

SCE's Community Resilience (CRM) and Community Impact (CIM) Metrics

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Why did SCE develop a Community Resilience Metric?

CPUC Decision 20-08-046 required IOUs

- "Discussion of how IOUs promote equity relative to climate adaptation of their infrastructure, operations and services in DVCs based on the communities' adaptive capacity."

DVC designation is binary and insufficient to inform prioritization of investment decisions based on communities' adaptive capacity

- 43% of California's DVCs are in SCE's service area (~5 million people)

A metric that depicted relative differences in adaptive capacity across DVCs was needed

- CRM score easily integrates to utility investment prioritization processes as an additional dimension to be considered, helping embed equity considerations into decision-making
- Offers useful relative scoring alternative to the binary designation of DVCs



SCE's CRM measures **relative** community Adaptive Capacity for equitable adaptation planning

CRM measures relative sensitivity and adaptive capacity of a community to potential climate-driven loss of electric service

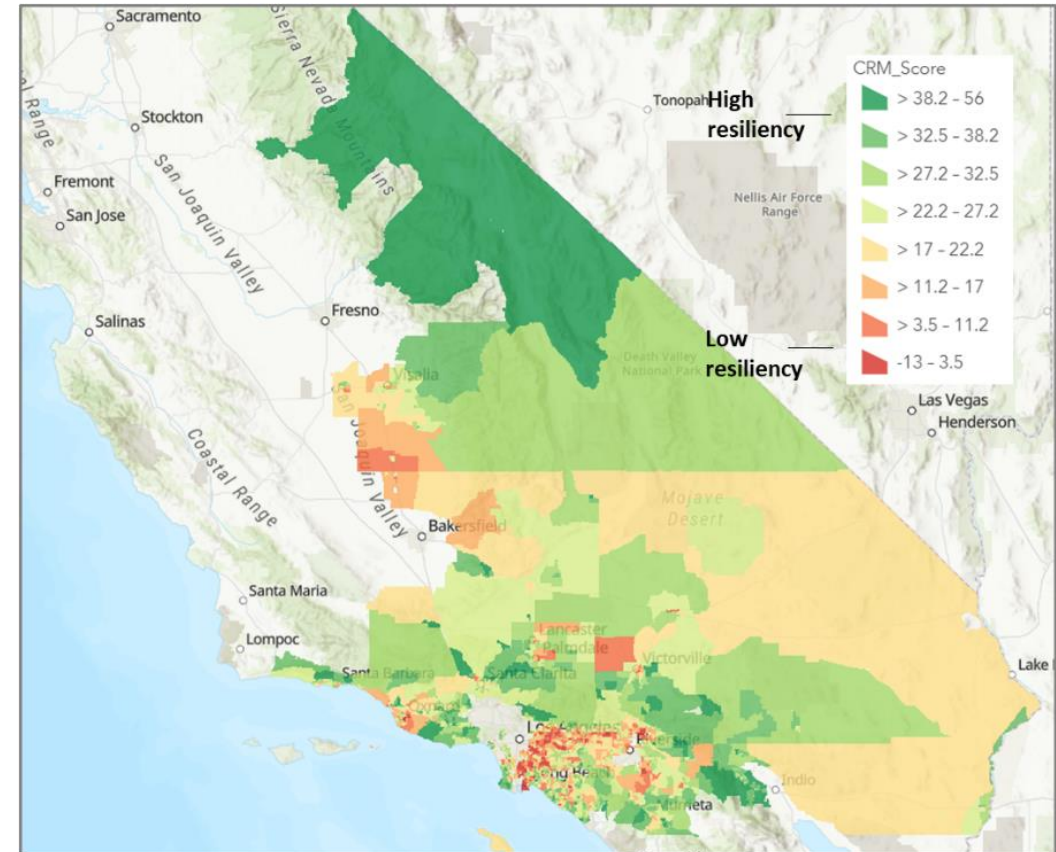
- Uses 37 data indicators, all validated via workshops with CRLG plus social science data experts

CRM is based on trusted sources, validated by DVCs, and informs future adaptation research

- Data sources identified by RAND Corporation
- Results "ground-truthed" through in-community engagement and surveys administered by CRLG

CRM can be used to prioritize climate adaptation investments

- CRM score easily integrates to utility investment prioritization processes, helping embed equity considerations into decision-making
- Offers useful relative scoring alternative to the binary designation of DVCs
- Allows IOUs to prioritize allocation of adaptations and/or sequencing of deployment to favor low resilience communities



Assigns a score to each census tract based on 12 indicators of Adaptive Capacity and 25 indicators of Sensitivity

Community Resilience Metric (CRM) methodology

- Indicators are equally weighted within each domain and combined to get final scores
- Data pulled from California’s Healthy Places Index, CalEnviroScreen, and the U.S. Census
- Factors, weighting, and results were reviewed with community leadership groups and communities through surveys

| | | Sensitivity Indicators | | | |
|------------------|------------|-----------------------------------|------------------------|-----------------|---------------------------------|
| | | Built Environment | Health | Housing | Socio-Economic |
| Domain Groupings | Indicators | CalEnviroScreen Pollution Burden* | Asthma | Group Quarters | Educational Attainment |
| | | Noise Pollution | Cardiovascular Disease | Housing Burden | Elderly Living Alone |
| | | | Children | Housing Quality | Foreign Born |
| | | | Diabetes | Mobile Homes | Linguistic Isolation |
| | | | Disability | Renters | Outdoor Workers |
| | | | Health Insurance | | Poverty |
| | | | Medical Baseline | | Race/Ethnicity |
| | | | | | Rural Communities |
| | | | | | Single Female Head of Household |
| | | | | | Tribal and Indigenous |
| | | | | | Unemployment |

| Adaptive Capacity Indicators | | | |
|------------------------------|--------------------------------|------------------------------|----------------|
| Community Built Environment | Governance and Services | Individual Built Environment | Transportation |
| Permeable Surface Cover | Cooling Centers | Air Conditioning | Transit Access |
| Tree Canopy/ Green Space | Emergency Services/ Responders | Telecommunications Access | Vehicle Access |
| | Medical Facilities | | |
| | Planning Level | | |
| | Supermarket Access | | |
| | Voters | | |

Ability score is meant to represent how difficult it is to reach available services and deal with sudden changes in the environment.

The CRM is a useful proxy for ability score as it captures underlying characteristics that represent population wellbeing and dimensions that income alone cannot capture.

*The Built Environment domain under Sensitivity is the only domain for which all indicators are not weighted equally. The CalEnviroScreen Pollution Burden score is weighted as 12/13 while the Noise Pollution score is weighted as 1/13. This is due to the fact that the CalEnviroScreen score is weighted value representing 12 relevant pollutants.

Community Impact Metric (CIM) – How a proposed adaptation could impact communities

The CIM aids in evaluating possible adaptation options based on the effects they will have on the communities in which these adaptation are being deployed

- Indicators were developed based on equity research conducted through a **partnership with RAND**.
- Each potential adaptation option can be evaluated on whether it will have a positive, neutral, or negative impact on the community for each indicator.
- Survey materials administered thru community engagement efforts can inform IOUs' understanding of communities' concerns.
- When considering two **equally effective** adaptation options, the CIM scorecard results add an additional dimension that could be incorporated in the selection of the chosen alternative

Negative, Neutral, Positive
■ ■ ■

CIM Scorecard Informed by Community Engagement Surveys

| <i>Hypothetical</i> Adaptation Actions & Community Impacts | Community Burden Negative short- and long-term impacts to community associated with construction and land use | Improvement to Public Amenities Potential for non-reliability value added to community (ex. green space) | DVC Communities Cost / Benefit Ratio Relative weight of benefits and burdens faced by DVC communities | Interrupted Electricity Service Resolution Potential Improvements in overall electricity service reliability | Local Employment Impact Jobs created in Southern California |
|---|--|---|--|---|--|
| Build a Sea Wall to Protect Substation | ■ | ■ | ■ | ■ | ■ |
| Relocate Substation to Projected Safer Location | ■ | ■ | ■ | ■ | ■ |