



**Minutes – Friday, February 23, 2024**  
**Video Conference**  
**9 am to 11 am**

**Attending:** Gerri Wiley, Dave Bradley, Paul Moore, Tom Hirasuna, Aaron Fernando, Allison Chatrchyan, Bossombra Kouame, Chuck Geisler, Alice Green, Brian Eden, Chris Skawski, Aimee Daily, Dan Lamb, Dawn Montanye, Hailley Delisle, Hyomi Eom, Ingrid Zabel, Isabella Paullay, Jaden Beck, Janelle Bourgeois, Jerry Sheng, Joe Wilson, Leigh Miller, Marie McRae, Nick Goldsmith, David Kay, Chuck Schwerin, Irene Weiser, Guillermo Metz, Terry Carroll, Steve Beyers, Sarah Carson, Ray Burger, Anne Rhodes, Regi Teasley, Rod Howe, Sara Hess, Peter Bardaglio

**NYS Climate Impacts Assessment – Allison Chatrchyan**

*The latest state climate impacts report was released earlier February. Allison Chatrchyan, a research associate at CALS and adjunct professor of law at the Cornell Law School, helped lead the team that focused on agriculture. Allison provided an overview of the report, and she also shared her experience as co-chair of the agriculture team*

- Allison is environmental social scientist – engages in cross-disciplinary research – came to Cornell ten years ago and before that worked at Cornell Cooperative Extension
- Especially interested in stakeholder engaged research involving climate change – NYS Climate Impacts Assessment great example of this approach – much richer assessment as result
- Works with Cornell -- climate-smart farming program at Cooperative Extension
- Ag assessment will feed into work at this program
- Stakeholder includes technical working group, advisory group, larger assessment team, Cornell extension team, etc.
- Co-chaired Ag chapter with Deborah Aller – task of committee:
  - Sep 2021 – Feb 2024
  - Assess climate impacts to the agriculture sector
  - Use a rigorous assessment methodology, traceable accounts
  - Identity climate change adaptation strategies by sector
  - Greater focus on underserved farmers, climate equity, justice concerns
- Assessed climate impacts to agriculture sector since ClimAID (2011)
- Used rigorous assessment methodology like IPCC or US national climate assessment, drawing on secondary literature

- NYSERDA-led project – assignment was to update ClimAID report – carried out extensive review of literature on agriculture in NY and US
- Included findings from interviews with farmers, reports, US agriculture census, and many other sources
- Identified climate change adaptation strategies in agriculture sector and focused more than previous study on underserved farmers, Indigenous communities, and climate equity and justice concerns
- Allison led focus in chapter on underserved groups and communities – all chapters in report paid close attention to issue of adaptation
- Assessment was broken up by regions, which can be found at <https://nysclimateimpacts.org/explore-by-region/>
- Since 1901, average temperatures in NYS have increased by about 2.5 °F – at a higher rate than the US average
- Temperatures of NY could rise between 5 - 11 ° F by the 2080s
- Allison highlighted climate report 10 years ago couldn't make as strong of a statement about precipitation, but now we can see increased precipitation
- Total annual precipitation in NYS increased from 1901 to 2022 – varies more widely from year to year
- Total precipitation is projected to increase about 9 – 12 % by the 2080s
- Largest increases projected for Long Island, NYC, Champlain Valley, and St. Lawrence Valley
- Extreme events such as precipitation is particularly difficult for the agriculture
- With warmer winters and longer growing seasons, plant hardiness zones are shifting northward across NYS
- Also seen changes in pests – e.g., Kudzu (invasive weed), spotted lantern fly, increase in ticks
- Changes of pests, diseases, weed pressure are particularly difficult for farmers
- Dale Stein, well-known farmer leading the NYS agriculture said No.1 adaptation tool for farmers is cover crops - it makes the most difference right away quickly
- Other tools include improving soil health, using drought-tolerant crops and varieties, improving drainage, no till or low till, creating buffer zones around waterways to reduce erosion and runoff, deploying integrated pest management, double cropping and intercropping, hail netting for perennial fruit crops, wood chips, wind machines to protect against frost after warming periods
- Key Finding #1 (Severe impacts)
  - Severe impacts - extreme precipitation, short-term drought, heat stress, warmer winter, last spring freezes, increased pest and production costs
  - Droughts and heat stress decrease crop yields and create water scarcity, while unseasonal freezes cause significant losses
  - Expected to intensify as temperature and precipitation extremes become more common

- Key Finding #2 (Multiplier)
  - Climate change is a threat multiplier for agriculture – farmers already face many stressors like tight profit margins and labor shortages
  - Unexpected costs and reduced farming periods disproportionately harm economically strained rural and marginalized communities
  - There are opportunities to lessen the adverse effects by adapting to climate shifts and improving management of existing stressors
- Key Finding #3 (Awareness)
  - Farmers and other agricultural stakeholders show awareness and acknowledgment of climate change impacts on agriculture
  - Damages and reduced operational times compound hardships particularly in rural areas and for communities
  - Strategic climate adaptation and tackling non-climatic challenges can alleviate agriculture's negative impacts
- Key Finding #4 (Resilience)
  - Farmers are implementing and investing in practices that make their farm businesses more resilient to climate extremes
  - Improvements such as enhancing soil health not only prepare farms for climate change but also help reduce greenhouse gas emissions
  - These may not completely counteract the projected climate impacts in NY, but they are crucial in strengthening farm resilience
- Key Finding #5 (Support)
  - Enhanced technical support, financial assistance, research are crucial to increase the adaptive capacity
  - Farms will face greater risk of physical, social, and economic losses
  - Active engagement between policymakers, farmers, stakeholders can help shape realistic policies and programs for farm businesses
- Case studies
  - Based on interviews with 6 farmers around NYS
  - Dairy, perennial fruit, viticulture and wine making, field crops, urban Ag, Indigenous community
  - Detailed stories can be found at <http://nysclimateimpacts.org/explore-the-assessment/case-studies/#Ag>
- Allison also heads up Cornell Climate Stewards Program – trains NYS residents on science, impacts, and solutions to climate change – support municipalities taking part in Climate Smart Communities
- Trained 94 climate stewards from 15 counties – pre- and post-assessment of learning outcomes

### Q&A

- Peter: What was the biggest difference between the report produced 10 years ago and this report?

- Allison: The recent report differs from the previous one primarily in its stakeholder engagement process, involving input from various groups, including Indigenous communities
- It emphasizes the identification and representation of underserved populations, particularly in agricultural regions facing poverty
- This approach brought to light the challenges of farming communities in poverty-stricken areas like the Mohawk Valley
- Peter: What was biggest surprise that you encountered?
- Allison: The biggest surprise for me was hearing farmers themselves speak about cascading impacts, a concept I often teach
- It was so impactful that we made it a central finding of our report
- Ariel Ortiz Bobaya, a Cornell agricultural economist who focuses on climate impacts, helped us illustrate how climate change amplifies economic challenges in agriculture
- Irene: Can you specify how many farmers are adopting these practices—10% or 80%? What educational and incentive programs are available to support this?
- Allison: The adoption of cover crops and no-till farming is much higher than 10% now, likely around 50%, representing a significant increase over the last ten years
- Adopting these practices can be challenging for farmers due to the need for new equipment and potential initial yield drops
- Cornell is supporting this transition through extension work, with the Soil Health Program conducting research to help farmers understand and improve soil health
- Matt Ryan and Janice Dugney from Cornell are notably involved in these efforts, providing valuable research and on-the-ground training to aid farmers
- Irene Weiser: Do you know if it's state or federal law providing incentives and funding for these agricultural practices, given the delay in yield improvements?
- Allison: Funding is available from both federal sources like NRCS and the New York State Climate Resilient Farm Program – provides cost-sharing
- The current extension and educational efforts need substantial expansion beyond the 15 farmers currently reached
- Dawn Montanye: In developing adaptation strategies, how much did you consider with the integration of mitigation strategies, given agriculture's reliance on fossil fuels?
- Allison: We were directed to focus primarily on adaptation, not mitigation – made it challenging to highlight the dual benefits of strategies like improving soil health that also reduce emissions
- Despite this, there's a significant opportunity to explore these co-benefits further in future research
- It's important to approach discussions with farmers sensitively, recognizing their challenges and avoiding placing undue blame for climate impacts
- We should focus on protecting farmland and promoting sustainable farming practices to further reduce emissions

- Dave Bradley (chat): Considering the decline of New York's dairy industry, what alternative crops could farmers in the state switch to?
- Allison: Choosing alternative crops would depend on the specifics of each farm
- A dairy farm in Madison County faced flooding issues, leading to the sale of most cows and a shift to selling pasture-raised meat, while keeping a small dairy herd
- They are exploring sustainable practices and possibly diversifying into field crops or grain
- Their transition is supported by their involvement in the climate-smart farming team, emphasizing the need to help dairy and small farms adapt to changing conditions
- Brian Eden mentioned the problem with excluding mitigation from discussions, noting it is unhelpful and ignores the challenges farmers face
- Allison: We're not excluding anyone; we're training 15 dairy farmers on mitigation plans through a USDA project, so it's definitely on the table
- Dave proposed that dairy farmers explore alternative bulk crops like sunflowers or hemp to diversify protein sources and boost profitability
- Allison: Most dairies in NYS grow forages for their cattle, often with guidance from Cornell advisors or paid consultants to optimize cattle feed and reduce methane
- We're introducing a new crop that can double as cover and feed, supporting sustainable practices like crop rotation and soil health through Cornell's programs
- Bossombra Koffi (chat): What strategies are available for farmers to cope with the short-term drought?
- Allison: We have strategies to help manage short-term drought, including selecting drought-tolerant crop varieties and using practices such as cover crops or no-till to retain moisture
- For crops like berries and tree fruits, it's important to use efficient irrigation systems to avoid wasting water and ensure it's used effectively
- There's a good tool, the US Drought Monitor. It can be found at <https://droughtmonitor.unl.edu/>

**TCCPI and the Current State Legislative Session** – Brian Eden and Peter Bardaglio  
*Following up on AM Kelles' review of the key climate and clean energy bills at last month's meeting, Brian and Peter facilitated a discussion of how TCCPI could help secure approval for this legislation*

- Peter: Kelles gave an impressive presentation, on several key legislative acts including the Fashion Act, Climate Superfund Act, Just Transition Act, and the Stop Climate Polluter Handouts Act
- She discussed how the Fashion Act aims to improve transparency in the fashion industry's global supply chain and hold it accountable, similar to the oil and gas industry
- She highlighted the need for legislation that holds companies accountable for both current and historical environmental damages, through the Climate Superfund
- She also emphasized the importance of moving away from investing in natural gas infrastructure and eliminating substantial subsidies to fossil fuel industries

- Brian: Kelles strongly supports the Business Packaging Reduction Infrastructure Act, stressing plastic's environmental and health impacts
- She addressed challenges from the American Chemistry Council's lobbying, expressing resolve to overcome them with diligent weekly efforts
- In addition, Kelles aims to shift from discussion to activism, recognizing remote advocacy challenges and proposing direct engagement in Albany for legislative progress
- Peter mentioned attending a meeting to improve the bottle bill, noting challenges faced by participants traveling to Albany and the importance of in-person advocacy
- Tom Hirasuna: People can get involved locally right away because there are existing coalitions for the mentioned bills
- Brian: We're all part of small groups, but we're not uniting effectively for change
- Historically, larger coalitions had hundreds of people advocating together, which had a bigger impact
- Peter highlighted the significance of gathering people face-to-face, emphasizing its impact on legislators
- Brian: It's essential to engage with youth to build the future movement effectively
- Irene: Unfortunately, my capacity for Albany trips has declined over the years, despite past efforts organizing buses with strong financial backing
- Instead, I propose a local focus on initiatives like the Green New Deal
- We could convene on Earth Day at Stewart Park to unite various environmental and sustainability groups and brainstorm community mobilization strategies
- Guillermo Metz: While many groups are already engaged, organizing in person around specific topics would be beneficial
- We have an Earth Day event planned on the commons and see value in supporting your efforts. Let us know how we can help
- Brian: It's crucial to engage with Cornell, considering their presence and potential impact
- We recently had five resolutions passed through the board and adopted by the county legislature, mostly advocating for statewide issues
- Maintaining community involvement is essential for implementing policies like the Ithaca Green New Deal, which has proven to be financially positive for the city
- Supporting the sustainability director's work is vital for achieving these goals