

California 4th Climate Change Assessment Preparing Public Health Officials for Climate Change – A Decision Support Tool

Emilie Mazzacurati, Aleka Seville, Nik Steinberg -- Four Twenty Seven March 29th, 2016



About Four Twenty Seven

- Award-winning climate risk and adaptation consultancy
- Our mission: catalyze climate adaptation by enabling organizations to make smarter decisions through data-driven insights and solutions.
- Previous climate-health work:
 - White House Climate Data Initiative: <u>Heat</u>
 <u>& Social Inequity</u> Index
 - Healthcare Without Harm: <u>Resilient</u>
 <u>Hospital Dashboard</u>
 - City of San Francisco: Flood Vulnerability: Health-Focused Assessment (April 2016)









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Project Partners

Public Health Institute

An independent, nonprofit organization committed to the development, implementation, and management of public health programs.



Argos Analytics

California-based climate data services provider.





Habitat Seven

 Climate-focused software development and design studio (National Climate Assessment, IPCC, Risky Business Project, etc.)





Why Improve Heat Wave Outlooks?

Existing heat tools are insufficient

Forecasting

- NWS only issued six heat alerts out of 19 heat health events (HHE) recorded between 2000 and 2009 (Guirguis *et al.*, 2014).
- Heat wave thresholds (absolute or percentile) are applied universally
- Few probabilistic outlooks past 14+ days

Decision-making

- Limited context for decision-making around targeted interventions (e.g., socioeconomic and medical vulnerability)
- Interface and visualizations are not user-friendly



Goals for the Decision-Support Tool

- Provides actionable information for a range of users:
 - short-term intervention and emergency preparedness
 - long-term policies and planning consideration;
- Supports all of California's regions and includes warnings and alerts that capture local climate variability;
- Includes contextual layers of social and heat vulnerability and highlights key equity issues across geographies;
- Provides climate and weather data at a resolution as granular as needed
- Is **user-friendly** and provides valuable information that can be easily interpreted and analyzed.



Scope of Work & Timeline

April-Sept 2016

Task 1: Conduct Needs Assessment

- Identify information gaps and user needs to inform tool specifications
- Create User Group

Oct-Dec 2016

Task 2: Determine Tool Specifications

- Determine suitable data parameters
- Develop use case
- Draft data architecture

Jan-April 2017

Task 3: Integrate and Analyze Data

- Integrate NOAA/NWS forecasts
- Incorporate climate scenarios and contextual layers

March-June 2017

Task 4: Develop Software

- Develop functional, effective, userfriendly interface
- Establish automatic data feeds

Summer 2017

Task 5: Deliver and Report

- Support deployment of tool at local level
- Summarize findings in article for Fourth Climate Assessment



Next Steps

- We welcome questions, feedback and input
- Follow up meetings: milestone briefings
 - Late fall 2016 (User Needs and Tool Specs)
 - Summer 2017 (Tool Demo)
 - Late 2017 (Article overview on key lessons learned)
- CA Climate Science Symposium and CA Adaptation Forum
 - Information sharing and outreach Long Beach, September 6th-8th, 2016

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