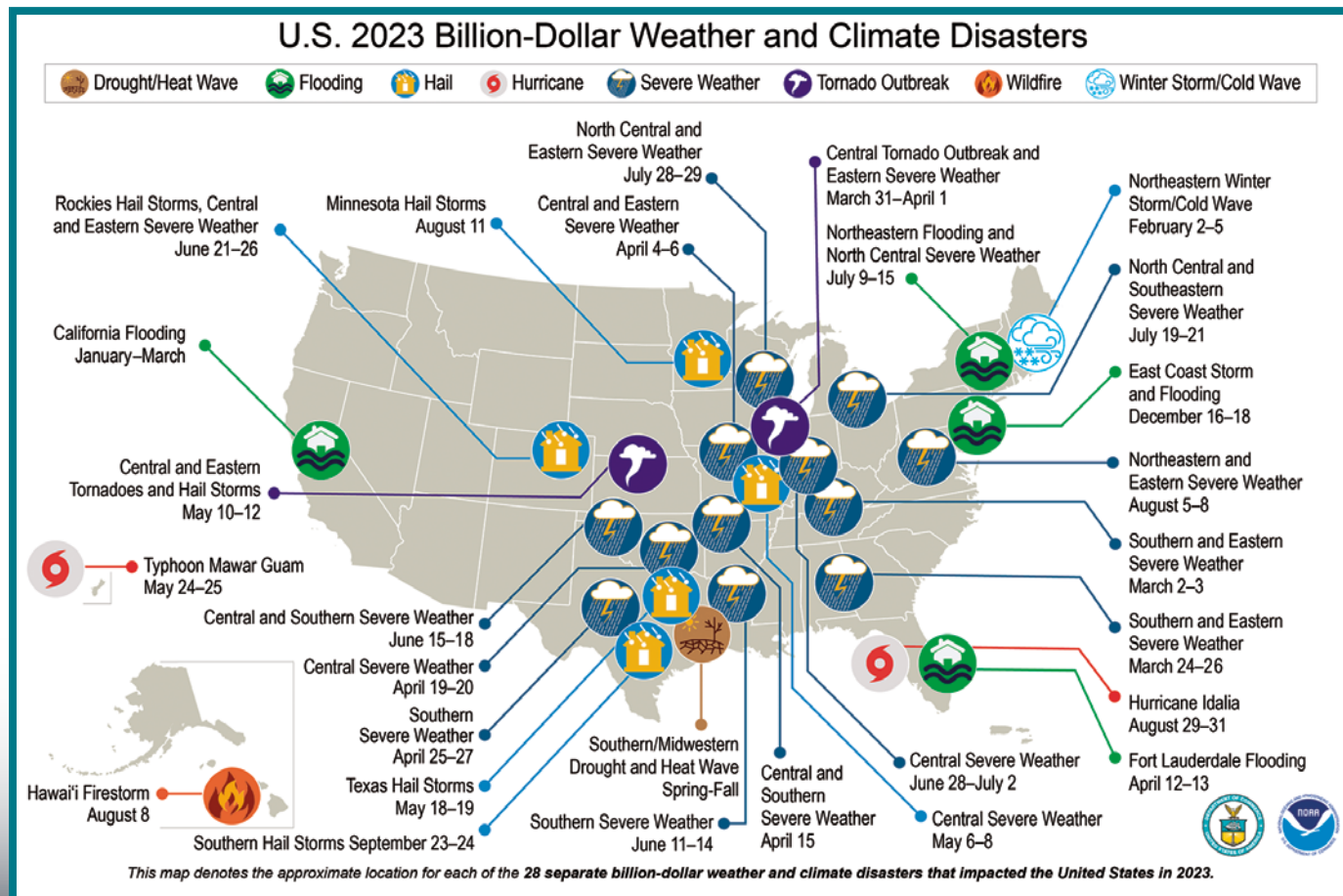


Resilience in the Face of Extreme Weather

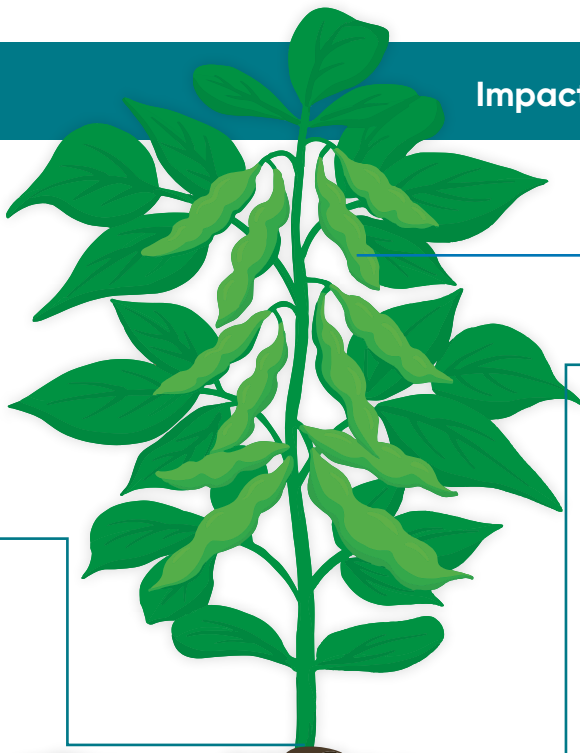
Severe storms, droughts, increasing temperatures, pests and changing rainfall patterns are only some of the elements that today's farmers must juggle when crop planning and choosing soybean varieties. Extreme weather has been wreaking havoc on major crop-producing states in recent years and this pattern doesn't appear to be letting up. An evaluation of "billion-dollar weather and climate disasters" over the last 43 years showed an annual average of 2.6 disasters in Illinois, 2.1 in Indiana and 1.8 in Iowa. In comparison to only the last five years, the annual averages jump to 6.2, 5.4 and 4.8 respectively – more than double the historic rate in each state.¹ As the industry looks forward, corn and soybean technologies need to continue to evolve alongside changes in weather.

Weather-related crop damages: Looking at the numbers²



Impact of weather-based challenges on soybeans

Wet and cool soils: Increase the potential for seedling diseases, slow plant growth and reduced root development.



Drought: Limits above-ground growth and reduces the size of leaves and canopy, potentially allowing weeds to gain a foothold. In severe drought conditions, soybeans may flower early, shed flowers or pods and see reduced seed size, seed weights and yields.

Flooding: Reduces oxygen availability and interrupts plant functions including respiration and nutrient and water uptake. Short-term saturation reduces germination by up to 20%, while longer periods of saturation can lower germination rates by up to 70%.³

A step in the right direction: Soybean traits and genetics

Considering the changing patterns of extreme weather, soybeans varieties continue to evolve. Modern soybean varieties are increasingly resistant to heat stress and drought or other extreme conditions. And the latest herbicide traits, like those found in Enlist E3[®] soybeans, also provide tolerance to multiple herbicides giving farmers more flexibility to battle what Mother Nature throws at them. But the innovations need to continue. That's why Corteva Agriscience invests nearly \$4 million in innovation every day. More than 5,000 R&D team members at over 100 research sites and 2,000 testing locations worldwide are dedicated to finding and delivering next-generation breakthroughs.



¹ NOAA National Centers for Environmental Information (NCEI), "U.S. Billion-Dollar Weather and Climate Disasters: United States Summary." 2024. <https://www.ncei.noaa.gov/access/billions/state-summary/US>.

² NOAA National Centers for Environmental Information (NCEI), "U.S. Billion-Dollar Weather and Climate Disasters." 2024. <https://www.ncei.noaa.gov/access/billions/>.

³ Licht, Mark. "Ponding Impacts on Soybean Growth and Development." Iowa State University Extension and Outreach. ND. <https://crops.extension.iastate.edu/encyclopedia/ponding-impacts-soybean-growth-development>.

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