Integrated Climate Adaptation and Resiliency Program

Resilience Metrics Work Group Meeting

FEBRUARY 24, 2021

10:00 AM – 12:00 PM (PDT)

Agenda

Item 1 | Welcome and Roll Call

Item 2 | Approval of Meeting Minutes

Item 3 | Lightning Talks on Resilience Metrics

Item 4 | Discussion on Social, Natural and Built Resilience

Item 5 | General Public Comment

Item 6 | Wrap Up and Meeting Adjourned

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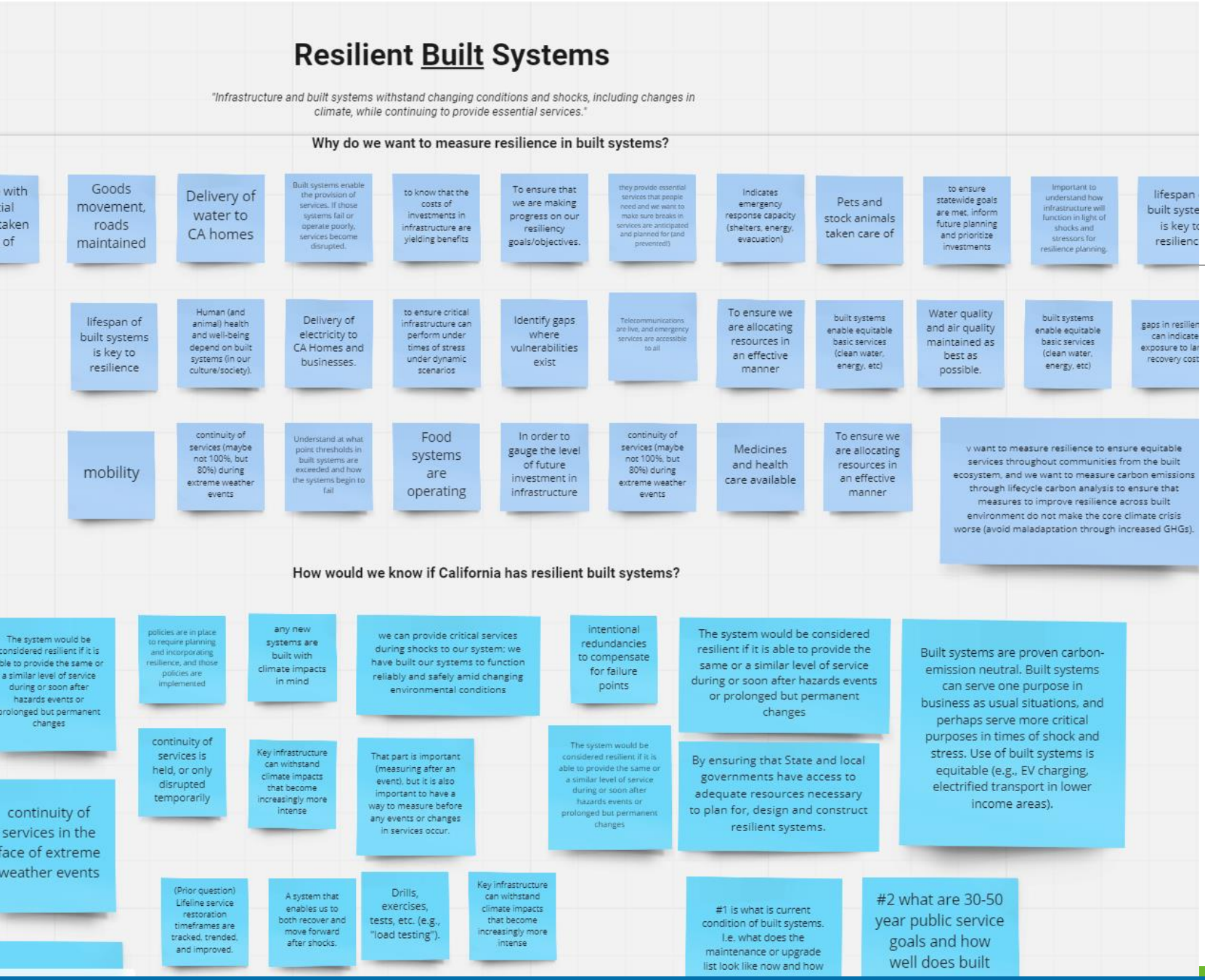


When last we met…

1. Why do we want to measure resilience in built/natural/social-human systems?
2. How would we know if California has resilient built/natural/social-human systems?

Resilience Metrics Survey

1. Do you use climate resilience metrics in your work?
   a. Why do you measure climate resilience?
   b. Please share your indicators and metrics
2. Have you come across climate resilience metrics from other organizations that you think could be useful to your work?
   a. Please provide examples of climate resilience metrics that you think are worth sharing.
3. What do you think the state should measure to demonstrate its progress towards achieving climate resilience?

Why do you measure climate resilience? (n=15)

- To measure progress, to understand adaptive pathways
- We measured resilience to inform our restoration strategy for Lake Tahoe West, a project designed to take an all-lands approach on the west shore of Lake Tahoe.
- To ensure funds are being invested in projects that can withstand climate change impacts
- To determine and outreach our progress
- To better understand risk
- To assess function and value over time of publicly-funded capital improvements

Why do you measure climate resilience? (n=15)

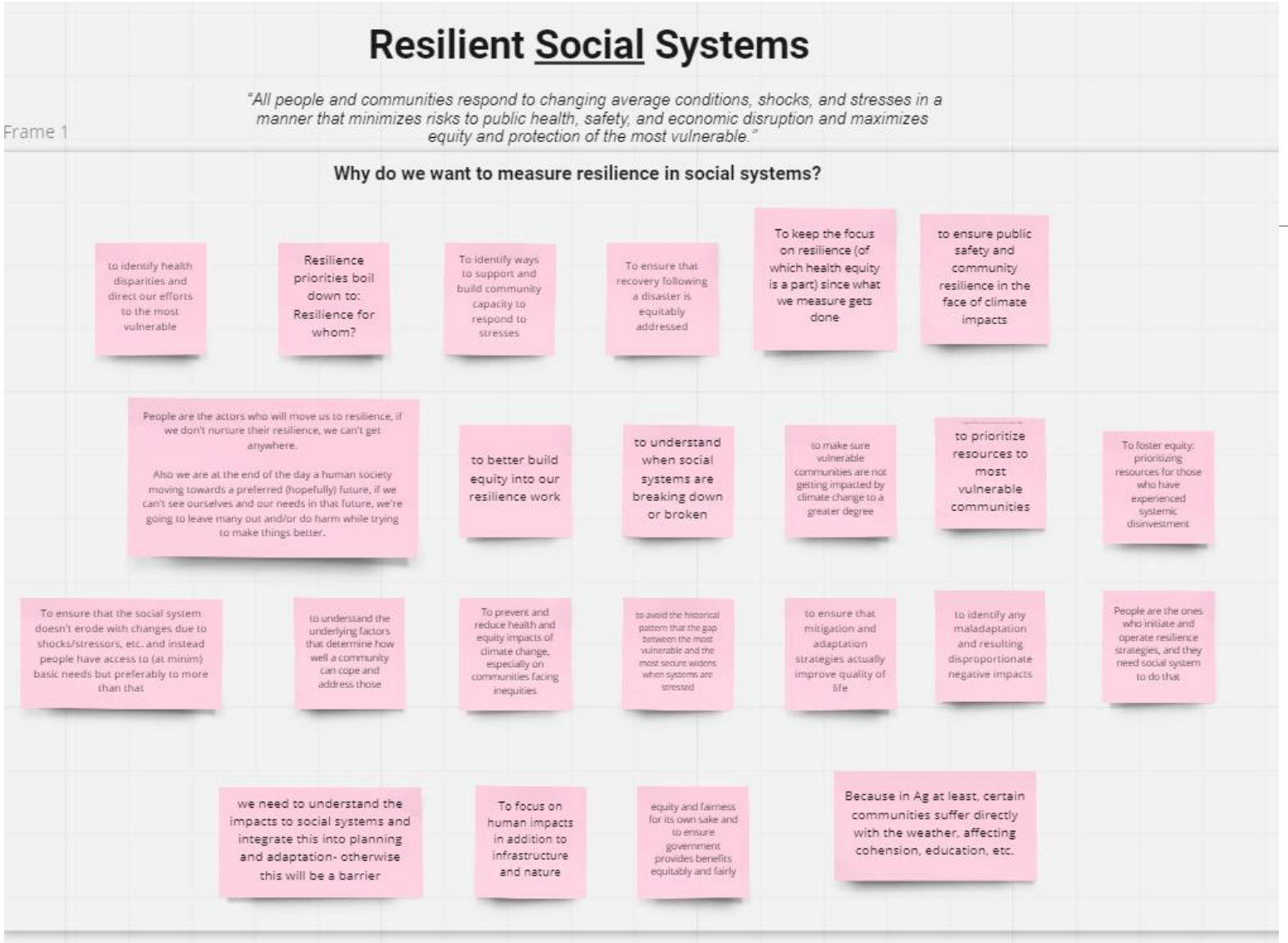
- To help measure the effectiveness of coastal adaptation or hazard mitigation strategies in preserving coastal ecosystem functions and protecting infrastructure, people
- Health and socioeconomic factors related to health
- To measure degree of challenge, and progress.
- To determine if adaptation actions are working to address climate impacts
- Part of overall monitoring program and region sustainability dashboard
- To see how well the community is responding to different strategies or crises

Why do you measure climate resilience? (n=15)

"Resilience alone is not something that can be measured in one metric or indicator, but will require a suite of information to be assessed comprehensively to detect changes to a given system, habitat, community, etc. Understanding these trends over time is so important to informing good investments, planning, and policy development."

What do you think the state should measure to demonstrate its progress towards achieving climate resilience? (n=38)

- GW levels, GHG's of course, temp, snow, rain, flood, fire
- Knowledge community has about its climate
- Critical facilities, individual homes, businesses protected from a climate hazard
- Fire return interval, biodiversity, water stress
- Watershed partnerships should define the appropriate metrics for their watersheds.
- Reduction in GHG; and critical infrastructure redundancy
- Social/spatial information to understand resilience/adaptation efforts through an environmental justice lens. It would also make visible the areas that still need work/improvements.



Interagency Resilience Work Group

State partners working on adaptation and resilience

Analysis of Discussion Findings

Protection of natural and working lands/environment

Adaptation/Resilience

- physical processes are in state of equilibrium
- responses to drought and extreme events
- coastal wetlands and beaches maintain pace with rising sea-levels
- increase in the rate of migration and integrity
- reduction in the rate of natural system disappearance/damage
- rates of beach loss
- continuation ecosystem services
- assess capacity to respond to stressors, visitation

Biodiversity/wildlife

- biodiversity (growth/loss)
- biodiversity is maintained
- thriving species
- gain or declines in species
- wildlife adaptation/resilience
- ecosystems not being overtaken by invasive species

Working lands

- soil resistance to erosion
- healthy soils
- pest patterns in crops
- pets and stock animals taken care of
- rangeland animal health

Water Resources

- rate of water storage
- water flows
- water levels
- watershed partnerships should define their own metrics
- groundwater levels
- water quality

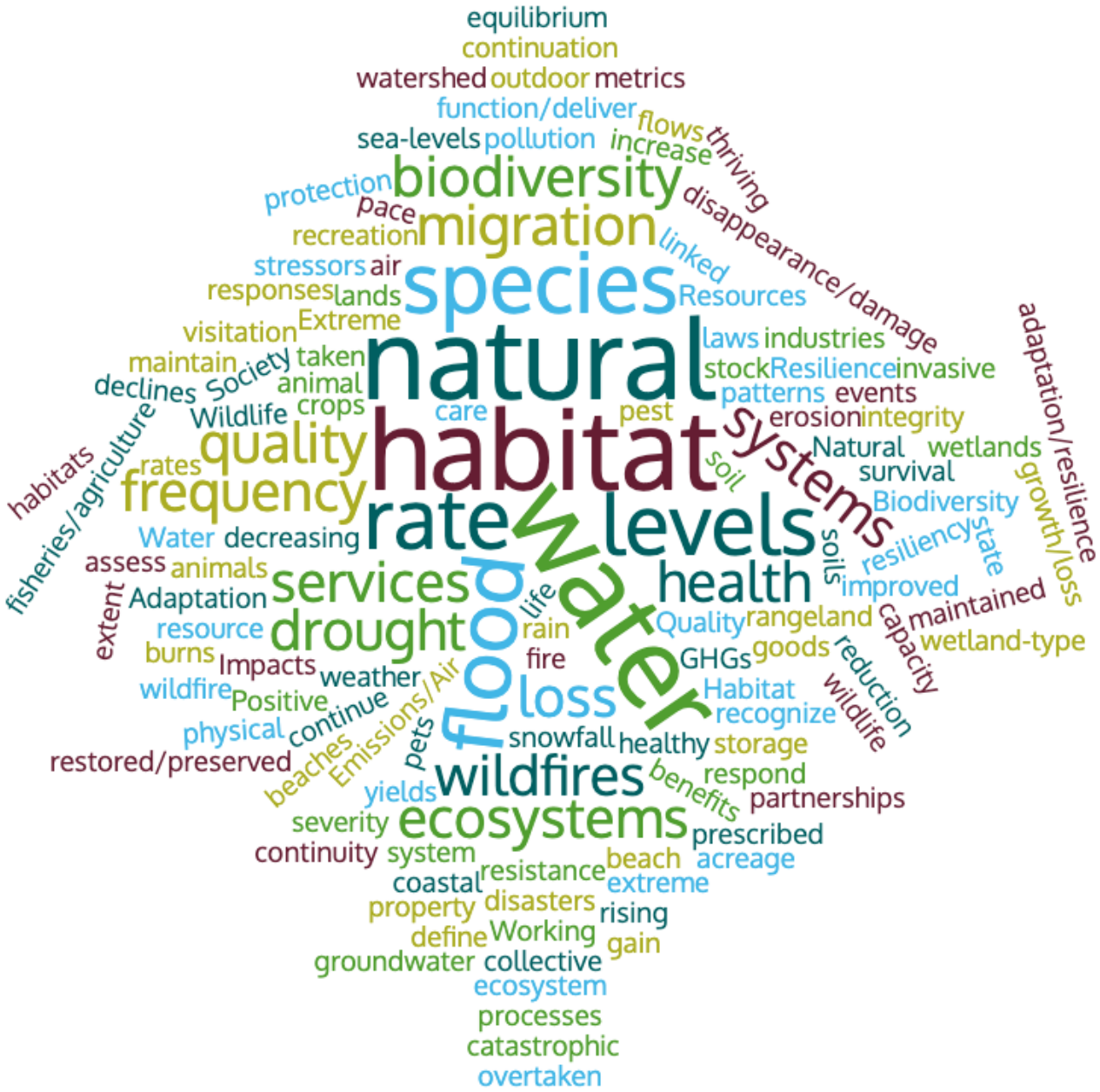
Climate Mitigation/Risk Reduction/Disaster Relief

Natural disasters

- wildfire habitat

Built Resilience

- Need standardization to institutionalize
- Need method to prioritize which asset to work on first
- Energy generation is changing; don't get locked into existing systems
- Need study and analysis prior to developing a new asset
- Framing: people may already be doing adaptation, just calling it something else
- Learn from earthquakes; building resiliently with the hazard
- Look to other regions (OneNYC, Regional Cities Network, Houston)



Natural Resilience

- Capture co-benefits
- Capture intrinsic value of nature – habitat/biodiversity
- Look to SFEI Adaptation Atlas as way to see how natural systems help protect from climate impacts

Social Resilience

- Crucial to use environmental justice / frontline community lens to identify where to focus our resources to protect human life
- Equity has to be the priority
- Social resilience is glue to ensuring resilience across natural and social systems
- Look to EPA's update of EJSCREEN, which is currently updating their data and analysis on environmental justice and social systems

Resilience Presentations

Dr. Robert Lempert

RAND Corporation

Resilience Presentations

Kimberly Clark

Southern California Association of Governments

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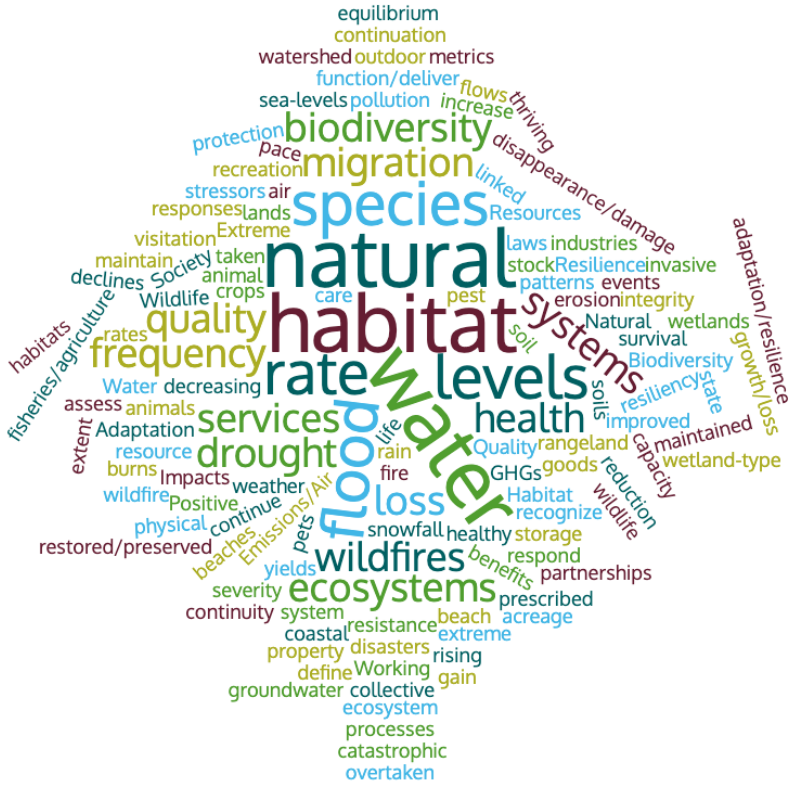
Bringing it all together



When good metrics go bad…

- Money spent isn't everything
- Context specific
- Fair
- Transformational
- Comprehensive
- Robust

- Courtesy Stephane Hallegate, World Bank

Metrics Discussion

How can we strive to get it right?

What should we watch out for?

Digging into Social Resilience

What social resilience indicators should we develop?

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Resilience Metrics Timeline

Winter WG	Identify Purpose & Initial Indicators
March TAC	Discuss Purpose & Indicators | Overview of State Adaptation Strategy
Spring WG	Refine Indicators & Purpose | Identify Metrics
June TAC	Approve Purpose, Indicators, and Metrics for Stakeholder Engagement
Summer WG	Resilience Metrics Stakeholder Engagement | Finalize Indicators and Metrics
Sep TAC	Adopt Resilience Purpose, Indicators and Metrics

Thank you!

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