

## **Thurston County Confronts Climate Change: The Department of Agriculture**

### **Abstract:**

The Washington State Department of Agriculture (WSDA) serves the agricultural community of Thurston county, while at the same time promoting consumer and environmental protection. An interview with Kirk Cook, a hydrogeologist for the Department of Agriculture, provided many valuable insights about environmental protection measures within the department. Cook described the Department of Agriculture as a conduit between science and policy. He also discussed the many policies and actions being taken regarding adapting to the inevitable consequences of climate change on agriculture. The Washington State Department of Agriculture is actively discovering and implementing strategies to most effectively deal with climate change.

The Washington State Department of Agriculture's mission statement is to "[serve] the people of Washington by supporting the agricultural community and promoting consumer and environmental protection".<sup>1</sup> Their major goals are specific to public health, disposal of pesticides and fertilizers, protection from pests and diseases, and facilitating domestic and international trade. The WSDA is celebrating its 100th anniversary in 2013. After 100 years as a government agency, the WSDA includes "26 programs that address 58 state laws, serving more than 39,500 farms, and supporting a \$46 billion food and agriculture industry".<sup>2</sup> The WSDA has a special interest in maintaining the health of the climate, because the successful production of farms is

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<sup>1</sup> About WSDA. <http://agr.wa.gov/AboutWSDA/>

<sup>2</sup> WSDA Centennial Celebration. <http://agr.wa.gov/AboutWSDA/DirectorsOffice/WSDACentennial.aspx>

heavily connected to the environment. Because of this, there are many actions being taken throughout the department to attempt to handle the impact that climate change will have on farms in Washington state.

Kirk Cook, a hydrogeologist for the WSDA, agreed to answer our questions about the environmental aspects of the Department of Agriculture. We first asked how being a government agency impacts the WSDA, more specifically, we were curious whether it supported or hindered the department's ability to create effective climate action. Cook answered that being a government agency is definitely helpful. He pointed out that it allows them to work with many land grant universities, as well as sit on advisory groups. He also discussed the very practical, but critical, concept that the WSDA serves as a conduit between the scientific research world, and the political/administrative world. He pointed out that it is not only important to be able to create the science, it is equally as important to implement the policy that will make that science effective. The WSDA works to mobilize scientific advancements in real-world ways.

When asked about specific climate policy currently impacting the WSDA and Washingtonians, Cook mentioned that there is not a lot of significant legislation right now. He said that Washington, like many states, is waiting to take its cue from the federal government. However, as will be mentioned later, there are actions being taken within the WSDA and other agencies/organizations that are intended to deal with climate change.

The WSDA has a strong interest in dealing with climate change. A paper published by the WSDA, written by Chad Kruger called: *Future of Farming in Washington: Climate Change*, discusses the interconnectedness of climate and

agriculture. Kruger says Washington State's localized micro-climate conditions has resulted in a multitude of farming systems and practices unique to that area. At the same time, these micro-climates have been stable for the past 100 years, and so modern agricultural technology has benefited and thrived from this stability. Any changes in climate will necessitate a change in technology or agricultural practices to accommodate the shifting climate.<sup>3</sup>

Similarly, agriculture has a significant impact on climate change. Carbon emissions and side effects of irrigation play large roles in increased climate change. Because of this, it is important for the WSDA to take agricultural actions into consideration as they affect the climate. The WSDA is in a position to benefit from potential emerging carbon markets and policy actions regarding mitigating carbon emissions.<sup>4</sup>

Perhaps the most significant consequence of climate change for agriculture in Washington State is the change in water availability. In some regions, such as the Yakima basin, the "predicted changes in climate by the 2040's indicate an average of 20-40% reduced annual water availability".<sup>5</sup> In other regions increased flooding is of extreme concern. Changes and adaptations in weeds, diseases, and pests are also of particular concern to the WSDA. It is unclear how changes in the environment will influence the development and evolution of weeds, diseases, and pests. Temperature changes also have severe consequences for crops that rely heavily

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<sup>3</sup> Kruger, Chad. Future of Farming in Washington: Climate Change.  
<http://agr.wa.gov/fof/docs/ClimateChange.pdf>  
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<sup>4</sup> Kruger, Chad. Future of Farming in Washington.

<sup>5</sup> Kruger, Chad. Future of Farming in Washington. Page 2.

on stable environmental conditions. So, it is unclear exactly how, and to what degree, climate change will impact the state of Washington. This makes planning policies difficult in both scientific and political ways.<sup>6</sup>

Cook mentioned that one of the primary goals of the WSDA is to create science and policies that will allow agriculture in Washington State to continue well into the future. We asked Cook whether the WSDA was focusing its efforts on mitigation strategies or adaptation strategies. He said that the WSDA, as well as many other governmental and political bodies, are giving their attention to adaptation strategies. He pointed out that adaptation is more politically expedient and practical. His answers on this point in general were valuable for looking at the relationship between politics and climate change as a whole. He said that around 4 years ago there was a shift to primary concern being focused on adaptation strategies. Mitigation was not politically feasible and had hit a brick wall. Perhaps this is because of the sacrifices in terms of standard of living, or perceived high short-term costs.

Cook discussed the focus on adaptive policies regarding water and irrigation in Washington State. As was mentioned above, water scarcity in the Yakima basin is a serious threat to the thriving agricultural system in place there. Cook said that the WSDA is working with universities and other local organizations to create policies in the Yakima valley aimed at increasing irrigation efficiency, increasing water storage, and creating better water management. These policies are driven primarily by climate change predictions and consequences.

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<sup>6</sup> Kruger, Chad. Future of Farming in Washington.

The WSDA is also looking into the costs and benefits of carbon markets. The Department of Agriculture, along with many other agencies in the state of Washington are working to decrease carbon outputs as part of their efforts to decrease their carbon footprint as a whole. Kruger argues that decreased carbon outputs is not only good for the climate, it is also good in an agro-ecological manner.<sup>7</sup> This makes it an ideal consideration for farmers and the Department of Agriculture.

Cook also mentioned a couple of other ideas for encouraging environmentally friendly farming in Washington. He mentioned the use of incentives and investments in innovative technology and environmentally safe practices. He also touched on the idea of creating crops that are less reliant on water, so that the decreased water availability that is predicted to affect some parts of Washington State will not be so devastating. Apart from reducing carbon emissions, it is clear that much of the climate change action being taken by the WSDA is attempting to prepare ourselves for the inevitable consequences of climate change.

The tone from both Cook and Kruger was positive and optimistic. While it is obvious that climate change is going to have a severe impact on agriculture in Washington, it appears that many actions are being taken to combat the overall consequences. Mitigative policies might be ideal in terms of working to limit the intensity of climate change, however, they are not politically feasible. Because of that, the adaptive strategies being undertaken by the WSDA are the next best option to ensure agricultural, economic, and environmental protection in the uncertain future. The ability of the WSDA to turn science into political and structural reality is crucial to climate

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<sup>7</sup> Kruger, Chad. Future of Farming in Washington.

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policy. Because of this, the WSDA as a governmental agency, is in a unique position to not only positively impact the agricultural industry of Washington State. The actions taken in agriculture in Washington will affect the entire state, the entire country, and potentially the planet.