## 2022 Mississippi River Low Flow Event Predicted By AbsoluteClimo

AbsoluteClimo's Years Ahead Accurate Hydroclimate Forecast Verifies As Correct
River Flows Impact Renewable Energy, Agriculture, Commerce
*Extra big takeaway: IPCC / government climate models do not forecast streams or rivers*

HONOLULU (31 October 2022) - AbsoluteClimo today announces the success of our accurate 2022 Mississippi River **low river flow** forecast, predicted years ago by our own independent global climate model. Last week the Associated Press reported, "… *water levels on the river have dropped to near-record lows, disrupting ship and barge traffic that is critical for moving recently harvested agricultural goods such as soybeans and corn downriver for export.*" As shown (Figure 1), AbsoluteClimo's global climate model years ago correctly forecast this year's Mississippi River low river flow event compared with verifiable observed results provided courtesy of the U.S. Geological Survey (Figure 2).
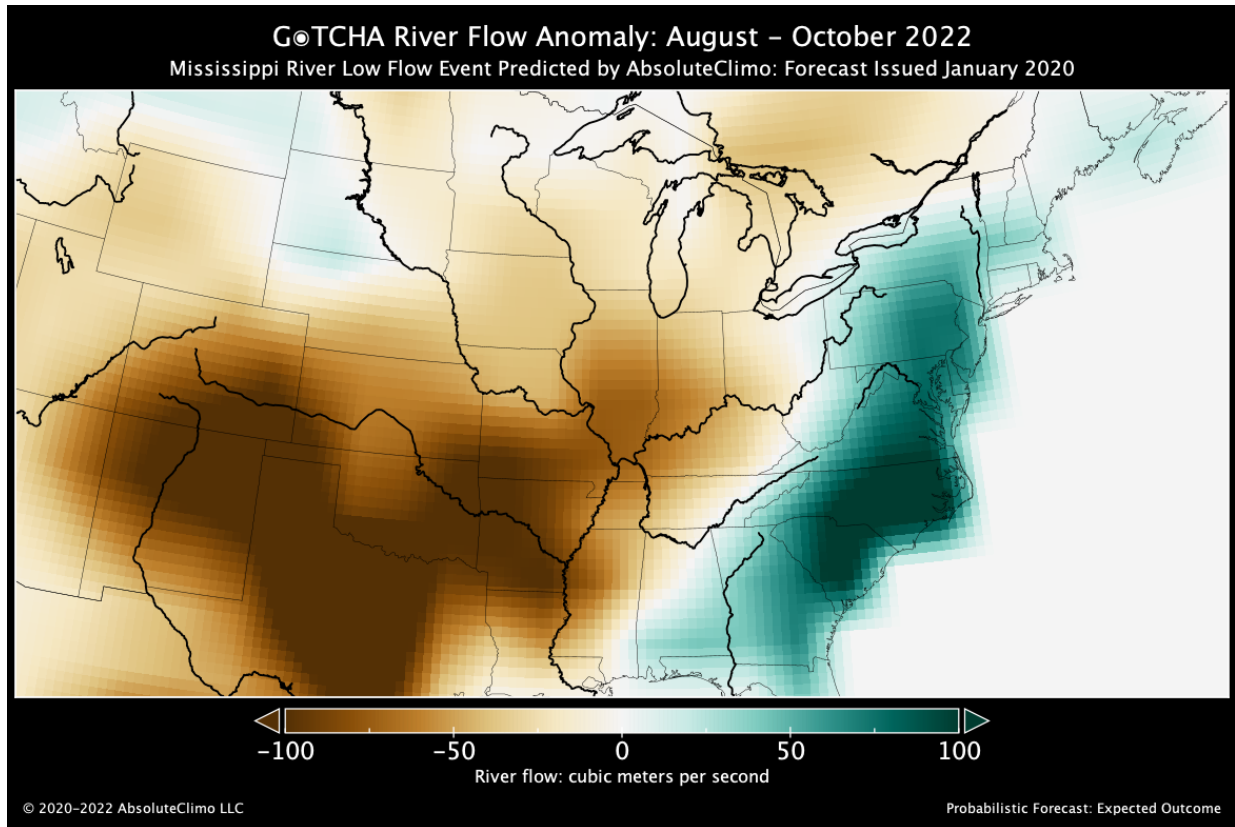
Figure 1. AbsoluteClimo's independent global climate model (GⓞTCHA™) ensemble mean forecast for August through October 2022 of river flow anomalies, issued January 2020, including directionally correct below normal flow anomalies of rivers feeding the Mississippi such as the Wisconsin, Illinois, Des Moines, Missouri, Ohio, and Red rivers. GⓞTCHA provides consistently skillful forecasts of river flows. Government / IPCC models do not forecast rivers.

Thursday, October 27, 2022
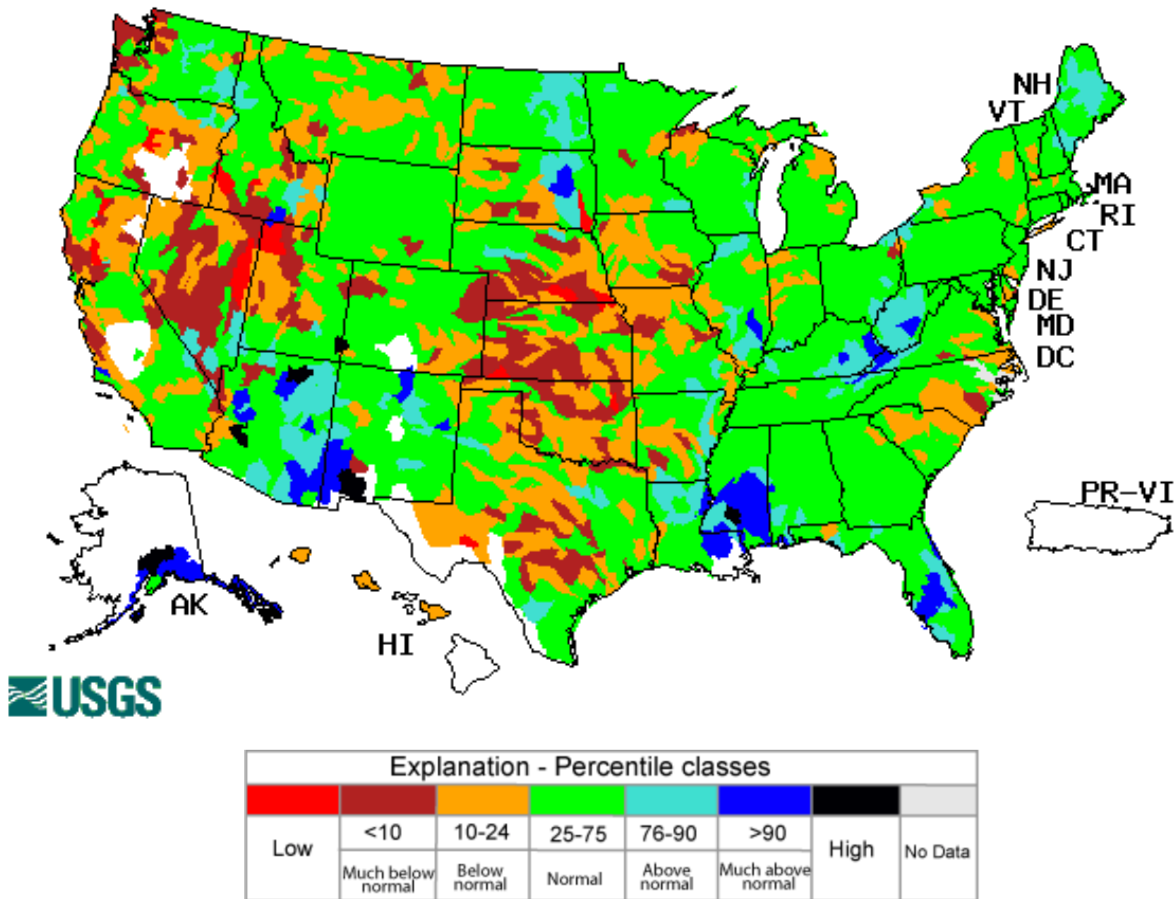
Figure 2. Observed 90-day average stream and river flows compared to historical flows for the day of the year ending 27 October 2022, provided by the U.S. Geological Survey (USGS), indicates substantial below and much below normal flow anomalies across a massive expanse of the U.S. impacting the Mississippi River including rivers feeding the Mississippi.

Key Takeaways:

‣ GⓞTCHA's forecast skill of this Mississippi River low flow event persisted into 2021 & 2022.

‣ AbsoluteClimo provides 1 to 30+ year hydroclimate forecasts of stream and river flows, snowmelt, runoff, and subsurface flows. IPCC / government climate models do not.

‣ Hydroclimate probabilistic forecasts, including stream and river flows, are critical to renewable energy investment calculations and decision making, seasonal to annual hedging, project planning and impact investing, agriculture and tourism commerce.

G⊙TCHA™
by AbsoluteClimo

Clim⊙Energy™
by AbsoluteClimo

Clim⊙Cats™
by AbsoluteClimo

‣ AbsoluteClimo's advances in consistently skillful (accurate) numerical climate prediction includes multi-domain expertise <u>and</u> decades of forecasting practitioner experience <u>beyond</u> meteorology (atmospheric science), including hydrology, the geosphere (land), ocean science, computer science (including machine learning) and financial modeling.

‣ Clim⊙Energy™ is AbsoluteClimo's long lead climate physics risk and opportunity probabilistic prediction modeling and solutions for energy trading and hedging, energy and infrastructure financing, planning and decision making – also critical to transition risk.

‣ AbsoluteClimo's global climate model G⊙TCHA with <u>57</u> climate elements (is):
  ✓ independently developed, R&D funded by our co-founders starting over ten years ago;
  ✓ developed with our science team's know-how and decades of practioner experience;
  ✓ consistently skillful (accurate), well calibrated, run at scale, rigorously tested and <u>stable</u>;
  ✓ provides medium to high confidence in detailed uncertainty about the future of climate;
  ✓ used successfully in business commerce, including climate catastrophe risk assessment;

‣ IPCC / government climate models (are):
  - hampered by "what-if" scenarios (guesstimates are not forecasts);
  - provide <u>low</u> confidence in the detailed uncertainty about the future of climate;
  - limited to global averages (e.g., temperature, CO_2);
  - too coarse to resolve details, have few climate elements e.g., temperatures, CO_2
  - <u>missing</u> critical elements of climate system such as stream & river flows, or Great Lakes;
  - <u>unstable</u>, recently made <u>worse</u> [*"You solve one problem and create another."*];
  - all of which limits or negatively impacts all of their downstream dependents, reusers, repurposers, repackagers, blenders, forks, downscalers (garbage in / garbage out);

‣ AbsoluteClimo provides a world-first <u>fully</u> integrated global climate model with artificial intelligence (machine learning) for predicting climate related outputs such as losses or business revenue, capable of generating alpha on seasonal and annual scales with a world-first unrivaled success-based business model.

About AbsoluteClimo

AbsoluteClimo's (<u>absoluteclimo.com</u>) mission is bettering life on Earth (⊙) by helping people impacted by climate variability and change. AbsoluteClimo LLC, founded in 2016 in Honolulu, is a Hawai'i headquartered world leading climate forecasting and risk management company created and operated by pioneering reputable climatologists, meteorologists and seasoned entrepreneurs with accomplished scientific <u>and</u> business industry track record. Media contact: Arnold Ku <u>arnold.ku@absoluteclimo.com</u>