



Connecting People to Climate Risks

Participation+Action+Education

Toolkit

RESILIENT

BAY AREA CHALLENGE

BY

DESIGN



About Resilient by Design

The Resilient by Design Bay Area Challenge asked a question – can we effectively engage Bay Area communities and local, national, and international experts in a yearlong collaborative design process to develop proactive and innovative design solutions focused on resilience to sea level rise, severe storms, flooding, and seismic risk? Teams of designers, architects, engineers, economists, educators, and planners worked with community organizations, local governments, and residents to develop nine design concepts around the Bay Area. Along the way, the teams developed tools and events to creatively involve communities, raise awareness about climate resilience, and garner input used to develop the final design concepts. These tools and experiences brought collaboration and innovation to life as communities around the region grappled with the complexities of planning for long-term impacts from sea level rise while balancing current challenges such as high housing costs and transportation gridlock plaguing the region.



What is this toolkit?

This toolkit catalogues tools developed throughout the Bay Area Challenge. It's designed for people who want to creatively engage their communities in planning for a resilient future. Whether you're an educator, a park ranger, or community member, we hope this toolkit inspires you to start conversations within your communities on planning for a rising bay. Essential to the success of these tools is putting race, ethnicity, gender at the forefront of the process to develop equitable practices.



Guiding Principles

To launch the Bay Area Challenge, Resilient by Design developed the following guiding principles. These principles were used to help shape the research tours and events. In the Collaborative Design Phase, Design Teams utilized these guiding principles to assist in the development of the engagement tools with the goal of fostering an inclusive, equitable and collaborative design process.

- Address multifaceted, dynamic issues through collaboration, coordination and connection.
- Prepare vulnerable communities for a resilient future by addressing our shared history, ecological, economic, and social vulnerabilities that still exist today.
- Integrate social and ecological systems through rigorous research and a strong understanding of ecosystems, local community, and government challenges.
- Integrate principles to sustain biodiversity and ecological functions.
- Merge local, regional, and international knowledge with technical expertise toward implementable and creative design-driven ideas.
- Acknowledge place and the First Nations of the Bay Area.
- Develop equitable planning and development practices where community members are true collaborators and participate as equal partners at every level of design formation.
- Leverage community knowledge and integrate in design to improve and not displace community members.

Contents

ENGAGEMENT BY TEAM

05	All Bay Collective
06	Bionic
07	BIG+ONE+Sherwood
08	Common Ground
09	Field Operations
10	Hassell+
11	Home Team
12	P+SET
13	Public Sediment

TOOLS

15	Visual Images
15	Postcards
15	Baylands Discovery Map
16	Stickers
16	Cutouts
17	Alameda Creek Atlas
18	Games
18	In It Together Game
19	The Resilient City Boardgame
19	Native Plant Playing Cards
20	Interactive Models
20	Sponge Tub
20	Peg Map
21	Speaking Bay
21	Flood Kit
22	Models
22	Bay Model
22	Groundwater Flooding Model
23	Installations + Activities
23	Mobile Billboards
23	Sea Leveling Rods
23	Kinetic Sand Activity
24	Mobile
24	Flood Mobile (Flo-Mo)
25	Sponge Hub
26	Events
26	Flood Fair
26	Living With Water Series
27	Creek Crawl
28	Watershed Tour
28	Discovery Walk
29	Community Shopfront
30	Training Local Advocates
30	Designing Our Solutions Course
31	Community Resilience Investment Decision Making Tool
31	Streetwyze
32	Y-PLAN
30	Speed Dating Style Workshops
30	Designing Our Future Resilient Bay Summit

Convening Editor

Zoe Siegel | Resilient by Design

Additional Editorial Support

Amanda Brown-Stevens | Resilient by Design

Tira Okamoto | Resilient by Design

Book Design

Shawn Hazen | HazenCreative.com

Support for this Toolkit

The Rockefeller Foundation

California State Coastal Conservancy

All photos courtesy of Kingmond Young,
Karl Nielsen and Resilient by Design Teams.

Engagement by Team



All Bay Collective

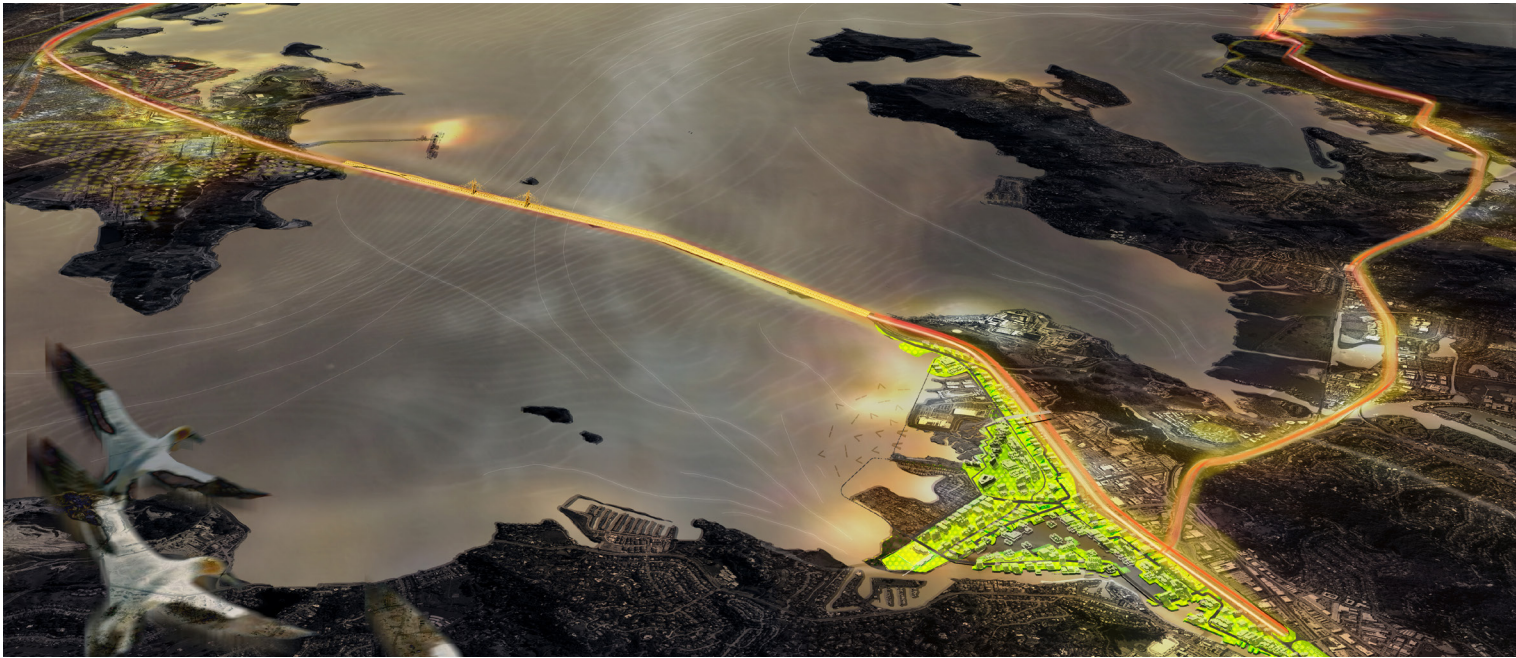
The All Bay Collective focused on fostering a sense of connectivity and identity around San Leandro Bay (part of the Oakland Estuary). Their strategy started with existing expertise in collaborative game development (AECOM + CMG's Game of Floods and Janette Kim/CCA's sea level rise games for BCDC, et. al.). These tools allowed ABC to encourage collaboration among

stakeholders and create an iterative process, crafting tools together throughout the Collaborative Design Phase. The team held multiple Project Working Group meetings with stakeholders and hosted a Game Night at the Coliseum BART station to raise awareness about sea level rise and groundwater risk around the Estuary.

TOOLS FEATURED

- 18 [In It Together Game](#)
- 21 [Speaking Bay](#)
- 22 [Groundwater Flood Model](#)
- 31 [Community Resilience Investment Decision Making Tool](#)





Bionic

In the Design Phase, the Bionic Team wanted to understand the details of life in San Rafael, and the everyday issues that matter for people, their families and businesses now. The Team also wanted to reach a deeper level of conversation with the people that live there about the threat of flooding and sea level rise. From these interactions, it was clear that people share the desire for essentials that allow them to thrive - safety, secure housing, a livelihood, equal access to resources,

a community to rely on – and that the community’s social network is complex, interwoven, and highly resilient. The tools the team developed helped make flooding relatable, understandable, and provoke deeper questions and answers, and transcend educational, language, and age barriers to engaging the San Rafael community. For this team, the agency of design in all forms creates access to the information necessary to elevate the dialogue and the process.

TOOLS FEATURED

- 16 Stickers
- 21 Flood Kit
- 24 Flood Mobile
- 26 Flood Fair
- 26 'Living with Water' event series





BIG+ONE+Sherwood

After multiple rounds of one-to-one meetings with local and regional stakeholders, which included community organizations and local property owners, and City Agencies such as SF Port and SFPUC with assets at risk, the BIG+ONE+Sherwood team gathered important insights and information to structure a meaningful community engagement process. The goal was to provide the most adequate tools and activities to the community in order to allow them to express how they could directly benefit from achieving both a long-term vision and near-term pilots.

The team structured their public engagement process in two rounds of activities: one at the end of March and one at the end of April. The goal of the first round of

activities was to co-create a shared vision for the Islais Creek Watershed and discuss in depth local issues and priorities. This round of activities included a youth event, and two public workshops in Bayview and Dogpatch. The goal of the second round of activities was to discuss in a more intimate setting ideas for pilots and how these could kick-start a long-term vision. This round of activities included a second youth event and three community sessions with a selected group of stakeholders and leaders, focused around three topics: (1) Parks & Open Space, (2) Environmental Justice, Infrastructure & Health, and (3) Affordability, Economics & Workforce Development.

TOOLS FEATURED

15	Postcards
16	Stickers
00	Models





Common Ground

Throughout the Design Phase, Common Ground developed diverse methods for community feedback and engagement to get a sense of how residents and commuters who traverse the San Pablo Baylands at the northern end of San Francisco Bay perceive and interact with this region. The team developed an online survey and solicited input at local farmers markets, the annual San Francisco Bay Flyway Festival, and several Bay Area learning institutions. The team also worked with

local middle schools to model sediment capture in the baylands, developed a map to orient people visiting the baylands and, in collaboration with the San Francisco Bay Trail, hosted a Baylands Discovery Walk to learn more about public access and recreation. These tools directly influenced the team's final design concepts and shed light on the San Pablo Baylands as a forgotten resource in need of resilient activation.

TOOLS FEATURED

- 23 [Baylands Discovery Map](#)
- 23 [Mobile Billboards](#)
- 28 [Discovery Walk](#)





Field Operations

The Field Operations Team’s approach to outreach and engagement in the South Bay was in many ways, ‘Come one, come all!’ They set out to listen to, learn from, and collaborate with any and all agencies working on projects related to sea-level rise or to bayfront planning in general, as well as any and all residents that they could welcome into their process.

They framed their conversations around the concept of a “sponge” to help people visualize natural systems as flood protection and climate mitigation and created a mobile hub of information, dubbed the “Sponge Hub.” The Sponge Hub helped convey the specific relevance of sea level rise with local communities at Farmers Markets, churches, high school sport events, park and Bay Trail locations. In addition to the mobile “Sponge

Hub” activities, the team organized and participated in several participatory public events. Their largest public event was a public meeting for the East Palo Alto Community, held at Cooley Landing.

Each community workshop and meeting was designed to be highly “active”. Using a variety of interactive techniques, the team inspired participants to imagine, investigate, construct, and reflect; by touching, moving, writing and playing. Through visceral interactions with physical models, sketch stations and voting games the team enabled participants to quickly communicate and test their visual and spatial ideas and build off each other to generate ideas and solutions for and by their communities.

TOOLS FEATURED

- 15 Postcards
- 20 Sponge Tub
- 25 Sponge Hub





HASSELL+

As part of their commitment to working with the South San Francisco community, the Resilient South City team transformed a formerly-vacant storefront on Grand Avenue into a community meeting place open to residents and community groups to learn about the project, share personal stories, and provide feedback and ideas about what will make a resilient South City. The team also developed postcards and native plant playing cards to share out information on watershed resilience and attract people to the shopfront. The team utilized space activation to fully engage with South City residents on strengthening South San Francisco’s resilience to sea level rise and climate change.

TOOLS FEATURED

- 15 Postcards
- 19 Resilient City Boardgame
- 19 Native Plant Playing Cards
- 29 Community Shopfront





Home Team

The Home Team's engagement approach revolved around convening a community advisory board with a stipend to co-create a design process and develop a series of projects that were relevant to community needs. Through an open call for applications and additional recruitment assistance from Juliana Gonzalez from the Watershed Project and Robert Rogers with County Supervisor John Gioia's office, the North Richmond Community Advisory Board was formed. A series of meetings with the CAB applied resident knowledge and stakeholder priorities towards developing a common vision. Local testing of the Streetwyze app helped spatially locate neighborhood

assets and challenges, tying back to design goals and development. The resulting final design concepts were developed with the CAB and emphasize building the community capacity to adapt to climate change by linking local health and wealth building to infrastructure investments.

TOOLS FEATURED

- 23 [Sea Leveling Rods](#)
- 31 [Streetwyze app](#)





P+SET

Rather than a site specific, element and component-based design, the Permaculture and Social Equity Team (P+SET) proposed an unconventional approach - a social design process to build community capacity and ecoliteracy to address the challenges of coastal adaptation and resilience planning, especially in vulnerable communities that have experienced generations of marginalization and exclusion. In a three-month period, the team in collaboration with Shore Up Marin successfully piloted this capacity

building program in Marin City, resulting in an inspiring People's Plan to authentically reflect the aspirations and intentions of the resident community of place. An intergenerational cohort expanded existing knowledge for assessing and addressing risks, developing near and long-term strategies with a prioritized set of projects to be immediately phased into partial implementation. This project emphasized local knowledge and capacity building as essential to planning for sea level rise and climate change impacts.

TOOLS FEATURED

- 28 [Watershed Tour](#)
- 30 [Designing Our Own Solutions Course & People's Plan](#)





Public Sediment

Public Sediment did not shy away from the challenge of building a creek constituency within the Alameda Creek watershed, the largest watershed in the Bay Area. Public Sediment implemented a wide and diverse stakeholder engagement strategy to develop Public Sediment for Alameda Creek. Through the development of the Alameda Creek Atlas, public events like the Creek Crawl, workshops with students and tabling at Earth Day events, the team has started to mobilize a constituency around the Creek. While sediment is generally not a high-priority for the general public, there are hundreds of informed and active citizens living in the watershed that are interested in organizing around the creek and interested in the sediment story. The team spent time learning from this community, interviewing residents, and adapting the parameters of sediment design to the expressed needs of people in the watershed - increased connectivity, more social spaces, greater recreational opportunities, and access to the water. The short-term process has built public perception around the value of sediment as a public resource and builds a constituency for the creek. There is significant need to expand this thinking over the long term in the Alameda Creek watershed and a great need to replicate this model in other parts of the Bay.

TOOLS FEATURED

- 16 Cutouts
- 17 Alameda Creek Atlas
- 20 Peg Map
- 22 Bay Model
- 23 Kinetic Sand Activity
- 27 Creek Crawl





Engagement Tools

The cohort of Resilient by Design projects offers innovative design concepts that respond to the challenge of a rising bay, as well as creative ways to involve community members in this work. The flexibility of the Resilient by Design process and the creativity of the design teams created a unique opportunity for education and engagement opportunities that go beyond a traditional public input process to build deeper community awareness and involvement in climate adaptation planning and design.

These tools were created to achieve two primary goals

The first goal was to raise awareness around the increasing flood risk in the Bay Area due to sea level rise, severe storms and rising groundwater. While Bay Area residents have a high level

of understanding of the overall challenges of climate change, awareness about how our own communities will be affected is still emerging. The extent of flood risk we face, and the variety of tools available to mitigate these risks are not well known. Resilient by Design Teams created tools to raise awareness around the risks we face, and how nature based solutions can play a role in protecting and enhancing our communities.

The second goal was to involve local community members in the design process. Local design solutions are enhanced by the on-the-ground knowledge that community members bring, and the involvement by a broad group of stakeholders early on in a design process can create significant momentum toward next steps and implementation. Resilient by Design Teams worked with local partners to develop creative ways to catalyze innovative design concepts through community participation to set these projects up for success.

Visual Images

The Design Teams used their design expertise to create compelling visuals to educate local stakeholders - these tools are easily adaptable to any educational effort.

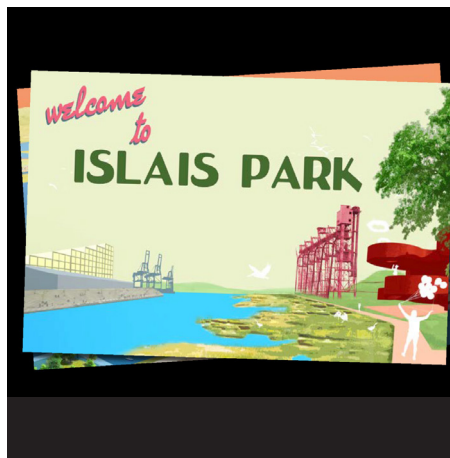
Postcards

HASSELL+, Field Operations, and BIG+ONE+Sherwood used postcards with images of their vision and key statistics about flooding that were distributed locally to raise awareness about the project. The

striking visual images developed by the Design Teams lent themselves well to this format.



Field Operations Team, San Mateo and Santa Clara County
These postcards were used at Y-PLAN classroom meeting, at farmers markets, and at Cooley Landing community meeting.



BIG+ONE+Sherwood, San Francisco
Postcards are a great, inexpensive way to get the word out!



HASSELL+, South San Francisco San Mateo County
Postcards were distributed at their shopfront.

Baylands Discovery Map

Common Ground, San Pablo Baylands
Sonoma, Napa, and Solano Counties

Resilience cannot be achieved by design and restoration strategies alone - it must be fostered with the help of human connections to this landscape that we hope people will consider part of their home and lives. Common Ground's community outreach indicated that people want access and improved legibility of the baylands. To this end, the team developed a Baylands Discovery Map to provide information about how to access the baylands. The map also serves as a tool to educate visitors about landscape processes and the cultural history of the San Pablo Baylands.

YOUR TURN

Map making can be a great resource to reorient people to their own communities and the natural resources near where they live.



Stickers

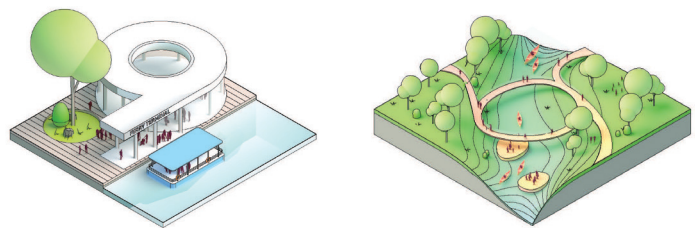
Bionic and **BIG+ONE+Sherwood** used stickers to generate awareness around flooding and sea level rise and/or to show examples of design ideas that can be implemented along the shoreline to increase resilience. Stickers can be used in meetings to visually show how different interventions could work together. Stickers can also start informal conversations about a topic by placing them in unusual locations.

YOUR TURN

Stickers are easy and inexpensive to produce - you can turn almost any image into a sticker. Always make sure to ask permission before placing a sticker in a public location!



Ask me about Flooding! Stickers, Bionic Team, San Rafael, Marin County



Big One Sherwood, Islais Creek, San Francisco. Stickers were used at community meetings to indicate what residents wanted in their community.

#PublicSediment Cutouts

Public Sediment, Alameda Creek

Alameda County

This team used cutout squares with #PublicSediment and creek related symbols (people walking, fish, wildlife, sea level rise, etc). The goal of the cutouts was to increase social media presence and help the public visualize what they want to see in a resilient Alameda Creek.

YOUR TURN

Pick relatable symbols as cutouts and use a laser cutter or x-acto blade to cut out shapes from cardboard squares. Make sure the squares are something people can easily hold in their hands. Have people hold up cutouts, document how they see their creek, and share on social media.



Alameda Creek Atlas

Public Sediment, Alameda Creek

Alameda County

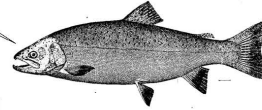
Atlas (physical and online) with information about the Alameda Creek watershed and opportunities to fill in how the public uses the creek, what changes they'd like to see, and any memories of growing up with the creek (trout recipes, etc). The Atlas helped the team raise public awareness and build a creek constituency.

YOUR TURN

Download the Alameda Creek Atlas booklet here and view the online atlas here. Develop unfinished booklet about your local creek and its watershed where people can fill what they know about the creek, memories they have playing in the creek, and what they'd like the creek to look like in the future.

Visit the online atlas and download the pdf atlas resilientbayarea.org/unlock-alameda-creek

Water conditions in the Alameda Creek currently prevent consumption of any fish caught in the creek. Farmed Steelhead Trout is a sustainable (and delicious) alternative. How would you prepare trout as a culturally relevant meal? Las condiciones del agua en Alameda Creek actualmente impiden el consumo de cualquier pescado capturado en el arroyo. La Trucha Steelhead cultivada es una alternativa sostenible (y deliciosa). ¿Cómo prepararías la trucha como una comida culturalmente relevante? 你如何准备鲑鱼作为一种文化相关的食物?





Games

Games can create a casual, fun atmosphere for collaborative learning.

'In It Together' Game

The All Bay Collective, San Leandro Bay Estuary

Alameda County

The In It Together game is a serious game that brings stakeholders together around a map of the Estuary to cooperatively explore adaptation strategies, weigh their tradeoffs, and achieve greater local resilience. This game was designed by students at CCA, led by Janette Kim. The aim of the game is to educate and spark conversations about how climate change impacts Estuary neighborhoods. Players represent diverse communities and agencies within the Estuary, each with unique goals to build long-term resilience and meet immediate-term needs. In each round, they take turns placing adaptation pieces (e.g., living levees, tidal

ponds, greenways, high-density housing) on the map, paying for these actions with in-game currency. As the rounds advance, so too does flooding, taxing players if flood waters reach unprotected buildings or infrastructure. Players can compete or collaborate to realize a win-lose outcome if they individually accomplish their goals or achieve a win-win solution if they collectively score all available 'Collective Resilience Points.'

YOUR TURN

Check out the instructions for the game in Appendix E of the All Bay Collective Final Report resilientbayarea.org/san-leandro-bay. Use this game with any 1:400 map of your neighborhood.



The Resilient City Boardgame

Hassell+, South San Francisco

San Mateo County

Hassell+ created the Resilient City Boardgame to be a new avenue in which to discuss issues of climate change and what can be done about it that would benefit all parties affected. The game was played by the South San Francisco High's Youth Leadership Institute group and other interested community members. The goal of the board game was to create a fun and interactive way for the community to engage in the topics of sea level rise, flood mitigation, and restoring local ecology, while giving them hypothetical power to make urban planning decisions that will improve and protect their city.

YOUR TURN

Visit our online toolkit for instructions on how to play.



Native Plant Playing Cards

HASSELL+, South San Francisco

San Mateo County

Playing Cards were created with information about plants native to the San Bruno Mountain and Colma Creek Watershed. They were used in print format and on social media to raise awareness in a fun, informative way. Playing cards are a method of co-creating informational materials with local community partners and combining local and scientific knowledge.

YOUR TURN

Create playing cards with information about different species of plants or animals native to your community.



Interactive Models

3D models can create opportunities for community members to connect and learn through physical interaction.

Sponge Tub

The Field Operations Team, South Bay

San Mateo and Santa Clara Counties

The Sponge Tub is an activity where ice is dumped into a bin filled with water. The melting ice mimics sea level rise. Sponges are introduced as wetlands which help soak up the water and bring the water levels down. This activity helps people of all ages visualize sea level rise and the baylands as a sponge.

YOUR TURN

Buy an inexpensive tub, ice, and different edge materials (i.e. different household items like paper, sponges, cardboard, etc). Fill the tub with water and design your own edge of the shoreline with the household items. Add ice into the tub and notice if your edge absorbs the rising waters.



Peg Map

Public Sediment, Alameda Creek

Alameda County

Public Sediment created a 3D printed topographic map of Alameda Creek from baylands to mid-watershed with pegs. The activity asks kids and adults to mark how they move through the watershed using a rubberband (i.e. routes to school, how they get to work, where they play sports, etc), paying attention to whether they cross the creek. This activity is aimed at visualizing how people move through the watershed and use the creek.

YOUR TURN

Print out a map of your community, place map on a bulletin cork board. Using push pins create a grid over the pinned up map. Use large rubber bands to map the routes you and your family take throughout your community.



Speaking Bay

The All Bay Collective, San Leandro Bay Estuary
Alameda County

CCA students within the All Bay Collective team created a large topographic model of the San Leandro Bay Estuary. Stakeholders used the model as a speaking platform, jumping into the Estuary at a Project Working Group meeting to point out their hopes, dreams, fears, and ideas for a more resilient Estuary.

YOUR TURN

Draw a large scale outline of your shoreline, creek, or region on butcher paper and invite participants to jump in the water and share their resilient visions for that water body.

Flood Kit

Bionic Team, San Rafael
Marin County

The Bionic team created a 3-D printed model to teach people of all ages and learning abilities how flooding works in San Rafael. The Kit debuted at the Flood Fair they hosted in partnership with The Canal Welcome Center. The team also visited Laurel Dell Elementary School to teach students about flooding and to hear from the students their ideas on how to adapt and live with water. Their ideas inspired many of the team's design strategies. After teaching 4th and 5th grade students and other community members how flooding works in San Rafael, the Bionic Team donated two Flood kits to San Rafael elementary schools and the organization Y-PLAN to utilize as a tool to teach the greater community about flood risk.

YOUR TURN

Create an interactive model of your community to show how it would be affected by flooding using a 3-D printer. Use food coloring and water to experiment with different flood events.



BIG+ONE+Sherwood Models

BIG+ONE+Sherwood, Islais Creek

San Francisco County

The team developed interactive models depicting key assets along Islais Creek where people can add green infrastructure and public access elements to increase resilience.

YOUR TURN

Create interchangeable models for your community events to give stakeholders a chance to explore different scenarios.



Bay Model

Public Sediment, Alameda Creek

Alameda County

Maps were projected onto a model of the Bay Area to show sediment flow through Alameda Creek watershed and its large sediment impact in the South Bay and beyond. The goal is to visualize impacts and raise awareness.

YOUR TURN

Use a projector to bring your map to life!

Groundwater flooding demonstration model

The All Bay Collective, San Leandro Bay Estuary

Alameda County

This model was developed by UC Berkeley graduate students to demonstrate groundwater intrusion as a transect reaching from the bay shoreline inland. Water is poured into one side of the model and demonstrates different soil typologies (represented by foam, wood, etc.) as it flows, gets absorbed, and creates surface level impacts.

YOUR TURN

Create an interactive model of your community to show how it would be affected by flooding.





Mobile Billboards

Common Ground, San Pablo Baylands
Sonoma, Napa, and Solano Counties

Billboards displayed messaging orienting SR37 drivers to the baylands and ecological resilience. The idea evolved out of renting static billboards along SR37 to promote resilience and the Common Ground project. The team instead rented mobile trucks with custom billboards to drive across SR37 and park in strategically visible locations.

YOUR TURN

Billboards are a way to raise awareness with a broad group of people.

Sea Leveling Rods

The Home Team, North Richmond
Contra Costa County

This an art project and a community building first-response tool that visualizes the effects of climate change by relating projected sea levels with a familiar place. An array of rods is placed in the inter-tidal zone of local water bodies to show projected sea level rise. The rods themselves can be made of a variety of materials, cut to measure and painted as a participatory activity for all ages. The project gathers community to physically articulate change at scale and place--a co-operative exercise which enables informed dialogue about the future.

YOUR TURN

Invite community to make Sea Leveling Rods to measure and monitor local sea levels and flooding—as a hands-on group activity; identify sites to deploy the rods, and invite community to gather, familiarize themselves with the local environment, and discuss the projected impacts of sea level rise.



Kinetic Sand Activity

Public Sediment, Alameda Creek
Alameda County

Public Sediment created a kinetic sand with 3-D printed figurines of structures, activities, and people. This was designed for kids to build how they want the creek to look and was used at Earth Day tabling, and the teen workshop at Union City Teen Center.

YOUR TURN

Buy kinetic sand and design 3-D printed objects for kids to play and build with the sand.

Mobile

Even the most effective events and activities won't reach everyone in a community. To spread the word further, sometimes a mobile educational hub is the best option.

Flood Mobile (the Flo-Mo)

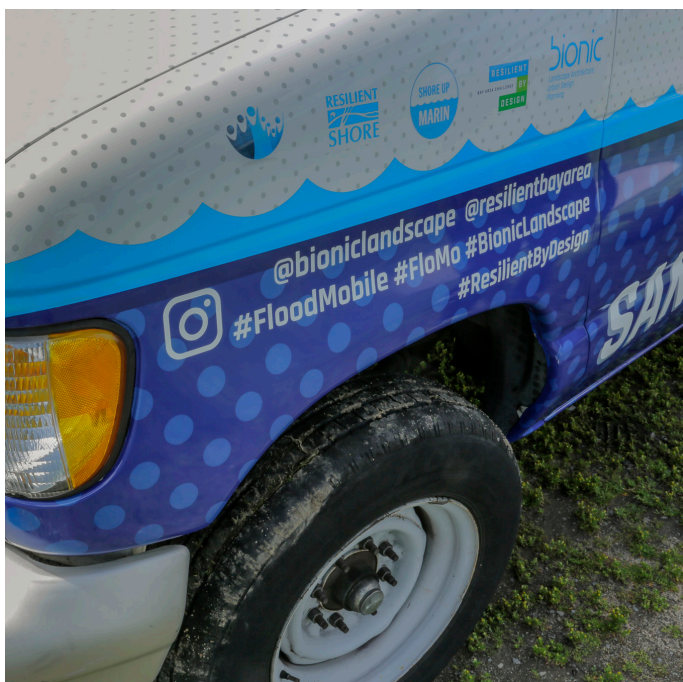
Bionic Team, San Rafael

Marin County

To increase the visibility of the issue to people at all elevations, generate awareness about the cause, and stimulate a commitment to building resilience, the Bionic Team designed the Flood Mobile (Flo-Mo) with the message that flooding affects everyone and everything. It will hopefully serve as a tool for community partners to continue their work. Flo-Mo was at many of the Bionic Team's events and was driven around San Rafael to accompany Canal Welcome Center programming.

YOUR TURN

Design a narrative about flooding fit to the dimensions of a vehicle and use a vehicle wrapping service. Then drive it around town!





Sponge Hub

The Field Operations Team, South Bay
San Mateo and Santa Clara Counties

Field Operations galvanized around the sponge concept as a way to connect nature to people and technology. They designed an airstream trailer wrapped with a sponge design. They distributed cotton candy (edible sponges) as a way to engage residents. Field Operations took the Sponge Hub to South Bay farmers markets, local classrooms, and their Cooley Landing community event to raise awareness of the baylands as a sponge.

YOUR TURN

Locate an airstream trailer or similar vehicle, wrap your vehicle with an eye catching design and drive it around town. Perhaps distribute cotton candy or an equally sweet treat to for extra engagement.



Events

Public events can be a great way to provide a more immersive experience for stakeholders or get feedback and input from a broad group of people.

Flood Fair

Bionic Team, San Rafael

Marin County

The Flood Fair reached out to San Rafael residents to: teach people about the flooding challenges San Rafael is facing, meet people who want to be part of the solution, hear what flooding means to residents, hear views, concerns, and hopes for a resilient San Rafael, introduce the Flood Mobile, explore some preliminary ideas, display young students' work on the challenge. It was intended to capture a wide audience and generate awareness about the moral imperative and impending risks. The Bionic Team worked with Shore Up Marin / Canal Welcome Center, Resilient Shore, Y-PLAN, and Youth in Arts to do outreach for the event.

YOUR TURN

Host a flood fair to raise awareness about flooding in your community. Check out our resources section on our website for more information about Bay Area sea level rise datasets and maps. Include information on potential resiliency solutions, ways to be prepared for future disasters, and how residents can stay involved. Make sure to provide information in an accessible format to all residents in the local area (i.e. translated text, in person translation, age appropriate, etc).



'Living with Water' Event Series: Walk the Shoreline, Kayak the Creek, Bike the Canal

Studio for Urban Projects, Bionic Team, San Rafael

Marin County

This was a three-part event series coordinated by Studio for Urban Projects that connected San Rafael residents with local experts along the shoreline and were focused on Living With Water. They were each tailored to highlight the expertise of local experts, current and on-going projects, and awareness about flooding, sea level rise, and changes needed to improve

life in San Rafael from health and safety, flooding, sea level rise, bicycling, walking, ecology, among others.

The shoreline walking tour that commenced at Pickleweed Park and ended at the Marin Rod and Gun Club with an oyster shucking party. Along the way, the tour saw the Flood Mobile, documented flora and fauna, studied the living shoreline pilot project, learned about existing projects, and discussed ideas for San Rafael's future. The kayaking tour of the Canal and shoreline made stops at the living shoreline pilot project, Pickleweed Park, and mudflats. It explored a way of living with water that may be the future for San Rafael. The bicycle tour through the Canal District and East San Rafael generated awareness about bicycle safety and lack of safe conditions in San Rafael.

Creek Crawl

Public Sediment, Alameda Creek

Alameda County

The Creek Crawl was a walking tour event hosted by Public Sediment along the creek to kickoff public outreach for this project. The tour had three stops along the creek where participants learned about the history of the creek, how it has changed over time, and participated in a community conversation about building resilience to the impacts of climate change. They heard from local experts about the role of sediment, people, and fish within the Alameda Creek as they walked about one mile around its edges. There were refreshments and activities for children.

YOUR TURN

Are you trying to raise awareness and draw peoples' attention to a specific location? Plan a crawl around that area with different stops and activities.



YOUR TURN

Producing an active participatory event series on landscape is a great way for residents to get to know their community and start to think about solutions for greater access, mobility and resiliency.

Watershed Tour with Residents

Permaculture + Social Equity Team (P+SET), Marin City

Marin County

P+SET, Shore Up Marin and local residents went on a tour of Marin City following the flow of water from the hills to the bay shoreline. The tour helped the team and community members learn where current flooding hotspots are, raise awareness about the course and encourage sign ups. The team took the tour after initiating their partnership with Shore Up Marin as a way to hear from residents and garner interest in Designing Our Own Solutions course.

YOUR TURN

Research what historic watershed you live in and where water used to flow from the hills to the bay shoreline. Start from the highest accessible point and follow the water down hill documenting where you can see water present now. Make note where you know there is current flooding and if sea level rise or more severe storms could exacerbate these flooding hotspots. Find where the water meets the bay shoreline and note if this is a different location from where the water flowed historically.



Discovery Walk

Common Ground, San Pablo Bay

Sonoma, Solano and Napa County

In partnership with the San Francisco Bay Trail, Common Ground offered a discovery walk in the San Pablo Baylands on the Eliot Trail at Sears Point. The guided walk used the Bay Trail's new audio tour to highlight how the Sears Point wetland restoration project is transforming a former diked hayfield into a marshland teeming with life. Participants learned more about the wildlife and processes of this dynamic landscape in transition -and about how the San Pablo baylands is part of regional hiking, biking, and kayaking trails that encircle and connect the entire bay.

YOUR TURN

You can do a self-guided walk of Eliot Trail (if you want to listen to the audio tour on your own, please download Vizzit Places in the App Store (or Android).



Community Shopfront

HASSELL+, South San Francisco

San Mateo County

Hassell+ rented out a former bank space and transformed into a temporary community shopfront where South San Francisco residents could learn about the project and map out where they've seen flooding. Their goal was to activate a gathering space as a resilience hub, spread awareness about the project, and gain direct input. The space was open Monday-Friday 11am-5pm and some Saturdays throughout the design phase.

YOUR TURN

Find a central location close to public transportation and where there is high foot traffic. Make the space inviting with places to sit, native plants, and colorful graphics and maps. Staff the space so that people can drop in at convenient times. Create interactive activities for the public to engage in and provide input.



Training Local Advocates

Developing strong local advocates for climate adaptation and resilience in their communities takes time. Resilient by Design developed and/or piloted various efforts to build a longer term network of local advocates ready to work to make their own communities more resilient to flood risks while addressing other challenges and concerns they are facing.

Designing Our Solutions Course

Permaculture + Social Equity Team (P+SET), Marin City

Marin County

An 8-week course was produced in partnership with Shore Up Marin to engage Marin City residents in grassroots resilience planning. Its goal was to build capacity and ecoliteracy on coastal adaptation planning in Marin City. The course was rooted in permaculture design principles and ethics that were used to support a regenerative, natural systems based, collective design process. Team with Shore Up Marin engaged 25-30 Marin City residents in an 8-week course called Designing Our Own Solutions. The residents learned about permaculture design and adaptation planning, shared their local knowledge about flooding and community needs, and developed

maps highlighting opportunities to implement green infrastructure solutions to mitigate flooding. The residents prioritized potential projects and developed a People's Plan outlining next steps. The course culminated in a celebration where local leaders and regional stakeholders were invited to view the community's People's Plan for a more resilient Marin City.

YOUR TURN

Recruit participants from the community and co-develop the course with participants as it progresses. Emphasize and support development of local knowledge and value community members as equal designers.



Community Resilience Investment Decision Making Tool

The All Bay Collective, San Leandro Bay Estuary

Alameda County

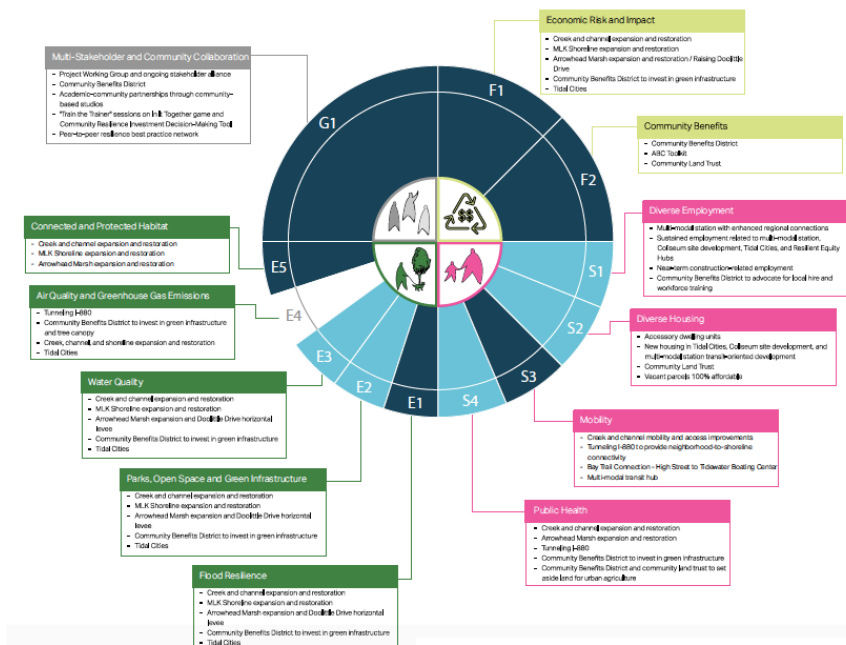
The Community Resilience Investment Decision Making Tool was developed for communities to use to prioritize and advocate for community resilience when new investments occur within the community. It is a quadruple bottom line framework for measuring the social, environmental, financial, and governance benefits associated with different adaptation strategies. The All Bay Collective applied this tool to evaluate the co-benefits of three different scenarios: (1) the “Before” scenario, where few resilience actions had been pursued;

(2) the “Current and Proposed Plans” scenario, where stakeholders are pursuing a variety of independent resilience actions, including adopted plans and strategies; and (3) the “Estuary Commons” scenario, based on the collaborative and comprehensive design vision. In consultation with agency and community representatives during the Design Phase of Resilient by Design, the team developed criteria, indicators, and metrics associated with each bottom line. The criteria and indicators correspond to issues of importance to local stakeholders.

It is designed as a dynamic, flexible framework that users can adapt as priorities, realities, and risks change.

YOUR TURN

Use the community resilience investment decision making tool.



Streetwyze

The Home Team, North Richmond

Contra Costa County

This online platform, founded and owned by black and women entrepreneurs in the East Bay, was introduced to more than 40 local community members during the design process, including project managers with the Watershed Project. These people populated a map of the neighborhood with places of value, opportunities and challenges, as well as locations of regular flooding. An interactive tool that allows community members to communicate with broader data information, this tool is still open and available for use by the community through the Streetwyze website. It is targeted to become an app available in the future.

YOUR TURN

Go to streetwyze.com to learn more.



Y-PLAN Resilient by Design Youth Resilience Challenge

Regional

The Youth Resilience Challenge was a parallel resilience youth challenge produced through a partnership between Resilient by Design and the UC Berkeley Center for Cities and Schools that engaged over 800 Bay Area elementary and high school students in climate resilience planning for their own communities. Y-PLAN is an award-winning educational strategy that empowers young people to tackle real-world problems in their communities through project-based civic learning experiences.

Elementary and high school students from San Francisco, San Rafael, Richmond, Oakland, and East Palo Alto went on field trips to their local shoreline, designed models and maps showing key assets in their communities, and developed proposals for fostering climate resilience in their own communities. Along the way, students interacted with Resilient by Design Design Team members and key stakeholders. Skyline High School students heard from Dr. Kristina Hill from the All Bay Collective Team to understand groundwater impacts at the San Leandro Bay Estuary site. Laurel Dell Elementary School students helped interview Flood Fair attendees as part of the Bionic Team’s outreach in San Rafael. East Palo Alto Phoenix Academy students led a walking tour for the Field Operations Team to show the team around their shoreline. The Youth Challenge culminated in a Regional Summit at UC Berkeley where over 200 students presented their proposals for a climate resilient Bay Area to regional leaders.

YOUR TURN

Learn more about Y-PLAN and their methodology:

y-plan.berkeley.edu

Produce your own Y-PLAN planning process:

y-plan.berkeley.edu/diy





Speed-Dating Style Workshops

Resilient by Design

Some of the most knowledgeable local experts on how to get projects planned, permitted and constructed - representatives from regulatory agencies, flood control districts, regional and state agencies and others - don't often get a chance to share that knowledge beyond existing proposals that are part of their review process. Through out the Bay Area Challenge, Resilient by Design was able to unlock that knowledge in an informal setting through a set of "speed-dating" style workshops. These workshops gave participants a chance to have short but meaningful conversations about specific topics that they would not be able to dive into in a traditional panel discussion, and inspired collaborative brainstorming efforts between designers, community members and agency representatives.

YOUR TURN

Think of a workshop where you want to dive deep into multiple subject areas in short periods of time. Invite experts to be table hosts. Workshop participants will split into groups and move around the tables in 20 minute intervals and get a chance to briefly connect to experts.



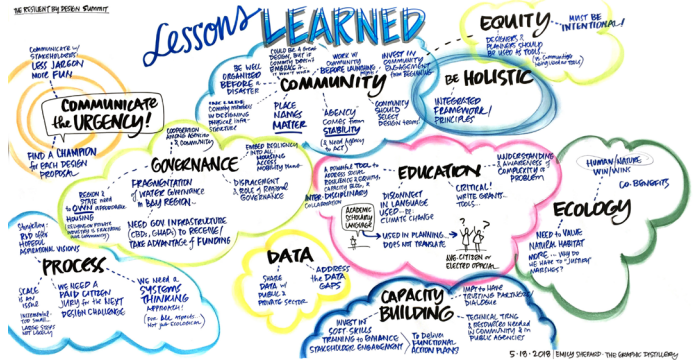
Designing Our Future | Resilient Bay Summit

Resilient by Design

As a culmination to the Bay Area Challenge, Resilient by Design hosted a World Cafe style group conversation around the themes of Environment & Ecosystems, Social Resilience & Environmental Justice, and Infrastructure & Governance. Through the conversations, we explored key takeaways from the Resilient by Design process, and ideas, strategies, and best practices for advancing resilience efforts around the region. Below and to the left are images created by our graphic recorder that captured the themes that were discussed during the event.

YOUR TURN

Host a World Cafe Style conversation where experts and local stakeholders can come together to connect around thoughts and ideas. If possible hire a graphic recorder to take notes.



THE RESILIENT BY DESIGN SUMMIT





Next Steps

The Bay Area Challenge is only a beginning - the regional momentum generated in the last year will continue on as communities work together to implement Resilient by Design projects and address sea level rise and climate change impacts around our bay.

The tools created during the Bay Area Challenge engaged communities around the region in a myriad of ways - Bay Area residents examined sea level rise vulnerabilities in their communities by foot, kayak, and bike; they played collaborative social resilience games and visualized flooding through flood toys and sponge tables; they wrote down their hopes and dreams for a resilient Bay Area on the back of cards and in atlases; and they got to work developing their own plans and designs for resilience in their communities.