Planning for a just, prosperous, and resilient future with climate change migration

Vital Communities <---> UVAW: Nov 9, 2021
(https://vitalcommunities.org/climate-change/)

Dr. Jay Shafer - jason.shafer@northernvermont.edu
Background

BS Meteorology

MS & PhD Meteorology

Faculty - Atmospheric Sciences

Founder / Entrepreneur
Northview Weather Vitals

4-years young, bootstrapped in Lyndonville, VT

Patented tech in storm outage prediction

Electric utility customers in transmission & distribution

Software and consulting services

Storm preparedness planning

Climate resilience planning

Asset and vegetation management
Operational weather prediction - customized analytics

Mean 24-hr Max Gust (mph)

24-hr Max Gust (mph)
- <25
- 26-35
- 36-45
- 46-60
- >60
Overall weather risk on the Vermont electric grid shows that the most intense storms are tending to get stronger in a warmer and wetter climate. Estimated increases in power outages of +10 to +15% through 2050 (moderate confidence).
Solar Power Prediction - managing intermittency

Windsor - All PV Systems - Starting 2021-11-07 19:00

- Clear Sky Solar Power: 28.0 MW
- Mean Forecast Solar Power: 19.3 MW

Tue 11/09 12:00
A Regional Coalition - Build Back Better

Software/Tech cluster concept - lead by **CORI**

**Applied Learning Partners**
- Dartmouth: [Dali Lab](#)
- UVM: [Cat Coders](#)
  - **Vermont Technical College**
  - **Northern Vermont University**
  - **Community College of VT**

**Community Partners/Projects**
- VCET
- BDCC: Brattleboro
  - **CEDRR: Rutland**
  - **GMEDC: White River Junction**
  - **BRIC: Springfield**
  - **NVDA - Northeast Kingdom**
The Climate Tech Opportunity

Climate Tech Economy

Businesses that accelerate decarbonization

$32 Billion invested startups in 2021

New Carbon Economy ~$1-2T trillion next 30 years

Northeast Kingdom Climate Tech Project - focuses on forestry, agriculture, or energy
Climate Migration

Vermont Temperature Trend and Projections

- **Observed**
- **Lower Emissions**
- **High Emissions**

Roughly equivalent to Philadelphia, PA

Roughly equivalent to Hartford, CT

Projection data: [https://crt-climate-explorer.nemac.org/](https://crt-climate-explorer.nemac.org/)
Observation data: [https://www.ncdc.noaa.gov/cag/divisional/mapping/43/pcp/202009/12/value](https://www.ncdc.noaa.gov/cag/divisional/mapping/43/pcp/202009/12/value)