Menu of Adaptation Strategies and Approaches

Developed for Agricultural Systems

Strategy 1: Sustain fundamental functions of soil and water.

1.1. Maintain and improve soil health.
1.2. Protect water quality.
1.3. Match practices to water supply and demand.

Strategy 2: Reduce existing stressors of crop and livestock.

2.1. Reduce the impacts of pests and pathogens on crops.
2.2. Reduce competition from weedy and invasive species.
2.3. Maintain livestock health and performance.

Strategy 3: Reduce risks from warmer and drier conditions.

3.1. Adjust the timing or location of on-farm activities.
3.2. Manage crops to cope with warmer and drier conditions.
3.3. Manage livestock to cope with warmer and drier conditions.

Strategy 4: Reduce the risk and long-term impacts of extreme weather.

4.1. Reduce peak flow, runoff velocity, and soil erosion.
4.2. Reduce severity or extent of water-saturated soil and flood damage.
4.3. Reduce severity or extent of wind damage to soils and crops.

Strategy 5: Manage farms and fields as part of the larger landscape.

5.1. Maintain or restore natural ecosystems.
5.2. Promote biological diversity across the landscape.
5.3. Enhance landscape connectivity.

Strategy 6: Alter management to accommodate expected future conditions.

6.1. Diversify crop or livestock species, varieties or breeds, or products.
6.2. Diversify existing systems with new combinations of varieties or breeds.
6.3. Switch to commodities expected to be better suited to future conditions.

Strategy 7: Alter agricultural systems or lands to new climate conditions.

7.1. Minimize potential impacts following disturbance.
7.2. severely altered systems toward future conditions.
7.3. Alter lands in agricultural production.

Strategy 8: Alter infrastructure to match new and expected conditions.

8.1. Expand or improve water systems to match water demand and supply.
8.2. Use structures to increase environmental control for plant crops.
8.3. Improve or develop structures to reduce animal heat stress.
8.4. Match infrastructure and equipment to new and expected conditions.

MORE INFORMATION: *This menu of adaptation strategies and approaches can be used within the Adaptation Workbook decision-support framework found in Swanston, C.W.; Janowiak, M.K.; Brandt, L. A.; Butler, P.R.; Handler, S. D.; Shannon, P.D.; Derby Lewis, A.; Hall, K.; Fahey, R.T.; Scott, L.; Kerber, A.; Miesbauer, J.W.; Darling, L.; Parker, L.; St. Pierre, M. 2016.* ***Forest adaptation resources: climate change tools and approaches for land managers, 2nd ed.*** *Gen. Tech. Rep. NRS-GTR-87-2. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 161 p.* doi.org/10.2737/NRS-GTR-87-2.

SOURCE: *Janowiak, M.; Dostie, D.; Wilson, M.; Kucera, M.; Howard Skinner, R.; Hadfield, J.; Hollinger, D.; Swanston, C. 2016.* ***Adaptation resources for agriculture: responding to climate variability and change in the Midwest and Northeast.*** *Technical Bulletin 1944. Washington, DC: U.S. Department of Agriculture. Available at: climatehubs.usda.gov/hubs/northeast/topic/adaptation-resources-agriculture-responding-climate-variability-and-change.*

This menu is a joint product of the USDA Midwest, Northeast, and Northern Forests Climate Hubs in collaboration with the Agricultural Research Service, Natural Resources Conservation Service, and the Forest Service. Learn more about this menu and others at climatehubs.usda.gov/hubs/northern-forests/topic/adaptation-menus-strategies-and-approaches.