



Exploring integrated solutions from the land for addressing food and energy production, economic development, biological diversity and climate change challenges.



## Weather Disasters Underscore Need for Adaptive Management Programs

Blog posted on March 21, 2019 by Solutions from the Land

Weather-induced disasters in multiple points across the nation in recent weeks seem to be occurring at a rate that has run unabated in recent years. Massive flooding in the Missouri River basin has taken lives and caused billions of dollars in agricultural losses in the Midwest.

Flooding is continuing throughout this week in Nebraska, Iowa and Missouri where a late winter storm – a so-called "bomb cyclone" – has sent river waters soaring above their banks, breaching more than a dozen levees and causing fatalities. Property losses are huge and still mounting as they continue to be estimated. Solutions from the Land (SfL) extends its sympathy for the losses that are being suffered by the people of the region and hope residents there can find the strength needed to bring about a full recovery.

They are dealing with a horrific scene where the seams of hundreds, if not thousands, of steel-built soybean and corn storage bins have been split from the expansion of the water-soaked crops they hold. Vast sections of roads have been destroyed and locks and dams are shut down, making the transportation of soybeans and corn that did survive nearly impossible. Livestock producers have not been spared, with thousands of animals succumbing to floodwaters. Irrigation systems have been destroyed and many farmers question whether fields will dry out in time for planting to remain viable.

Across the affected regions, scores of counties have been designated as official disaster areas, making them eligible for emergency funds and other resources.

There are many complex factors at play in extreme weather events, but what the world has been experiencing, including the horrific events in the United States in the last few weeks, is certainly consistent with the indicators of a planet undergoing climate change.

While not all symptoms of a changing climate are as severe as those seen this month, they do include higher, drought-inducing temperatures, wetter conditions, inconsistent growing seasons and other production altering events. The implications of the record-setting weather events that have occurred in recent weeks drive home the need for adaptive management strategies like those advocated by SfL.

Through collaboration and dialogue, SfL has articulated a vision for adaptive, resilient land management to meet the multiple goals of the 21<sup>st</sup> century. These goals consist of global food

and energy security, economic development, biodiversity, and climate change adaptation. We have spotlighted the need for land, water and other natural resources to be managed both in an integrated manner and at the scale necessary for those goals to be met.

As discussion of climate change grows substantially in this Congress and on the 2020 election campaign trail, policy makers are becoming more aware of the risks of inaction, especially given the acceleration of weather-related impacts on agriculture, forests, watersheds, biodiversity and people. Identifying and acknowledging these risks are the first steps in developing strategies to adapt to new climate patterns.

By building coalitions of land managers, scientists, government and value chain partners and others around agro-forest ecosystems or landscapes, better efforts can be made to ensure continued production of essential food, feed, fiber, energy and similar products in a time of changing climates, all while improving the delivery of environmental and economic values from the land.

SfL and our partners in the North America Climate Smart Agriculture Alliance (NACSAA) are working to secure approval of climate smart agriculture enabling policies and programs globally, via the UNFCCC's Koronivia Joint Work on Agriculture, and here in North America through well-designed enabling policies at the national and state/provincial level. We seek to harmonize policy frameworks to eliminate their overlapping and often contradictory objectives, while ensuring that land managers are rewarded for their stewardship of ecosystem services. We strive to energize and coordinate research into the complex issues that impact our climate, while transforming and modernizing the information networks that can support the efforts to address the volatile weather that comes with climate change.

At the ground level, SfL promotes the diversification of cropping systems, soil health initiatives, nutrient use efficiency, precision agriculture technologies and other measures that can buffer crop production from variable weather fluctuations, all while promoting crop health and reducing pest pressures. Adaptation measures for livestock producers include changes in stocking rates, rotational grazing as well as new conservation practices to ensure adequate pasture and water availability.

SfL calls on policy makers at all levels to take note of the catastrophic events that have taken a harsh toll on our farmers, livestock producers, forestland owners and their broader rural communities this month and provide the tools – programs, funding, research – that can enhance the adaptive capacity of North America agriculture and safeguard our lands for the changes that lie ahead in the 21<sup>st</sup> century.