2024-07-01	1 month	Standardized Anomalies
Jul-24	4 Month Out Forecast	ERCOT	0.782619834	1.268966942	ECMWF SEAS5	2024-03-01	2024-07-01	1 month	Standardized Anomalies
Jul-24	5 Month Out Forecast	ERCOT	0.669391036	1.295792341	Climavision AI	2024-02-01	2024-07-01	1 month	Standardized Anomalies
Jul-24	5 Month Out Forecast	ERCOT	0.655314028	1.293876033	ECMWF SEAS5	2024-02-01	2024-07-01	1 month	Standardized Anomalies

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August: S2S identified higher wind speeds in western Texas and lower speeds in the east and south as early as May. These forecasts provided actionable insights for grid optimization and renewable energy planning.



Start Date	Forecast Label	Region	Backtest Anomaly	Truth Anomaly	Model Source	Issuance Date	Window Start	Forecast Window	Data Type
Aug-24	1 Month Out Forecast ERCOT		0.201409087	-0.605249465	Climavision AI	2024-07-01	2024-08-01	1 month	Standardized Anomalies
Aug-24	1 Month Out Forecast ERCOT		-0.212355375	-0.608198347	ECMWF SEAS5	2024-07-01	2024-08-01	1 month	Standardized Anomalies
Aug-24	2 Month Out Forecast ERCOT		0.062301137	-0.605249465	Climavision AI	2024-06-01	2024-08-01	1 month	Standardized Anomalies
Aug-24	2 Month Out Forecast ERCOT		0.008338843	-0.608198347	ECMWF SEAS5	2024-06-01	2024-08-01	1 month	Standardized Anomalies
Aug-24	3 Month Out Forecast ERCOT		0.130833164	-0.605249465	Climavision AI	2024-05-01	2024-08-01	1 month	Standardized Anomalies
Aug-24	3 Month Out Forecast ERCOT		-0.033950415	-0.608198347	ECMWF SEAS5	2024-05-01	2024-08-01	1 month	Standardized Anomalies
Aug-24	4 Month Out Forecast ERCOT		0.014210227	-0.605249465	Climavision AI	2024-04-01	2024-08-01	1 month	Standardized Anomalies
Aug-24	4 Month Out Forecast ERCOT		0.301727265	-0.608198347	ECMWF SEAS5	2024-04-01	2024-08-01	1 month	Standardized Anomalies
Aug-24	5 Month Out Forecast ERCOT		0.02923657	-0.605249465	Climavision AI	2024-03-01	2024-08-01	1 month	Standardized Anomalies
Aug-24	5 Month Out Forecast ERCOT		0.263611555	-0.608198347	ECMWF SEAS5	2024-03-01	2024-08-01	1 month	Standardized Anomalies