



Healthy Land
Clean Water
For Life

Soil and Water Conservation Society (SWCS) is a nonprofit scientific and educational organization -- founded in 1943 -- that serves as an advocate for conservation professionals and for science-based conservation practice, programs, and policy. SWCS has over 5,000 members around the world. They include researchers, administrators, planners, policymakers, technical advisors, teachers, students, farmers, and ranchers. Our members come from nearly every academic discipline and many different public, private, and nonprofit institutions.

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Conservation Practices to Mitigate and Adapt to Climate Change



**Soil and Water Conservation
Society**

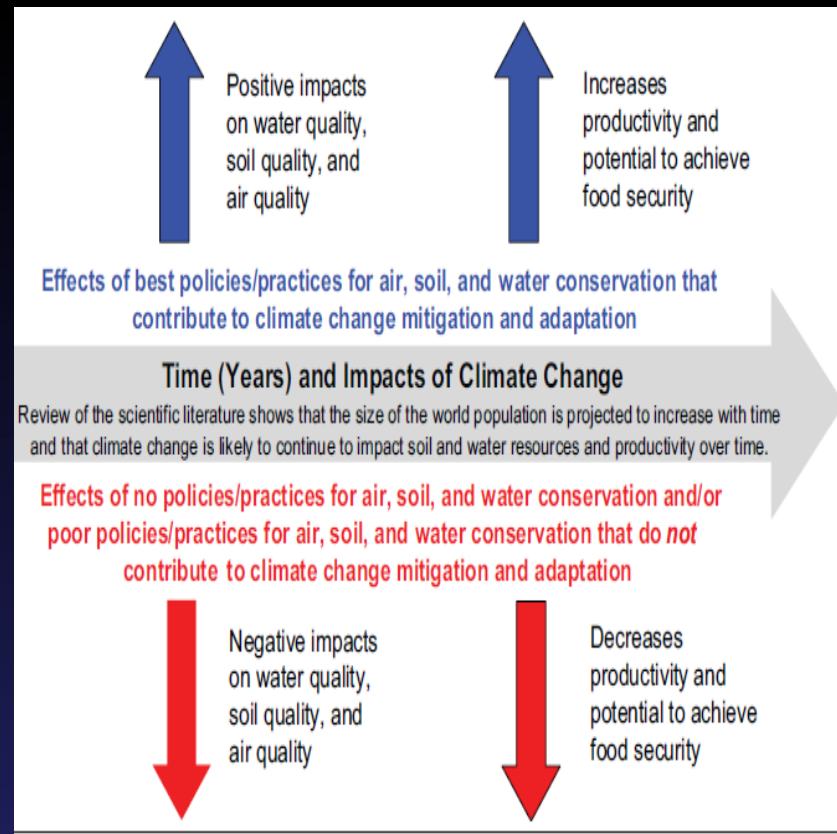
The 20th century's Green Revolution showed that science can provide answers to global challenges and help solve them to the benefit of humanity.

Even with the success of the Green Revolution, there are new global concerns. The threat of climate change is among the most severe threats that face our planet in the 21st century (USDA NRCS 2010).

Major World Challenges

1. Climate change will impact health, social and security issues.
2. Gradual climate change may bring more crop opportunities but will also cause more crop stresses.
3. Extreme climate events will challenge resource protection and food security.
4. We cannot continue to expect the same water supplies for irrigation, rivers, crops.
5. Population growth will require more food from less resources with greater costs (energy, inputs).
6. Pushing agriculture growth onto poorer land will increase erosion challenges.
7. World Economic Forum in 2011 recognized climate change as the largest risk in terms of likelihood and impact. It also identified the water-energy-food nexus as one of three top global issues.

The scientific literature argues that, with good policies, conservation programs and practices can help achieve food security and protect air, soil and water quality. With bad policies and/or a lack of policies or conservation practices to mitigate or adapt to climate change, we will have lower air, soil, and water quality with less potential to achieve food security.



Principles for Communication of Soil and Water Conservation Programs

1. Communicate at all levels – students, farmers, professionals, the public.
2. Teach the value of soil carbon.
3. Develop communication that connects science to land managers as well as the public.
4. Improve historical context.
5. Conduct ongoing training --this is essential.
6. Enhance the exchange of information.

Principles for Soil and Water Conservation Practices for Climate Change Mitigation and Adaptation

1. Keep the surface covered
2. Soil function improves with carbon
3. Surface residue protects
4. Value the importance of perennial crops in rotation
5. Adopt off field remediation practices
6. Agroforestry improves diversity
7. Precision conservation targets for effectiveness
8. Value water appropriately
9. Improve crop diversity
10. Minimize greenhouse gas losses
11. Tighten the nutrient cycles
12. Invest in research for the long term

Conclusions

1. Climate change will increase the risk of degradation of land and water resources, threatening global food security.
2. This is everyone's problem. We all need to learn and teach. Invest in R&D.
3. Cover & protect the soil, value & conserve water, increase the diversity of crops & landscapes.
4. Poor policies/practices for air, soil, and water conservation (or a lack of policies/practices) i) negatively affect air, soil, and water quality; ii) lower soil productivity; and iii) undermine efforts toward achieving and/or maintaining food security.
5. Good conservation policies/practices i) contribute to positive impacts on air, soil, and water quality; ii) improve soil productivity; and iii) support efforts towards achieving and/or maintaining food security. These are needed to mitigate and to adapt to climate change.

“Conservation Practices to Mitigate and Adapt to Climate Change ”

Additional information about this slide show is available at the SWCS website (<http://www.swcs.org/>) and also published in the *Journal of Soil and Water (JSWC) Conservation* (<http://www.jswconline.org/>).

Go to the following links by right clicking and opening the hyperlink at:

- SWCS [Press Release](#)
- SWCS [Position Statement](#)
- JSWC [Viewpoint article](#)
- JSWC [Feature](#)
- JSWC [Research Editorial](#)

