Schools Program Alliance
c/o Alliant Insurance Services
Corporation Insurance License No. 0C36861
2180 Harvard Street, Suite 460, Sacramento, CA 95815

AGENDA

A **Action**
I **Information**

1 **Attached**
2 **Hand Out**
3 **Separate Cover**
4 **Verbal**

MEETING: Schools Program Alliance
Board of Directors Meeting
DATE/TIME: January 9, 2023 at 10:00 AM PDT
TELECONFERENCE: Toll Free (888) 475 4499 or (669) 900-6833 US Toll
Meeting number (access code): 950 7787 6862
https://alliantinsurance.zoom.us/j/95077876862?pwd=cXhzYno4VUx2c0xXOXVWQ3NYeERydz09

IMPORTANT NOTICES AND DISCLAIMERS:
Per Government Code 54954.2, persons requesting disability related modifications or accommodations, including auxiliary aids or services in order to participate in the meeting, are requested to contact Michelle Minnick at Alliant Insurance at (916) 643-2715 twenty-four (24) hours in advance of the meeting. The Agenda packet will be posted at each member's site. Documents and material relating to an open session agenda item that are provided to the SPA members less than 72 hours prior to a regular meeting will be available for public inspection and copying at 2180 Harvard Street, Suite 460, Sacramento, CA 95815.

Access to some buildings and offices may require routine provisions of identification to building security. However, SPA does not require any member of the public to register his or her name, or to provide other information, as a condition to attendance at any public meeting and will not inquire of building security concerning information so provided. See Government Code section 54953.3.

This Meeting Agenda shall be posted at the address of the teleconference locations shown below with access for the public via phone/speaker phone.

1. Butte Schools Self-Funded Programs, 500 Cohasset Road, Suite 24, Chico, CA 95926
2. North Bay Schools Insurance Authority, 380 Chadbourne Rd, Fairfield, CA 94534
3. Redwood Empire Schools' Insurance Group, 5760 Skylane Blvd., Suite 100, Windsor, CA 95492
4. Schools Insurance Authority, 9800 Old Placerville Rd, Sacramento, CA 95827
5. Schools Insurance Group, 550 High Street, Ste. 201, Auburn, CA 95603
6. Central California Schools Authority, 7170 N. Financial Dr. #130, Fresno, CA 93720

PAGE **A. CALL TO ORDER, ROLL CALL, QUORUM** **A 4**

B. APPROVAL OF AGENDA AS POSTED **A 4**

C. PUBLIC COMMENTS **I 4**
The public is invited at this point to address the Board of Directors on issues of interest

D. CONSENT CALENDAR **A 1**
The Board of Directors may take action on the items below as a group except a Board Member may request an item be withdrawn from the Consent Calendar for discussion and action.
Pg. 4 1. Minutes of SPA Board Teleconference Meeting November 7, 2022
Pg.9 2. SPA Memorandum of Understanding

E. MEMBER PROGRAM AND IDEA SHARING
Pg. 18 **1. BASIC - StopIt and Praesidium** **I 1**

F. GENERAL ADMINISTRATION

Pg. 26 **1. Excess Liability Program Renewal** **A 1**
Jim Wilkey will provide the Board with an update regarding the Liability Renewal.

Pg. 27	**2. 2023 Property (And APD) Renewal Discussion** *The members will receive information regarding the status of the property market.*	**I**	**1**
Pg. 29	**3. Property Program Renewal - Adoption of Valuation and Trending** *The Board will receive an update for the FY 23/24 renewal and will consider a plan and will consider and approve the FY 23/24 trend factors.*	**A**	**1**
Pg. 31	**4. SPA Overview & BASIC Membership** *Members will receive an overview of SPA's formation as a partnership JPA and how that differs from an entity JPA and may approve the recommendation for admitting BASIC as a member of the Liability Program.*	**A**	**1**
	5. Property Program Policy & Procedure	**A**	**1**
Pg. 32	**a. Claim Payments** *Board will review a draft policy for processing claims in the retained layer.*		
Pg. 36	**b. Property Program Policy and Procedure (COC)** *The Board will receive and may approve a policy regarding the addition of course of construction projects.*		
Pg. 41	**c. Approval of Property Program Claims Payments** *The Board will receive and may approve a Claim Advance payments from the re-insurer to SIA.*		
Pg. 44	**6. Cost Allocation: Conceptual Questions LTP** *The Board will consider options for cost allocation.*	**A**	**1**
Pg. 47	**7. Potential Group Services for Participation in WC Data Warehouse** *The Board is asked to consider collective participation in CWCI.*	**A**	**1**
	G. INFORMATION ITEMS AND DISCUSSION *This is an opportunity for a Board Member to discuss a topic of interest or seek guidance and input from the group about a current issue, risk management topic or exposure the Member is experiencing.*	**I**	**4**
Pg. 48	**1. Tamping Down Wildfire Threats**		
Pg. 60	**2. California Disaster Map 2011-2021**		
	I. ADJOURNMENT	**A**	**4**

Item No: D.

CONSENT CALENDAR

ACTION ITEM

ISSUE: Items on the Consent Calendar are to be reviewed. If any item requires clarification, discussion, or amendment by any member of the Board, such item(s) may be pulled from Consent Calendar and placed on the agenda for separate discussion.

Items pulled from the Consent Calendar will be placed on the agenda in an order determined by the President.

RECOMMENDATION: Adoption of items presented on the Consent Calendar after review by the Board.

FISCAL IMPACT: As indicated on any item included.

BACKGROUND: Items of importance that may not require discussion are included on the Consent Calendar for adoption.

ATTACHMENTS:

1. Minutes of SPA Board Teleconference Meeting November 7, 2022
2. SPA Memorandum of Understanding

SCHOOLS PROGRAM ALLIANCE
November 7, 2022 Teleconference Board Meeting Minutes

Members Present:

Butte Schools Self-Funded Programs (BSSP)	Christy Patterson
Butte Schools Self-Funded Programs (BSSP)	Nicole Strauch
North Bay Schools Insurance Authority (NBSIA)	Kim Santin
North Bay Schools Insurance Authority (NBSIA)	Brandon Schlenker
Redwood Empire Schools Insurance Group (RESIG)	Cindy Wilkerson
Redwood Empire Schools Insurance Group (RESIG)	Sandy Manzoni
Schools Insurance Authority (SIA)	Martin Brady
Schools Insurance Authority (SIA)	Debrah Sherrington
Schools Insurance Authority (SIA)	Phil Brown
Schools Insurance Authority (SIA)	Amy Russell
Schools Insurance Authority (SIA)	Brooks Rice
Schools Insurance Group (SIG)	Kelli Hanson
Schools Insurance Group (SIG)	Nancy Mosier
Central California Schools Authority (CCSA)	Alan Caeton

Consultants & Guests

Dan Howell, Alliant Insurance Services
Dan Madej, Alliant Insurance Services
Marcus Beverly, Alliant Insurance Services
Michelle Minnick, Alliant Insurance Services
Bob Green, Gilbert Associates
David Shew, Wildfire Defense Works
James Wilkey, New Front Insurance
Eric Dahlen, Sedgwick

A. CALL TO ORDER, ROLL CALL, QUORUM

Mr. Martin Brady called the meeting to order at 10:01 a.m. The above-mentioned members were present constituting a quorum.

B. APPROVAL OF THE AGENDA AS POSTED

A motion was made to approve the Agenda as posted.

MOTION: Cindy Wilkerson	**SECOND: Christy Patterson**	**MOTION CARRIED UNANIMOUSLY**

C. PUBLIC COMMENT

There were no public comments.

D. CONSENT CALENDAR

1. Minutes of SPA Board Long Range Planning Meeting September 12-13, 2022

It was noted that the attendee list did not include a couple members who did attend and it was requested those members be added to the minutes of the September 12-13, 2022 meeting.

A motion was made to approve the Consent Calendar with the changes that were noted.

MOTION: Alan Caeton	**SECOND: Kim Santin**	**MOTION CARRIED UNANIMOUSLY**

E. MEMBER SHOW & TELL

Initially it was requested to move this item after Item F. After Item F it was noted that due to the timing of the meeting it was requested to move this item to the January meeting as the first item after the consent calendar.

F. GENERAL ADMINISTRATION
F.1. SPA AUDIT PRESENTATION

Bob Green from Gilbert Associates provided the Board with a review of the SPA Audit and noted it was a success. He noted that they have issued an unmodified opinion, which is the highest rating. The Management Representation letter was included and it states that everything that was asked for was provided.

A motion was made to approve the Financial Audit as presented.

MOTION: Kim Santin	**SECOND: Cindy Wilkerson**	**MOTION CARRIED UNANIMOUSLY**

F.2. WILDFIRE DEFENSE

David Shew from Wildfire Defense led the SPA group in a discussion regarding Wildfire Mitigation and efforts for reducing wildfire exposure and we can discuss the services that we can provide. He noted that about 90% of what causes fires is due to embers that ignite the structure – when structures do ignite there is a 90% chance they will not survive the fire. Dan Howell noted that what we are seeking is something that we can use to tell a story to the underwriters and show that we are actively trying to address our wildfire risk exposure. Using the CoreLogic risk score as a way to identify the highest risk locations and then look at the individual campuses to develop a long-term plan to prevent wildfires.

F.3. STRATEGIC PLANNING OBJECTIVES

Marcus Beverly provided a quick review of the Strategic Planning Objectives that came out of the September meeting. There was a discussion of the need for ground up loss runs as well as the need for quarterly loss runs, as well as if there should be a process for the Property program related to loss reporting for the Retained Layer. It was noted that we can continue to develop after the meeting and bring back to the January meeting.

F.4. PROPERTY PROGRAM RENEWAL & TRENDING UPDATE

Dan Madej provided a quick discussion as we get ready for the FY 23/24 Renewal and we will request data from members as we get closer to the renewal. Dan Howell noted that APIP has decided on 7.5% for Real Property and 7.5% for Personal Property and noted that we will have appraised values coming on after the new year. It was requested the SPA members determine the trend factors at the next meeting.

F.5. TRANSITION TO ALLIANT CONNECT

Michelle Minnick reminded the Board as the appraisals are completed and approved by each of the SPA members we are requesting that members transition to use of Alliant Connect Property Schedules and Alliant Connect Vehicle Schedules for property changes over the course of the year. Members were provided resources regarding the Alliant Connect Property Schedules and Alliant Connect Vehicle Schedules that can be distributed to your staff and membership. The Board was also notified that Michelle will be sending out a request to members to determine who maintains the schedule to set them up on the new platform as well as provide any training as needed.

F.6. SPA MEMORANDUM OF UNDERSTANDING

Marcus Beverly provided the Board with a quick review of the SPA MOU and noted that the purpose was intended as a group purchase arrangement and noted that SPA has now started to share risk in the Property Program. Program Administration was provided with direction to being this back to the LRP meeting with the language cleaned up to match our other SPA documents. It was noted that you must join one of the two programs (either Liability or Property) in order to join other programs. Program Administration was provided with direction to being this back to the January meeting on the Consent Calendar.

A motion was made to approve the SPA MOU with the changes noted.

MOTION: Cindy Wilkerson SECOND: Christy Patterson MOTION CARRIED UNANIMOUSLY

F.7.A. PROPERTY PROGRAM POLICY & PROCEDURE – CLAIM PAYMENTS

Dan Madej provided the Board with a review of the draft Policy & Procedure for review. He noted there is a need for policy related to the managing member advancing payment for losses that occur within the Retained Layer. It was noted that we will bring this back at the January Board meeting for final decision.

F.7.B. PROPERTY PROGRAM POLICY & PROCEDURE – COC

Dan Madej noted this is an action item as we are seeking to modify the Underwriting Policy rather than the MOC and the Board was asked to discuss the updated Policy. He noted that the SPA MOC allows for automatic inclusion of Course of Construction (COC) risks under $25M but anything over that amount may need to be reviewed by the Board for review of the risk exposure and be considered for approval prior to adding it to the property program. After a discussion, direction was provided to the Program Administration and it was requested that this item be brought back at the January Board meeting for final decision.

F.8. COST ALLOCATION: CONCEPTUAL QUESTIONS LTP

It was mentioned that if we bring this item back in January we will not have received the updated loss data and members were advised to review the questions listed in the agenda in anticipation of this being presented at the January Board meeting for final decision.

F.9. LIABILITY PROGRAM UPDATE

Jim Wilkey provided an update and mentioned that we previously talked about aggregate limits and the challenges that the market is still presenting to us.

G. FINANCIALS AS OF SEPTEMBER 30, 2022

Phil Brown provided the Board with a review of the Financials as of September 30, 2022. The Audit was not yet available for this meeting as they were labeled as draft.

- Total assets of $23.9 million (AR & prepaid insurance); total liabilities of $19.6 million noting that the majority is deferred contributions
- The financial statements reflect an increase in net position of $832,182
- Combined revenues recognized were $6.4 million ($4.7M property, $1.7M liability)
- Combined expenses of $5.6 million are mostly insurance premiums recognized ($3.9M
- property, $1.7M liability)
- Accrual of actuarial liabilities are not recorded at this time in addition to accruals from the June 30, 2022 actuarial report

There was a question regarding the appraisal process that RESIG is currently going through and noted a couple members with negative balances, it was noted that SPA started collecting on a 5-year collection schedule and since they were only 1-2 years into the 5-year collection of Appraisal cost they will pay the difference over time. It was also requested that any invoices that have been received for the appraisals be sent over. Lastly it was noted that RESIG appraisals should be completed by Thanksgiving, SIG has started and is on track to complete SIG by end of the year.

A motion was made to approve the Financials as of September 30, 2022.

MOTION: Cindy Wilkerson SECOND: Kim Santin MOTION CARRIED UNANIMOUSLY

H. INFORMATION ITEMS AND DISCUSSION

There was no discussion.

I. ADJOURNMENT

A motion was made to Adjourn.

MOTION: Cindy Wilkerson **SECOND: Christy Patterson** **MOTION CARRIED UNANIMOUSLY**

The meeting was adjourned at 12:44 P.M.

NEXT MEETING DATE: January 9, 2023 via Teleconference

Respectfully Submitted,

____
Martin Brady, Secretary

____
Date

MEMORANDUM OF UNDERSTANDING REGARDING PARTICIPATION IN THE SCHOOLS PROGRAM ALLIANCE PROGRAM

BETWEEN SCHOOLS INSURANCE AUTHORITY AND

__________ (Name of SPA Member)

This document constitutes an agreement (hereinafter" Agreement"), by and between Schools Insurance Authority (hereinafter "SIA") and _________ (hereinafter "SPA Member") to participate in the Schools Program Alliance (hereinafter "SPA") program.

PURPOSE

SPA Board of Directors approved SPA Member's participation in the SPA, a program established by SIA and the SPA participants, commencing July I, 2020. The purpose of this Agreement is to memorialize the terms and conditions of the SPA Member's participation in SPA.

SPA is intended as a group purchase arrangement for the benefit of securing (re)insurance for the SPA Members, as well as other cost sharing benefits for loss control and appraisal services. This is inclusive of, but not limited to in the future, mandatory coverages for property and equipment breakdown, as well as voluntary coverages of auto physical damage, pollution, crime, cyber and deadly weapons. For the benefit of the SPA Members, there may also be a shared layer of coverage, prior to the attachment of the (re)insurance coverage. The SPA programs will be overseen as directed by a SPA Board of Directors, made up of one representative for each SPA Member and SPA meetings shall be conducted as meetings open to the public under the Ralph M. Brown Act (CA Gov. Code Section 54950 *et seq.*).

SIA has been engaged as Managing Member by resolution of the SPA Board of Directors for administration, finance, and accounting support of the SPA programs.

AGREEMENT

Responsibilities of Key Parties

SPA Board of Directors

Each SPA Member shall have one representative on the SPA Board of Directors. The SPA Board of Directors will be responsible for:

1. Adopting the policies and procedures necessary for the functioning and operation of the SPA programs. These policies and procedures are to be in compliance with the CAJPA Accreditation Standards.
2. Adoption of an annual budget for costs associated with insurance placements, Managing Member cost recovery and shared services of the SPA Members.
3. Hiring and oversight of the Managing Member for the administration, finance and accounting needs of the SPA programs.

4. Assuring the Managing Member's Board of Directors representative obtains the information necessary for managing the finance and accounting needs of the SPA programs.
5. Hiring and oversight of a Program Administrator working with the Managing Member to fulfill the duties of the Program Administration Policy and Procedures.
6. Approval of claims payments in compliance with SPA Claims Policy and Procedures.
7. Adoption of a Memorandum of Coverage for any self-insured programs.
8. Meeting at least once per year and conducting meetings in compliance with the public under the Ralph M. Brown Act (CA Gov. Code Section 54950 *et seq.*).
9. Establishing SPA Members' responsibilities.
10. Election of a Chair and Vice Chair of the SPA Board of Directors.
11. Formation of Ad Hoc committee(s), as needed, and delegation of limited authority to such committee(s) to accomplish certain tasks.

Managing Member

The Managing Member shall be responsible for the administration, finance, and accounting requirements for the operation of the SPA programs. This includes managing contribution funds, expenditures, creation of a separate, non-comingled account for such funds, investment of any funds and release of funds for claims payments when directed by the SPA Board of Directors. The Managing Member shall follow the policies and procedures set forth by the SPA Board of Directors, or if a policy or procedure is not available for which the Managing Member needs to fulfill its responsibilities, the Managing Member may rely on its own existing policy or procedure. Whichever the case, it is agreed that administration of the SPA programs shall be performed in compliance with the California Association of Joint Powers Authority's (CAJPA) Accreditation Standards.

The Managing Member, via its representation on the SPA Board of Directors, will request, obtain, and report all necessary information to fulfill its responsibilities. The Managing Member will create and keep current any procedural needs required to satisfy these responsibilities. Subject to the approval of the SPA Board of Directors, the Managing Member may contract to third parties certain services including but not limited to administrative services, insurance brokerage services, claims administration services, loss control services, and appraisal services. The Managing Member will designate a Program Administrator to serve as the SPA Members' day-to-day contact providing general oversite of the SPA programs.

SPA Member

Any party to this Agreement will join any mandatory programs and is considered a SPA Member. Each SPA Member agrees to:

1. Abide by all the rules, policies and procedures and obligations established by the SPA Board of Directors or within the Memorandum of Coverage/Insurance Policies for which the SPA Member participates.
2. Appoint a representative and alternate to the SPA Board of Directors.

3. Participate in any mandatory programs.
4. Remit fund contributions and other amounts due within 15 days of the date of invoice or, in the case of the deposit premiums adopted in the budget, within 15 days of the commencement of the fiscal year for which the budget applies.
5. Cooperate fully with the SPA Board of Directors, Managing Member, and Program Administrator in reporting on claims, in determining the cause of claims and in the settlement of such claims.
6. Upon withdrawal from a SPA program, the member shall remain responsible for any losses and any other costs which it has incurred while a Member of the SPA program.

In addition to the above, each member agrees to cooperate fully with parties or persons employed by the SPA Board of Directors to provide loss control services, and each of the entities agree to permit such parties or persons access to inspect property and conditions. In the event a participating member fails to comply with loss control recommendations, after having been afforded reasonable opportunity to do so, the SPA Board of Directors may vote to terminate the SPA Member's membership in any SPA program as provided in this Agreement.

Each Member Entity agrees to share the cost of loss control services which shall be allocated to each Member as agreed by the SPA Board of Directors.

Policies and Procedures

The SPA Board of Directors, with the help of the Program Administrator, will develop and adopt policies and procedures necessary for the functioning and operation of the SPA programs. These policies and procedures will be in compliance with the CAJPA Accreditation Standards. The Program Administrator will review the CAJPA Accreditation Standards annually and advise the SPA Board of Directors of recommended changes or additions. For any policies and procedures deemed needed by the Managing Member but not yet adopted by the SPA Board of Directors, the SPA Board of Directors agrees to follow the policy and procedure currently in place with the Managing Member, until such time as a comparable policy or procedure is adopted by the SPA Board of Directors. This includes any policies or procedures needed for the accreditation requirements with CAJPA.

1. Minimum Period of Participation and Withdrawal Requirements

SPA Members are required to participate in SPA and abide by all SPA policies, procedures and practices as may be amended or modified for a minimum of three full program years. If a SPA Member desires to withdraw from a SPA program, a written withdrawal notice must be provided to the SPA Board of Directors no later than six months prior to a program's renewal anniversary date once the three full years of participation has been satisfied. Withdrawal from a program will be effective as of the program's renewal anniversary date. Subject to approval of the SPA Board of Directors, a SPA Member may rescind its withdrawal by providing written notice by March 1 prior to the program's renewal anniversary date.

2. Minimum Period of Non-Participation after Leaving Program

If SPA Member withdraws from SPA at any time, it may not reapply to participate in SPA for a minimum period of three (3) years.

3. Mandatory and Voluntary Program Participation

It is agreed that SPA Members must join any mandatory programs offered by SPA. After joining the mandatory programs, a SPA Member is then eligible to join any voluntary program offered by SPA. The Board reserves the right to designate one or more coverage program as mandatory programs. The voluntary programs include, but are not limited to the property, equipment breakdown insurance, auto physical damage, pollution, crime, cyber and deadly weapons programs.

4. Rates

The SPA Board of Directors, consisting of one representative from each SPA Member, shall have the exclusive authority to set and adjust the SPA Members' rates based on actuarial data, a rating plan adopted by the SPA Board of Directors, and program expenses.

5. Annual Contributions

SPA Members are required to make contribution payments to SPA as determined by the SPA Board of Directors for all SPA participants. As Managing Member of the SPA program, SIA shall perform fund accounting services to SPA, collect deposits and premiums, and make disbursements in accordance with the rating plan and policies and procedures adopted by the SPA Board.

6. Managing Member Cost Recovery

In acknowledgement of the services rendered by the Managing Member, SIA, the SPA Board of Directors will compensate SIA for the costs incurred in this role, provided such costs are approved by the SPA Board of Directors. This includes, but may not be limited to, costs for managing the accounting of the SPA program, cost of increased liability insurance, and cost to run-off the SPA program under Termination of Program, if any. SIA shall provide the SPA Board of Directors with expected costs as the Managing Member and the SPA Board of Directors shall include those costs in the upfront calculation of the Annual Contributions.

7. Shortfalls

If the dollar amount of a SPA Member's claims and program expenses exceed its annual contribution in any fiscal year, the SPA Member shall make an additional contribution in accordance with the SPA Rating Plan to reach an appropriate funding level. SIA shall not incur any liability from SPA Member shortfalls and a negative fund balance of the SPA Program shall be charged interest at the then current rate of investment income return earned by SIA on its investments until such time as the shortfall funded.

8. Indemnification and Hold Harmless

SPA Member hereby agrees to indemnify and hold harmless SIA, its Governing Board, officers, employees, agents, and representatives from and against all costs, claims, demands, damages, suits, liabilities, charges, and complaints of any kind, including reasonable attorneys' fees, foreseeable or unforeseeable, from any person or entity directly or indirectly arising out of or related to SIA's obligation to administer SPA pursuant to this Agreement. SPA Member shall not be obligated to indemnify or hold harmless SIA, if the aforementioned costs, claims, demands, damages, suits, liabilities, charges or complaints arise out of SIA's, (including SIA's Governing Board, officers, employees) sole or gross negligence, or are incurred solely because of SIA's (including SIA's Governing Board, officers, employees) actions or failure to act.

9. Overages

If the dollar amount of SPA Member's claims and program expenses, including allocated investment income, are less than the SPA Member's annual contribution in any fiscal year, as determined by the SPA Board of Directors under the adopted rating plan, SIA at the direction of the SPA Board of Directors shall adjust the SPA Member's contribution and return any unneeded funds.

10. Risk Sharing

It is understood and agreed that the SPA Member is not participating in any other risk sharing program of SIA and is limited solely to the cost of participation in SPA as determined by the SPA Board of Directors, subject to the review of the SIA Executive Committee for adequacy.

11. Claims

SPA claims shall be adjusted by a professional claim's administrator designated by the SPA Board of Directors. Claims payments shall be approved and paid under the policies and procedures adopted by the SPA Board of Directors which shall be consistent with SIA practices and procedures as applied to SPA.

12. Termination of Program, Managing Member or SPA Member

SPA Board of Directors may elect to terminate any or all SPA programs, or a SPA Member, upon a supporting vote of two thirds (2/3) of the current membership and six months' written notice to all the parties to this agreement.

SIA, or SPA's Board of Directors, may elect to terminate SIA's role as Managing Member upon six months' written notice to all the parties to this agreement. SPA Board of Directors termination requires a supporting vote of two thirds (2/3) of the current membership. In the event the SPA Board of Directors elects to transfer the program to a successor organization, SIA will cooperate and provide assistance in transferring the program to the successor organization. Upon termination or transfer to a successor organization, SPA Members shall be responsible for all reasonable and necessary costs incurred for run-off of the SPA program or costs incurred by SIA to transfer the program to a successor organization.

The successor organization will be responsible for any requirements yet to be completed or finalized under the provisions of this Agreement, including the Overage section. The SPA Board of Directors, working in unison with SIA, will be responsible to detailing any outstanding requirements yet to be completed or finalized upon transfer to the successor organization.

For any SPA program that is terminated per the provisions of this agreement, any remaining funds will be distributed pro rata based on original contribution or pursuant to the rating plan duly adopted by the SPA Board of Directors and in force at the time of the distribution.

13. Binding Agreement

This Agreement shall be binding upon the Parties. All of the covenants, stipulations, promises, and agreements contained in this Agreement by or on behalf of, or for the benefit of either of the Parties, shall bind and inure to the benefit of their respective successors or assigns.

14. Entire Agreement

This Agreement constitutes the entire agreement between SIA and SPA Member regarding the SPA Member's participation in SPA. As long as there is no material breach of this Agreement, this Agreement supersedes any and all agreements, either oral or in writing, between the Parties or their predecessors in interest. Each party to this Agreement acknowledges that representations by any party with respect to the subjects identified in this section which are not embodied herein, or any other agreements, statements or promises not contained in this Agreement, shall not be valid and/or binding.

The parties represent, warrant, and agree that in executing and entering into this Agreement they are not relying upon, and have not relied upon, any representation, promise or statement made by anyone which is not recited, contained, or embodied herein. The Parties agree and assume the risk that any fact not verified, contained or embodied in this Agreement may turn out to be other than, different from, or contrary to, the facts now known to them and believed by them to be true. The Parties further agree that this Agreement shall be effective in all respects notwithstanding, and shall not be subject to termination, modification or rescission by reasons of any such differences in fact.

Each party executing this Agreement hereby acknowledges and agrees that they have carefully read all of its terms and provisions, have been advised of its many consequences by their attorneys, and signs this Agreement of their own free will and with advice of counsel.

15. Third Party Beneficiaries

The Parties agree that this Agreement is by and between the Parties and/or their successors and assigns, and no third party is intended, expressly or by implication, to be benefited by this Agreement.

16. Amendment and Waiver

No supplement, modification or amendment of this Agreement shall be binding unless executed in writing by all the Parties. No waiver of one provision of this Agreement shall be deemed to constitute a waiver of any other provision(s), whether or not similar, nor shall any waiver constitute a continuing waiver. No waiver shall be binding unless executed in writing by the party making the waiver.

17. Invalid Term

If any provision of this Agreement is declared or determined by any court of competent jurisdiction to be illegal, invalid, or unenforceable, the legality, validity or enforceability of the remaining portions hereof shall not, in any way, be affected or impaired thereby.

18. Applicable Law

The parties understand and agree that this Agreement shall be governed by, and interpreted under, the laws of the State of California.

In the event of a dispute concerning the terms of this Agreement, the Parties expressly agree that the venue for any legal action shall be with the appropriate court in the County of Sacramento, State of California.

19. Arbitration

In the event a dispute shall arise between the parties regarding any aspect of this Agreement, it is hereby agreed that they will submit any such dispute to final and binding arbitration pursuant to the Arbitration Rules of the American Arbitration Association before a neutral arbitrator to be mutually selected by the parties.

In making an award, the arbitrator shall have no power to add to, delete from or modify this Agreement, or to enforce purported unwritten agreements or prior agreements, or to construe implied terms or covenants into the Agreement, the parties being in agreement that no such oral or implied terms or covenants or unwritten agreements or prior agreements are intended by them to remain enforceable, to the extent they may ever have been. In reaching his or her decision, the arbitrator shall adhere to the relevant law and applicable precedent and shall have no power to vary therefrom.

The award of the arbitrator shall be final and binding, provided, however, that in the event the arbitrator exceeds the powers or jurisdiction here conferred or fails to issue a decision in conformance herewith, it is specifically agreed that the aggrieved party many petition a court of competent jurisdiction to correct or vacate such award and that the arbitrator's act of exceeding his or her powers shall be grounds for granting such relief.

The parties shall share the expense of arbitration. The prevailing party to a dispute shall be entitled to reasonable attorneys fees. In the event a party fails to proceed with arbitration, unsuccessfully challenges the arbitrator's award, or fails to comply with arbitrator's award, the other party is entitled to costs of suit including reasonably attorney's fees for having to compel arbitration or defend or enforce the award.

20. Interpretation

All Parties warrant that they participated at arm's length in drafting this Agreement. The terms of this Agreement shall not be construed for or against any party by reason of authorship of this Agreement but shall be construed in accordance with the meaning of the language used herein.

21. Additional Matters

Each party will execute, promptly upon request from another party, any further papers or documents not herein specifically mentioned which may be reasonably necessary to carry out the letter and spirit of this Agreement and will do all things necessary to carry out and effectuate the terms and intent of this Agreement.

22. Effective Date of This Agreement

This Agreement, regardless of when executed, shall be deemed to be dated on or effective as of the 1st day of July, 2020, for those SPA Members joining at inception of SPA, or the 1st day of participation in the year that any subsequent SPA Member joins the SPA programs.

23. Identical Counterparts

This Agreement may be executed in identical counterparts, each of which shall constitute a duplicate original.

24. Headings

The headings contained herein are for the purpose of convenience only and shall not be construed to limit or extend the meaning of the Agreement.

25. Authority to Execute

Each signatory to this Agreement warrants that he or she is authorized to enter into this Agreement on behalf of his or her principal.

****End of Agreement, Signature Page Follows****

IN WITNESS WHEREOF, the Parties have caused this Agreement to be properly executed as of the date hereinabove set forth.

SCHOOLS INSURANCE AUTHORITY, SPA Managing Member

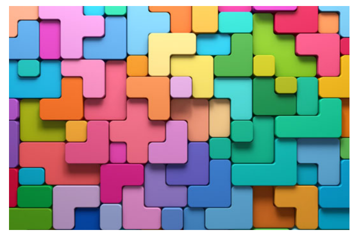
By:_______________________________________ Date:___________________

Title:_____________________________________

__________________, SPA Member

By:_______________________________________ Date:___________________

Title:_____________________________________



SPA - Show and Tell

January 09, 2023

HISTORY OF BASIC

- BASIC was formed in 1998 as a Joint Powers Authority (JPA) to provide self-insurance programs as well as a means for joint procurements
  - Currently, BASIC provides excess liability coverage
- BASIC's members include:
  - Redwood Empire Schools' Insurance Group (**RESIG**)
  - North Bay Schools Insurance Authority (**NBSIA**)
  - Butte Schools Self-Funded Programs (**BSSP**)

JOINT PROCUREMENTS

Bay Area Schools Insurance Cooperative

- Praesidium – A scientifically-based solution to transform the way organizations approach the prevention of sexual abuse.
- STOPit - Allows individuals to anonymously report safety, misconduct, or compliance concerns to help others or connect with a Crisis Counselor from the Crisis Text Line™ to help themselves.

PRAESIDIUM
IN FOCUS

Bay Area Schools Insurance Cooperative

Range (all cases)	Mean (all cases)	Median (all cases)
$35,000-$55,000,000	$5,684,948	$1,530,000

Average payout for cases settled out of court	Average payout for cases with jury verdicts
$2,500,000	$10,300,000

PRAESIDIUM
IN FOCUS

Bay Area Schools Insurance Cooperative

- Keeping the School Safe - educating those on where and when abuse is more likely to occur in schools as well as keeping themselves and co-workers safe from false allegations
- Preventing Sexual Activity Between Children - Identify problematic behaviors, how to prevent them from occurring, and how to respond
- Social Media Safety - Introduction to guideline for protecting the youth while they use social media including identifying risks and best practices
- Athlete Protection - Educates coaches and other adults working with youth sports athletes to recognize types of offenders and how they operate, the scope and effects of abuse in sports, and maintaining healthy relationships between coaches and athletes

PRAESIDIUM
IN FOCUS

ASSESS

- General Consultation
- Policy Analysis
- Management Systems Review
- Risk Assessment
- Praesidium Online Self-Assessment

Bay Area Schools Insurance Cooperative

PRAESIDIUM
IN FOCUS

PREVENT

- Model Policies and Development Support
- Background Screening Services and Toolkits
- Training for Individuals & Groups
- Certified Praesidium Guardian

Bay Area Schools Insurance Cooperative

PRAESIDIUM
IN FOCUS

RESPOND

- Crisis Response Toolkit
- Praesidium Helpline
- Crisis Consultation

Bay Area Schools Insurance Cooperative

PRAESIDIUM
IN FOCUS

PRAESIDIUM® SAFETY EQUATION

STOPit
IN FOCUS

Warning Sign Training

Students, employees, and citizens are the eyes and ears of any organization and community. STOPit provides training to recognize warning signs of individuals who may be in need of help or are a danger to themselves or others. The goal is to support the creation of an upstander culture that looks out for one another.

STOPit
IN FOCUS

Bay Area Schools Insurance Cooperative

Multiple Methods for Incident Submission

Anonymous efforts to report include through an app, website, and telephone hotline for users to gather and submit actionable information, including screenshots, photos, audio, and videos, to intervene and get help for individuals who may want to hurt themselves or others.

STOPit
IN FOCUS

Bay Area Schools Insurance Cooperative

Monitor & Manage

There is also a 24/7/365 Incident Response Center with certified specialists who monitor, manage and notify officials and 911 (as needed) of submitted incidents. When needed for any life-threatening situations, the specialists will alert assigned officials via escalation email, text, and phone call.

STOPit
IN FOCUS

Bay Area Schools Insurance Cooperative

Incident Management System for Quick Response

Time is critical when a life may be at risk. It is why we created our all-in-one app and web-based Incident Management System to quickly inform assigned response teams and 911 (as needed) of submitted incidents – resulting in faster, more actionable responses to both life and non-life threatening situations.

STOPit
IN FOCUS

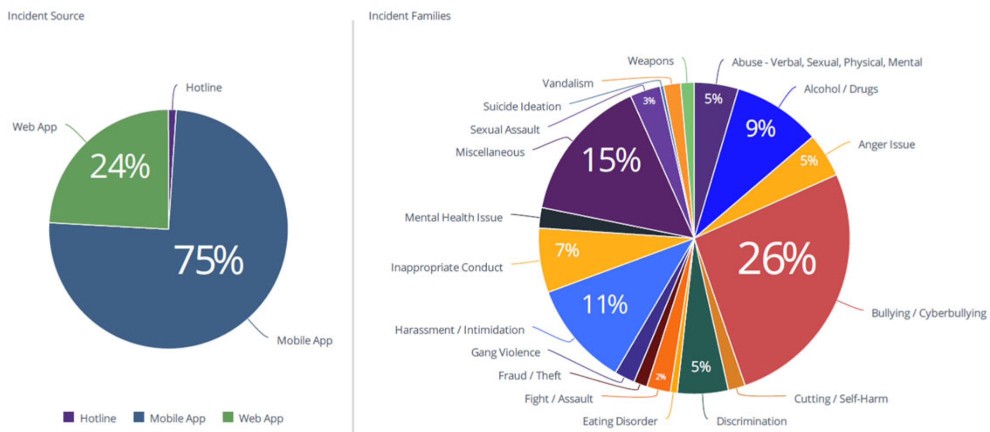
Bay Area Schools Insurance Cooperative

Seamless Documentation for Record of Actions

It is critical to document steps taken when an incident is submitted. This system captures all responses, actions and plans. Additionally, custom forms can be created to meet district or state requirements. This documentation facilitates case referencing, tracking, and/or gathering of additional inputs to comply with organization, state, and federal policies.

STOPit
IN FOCUS

* Incident Volume displays the total number of incidents reported for the time frame shown.



QUESTIONS?

Item No: F.1.

LIABILITY - SPA EXCESS LIABILITY PROGRAM UPDATE

INFORMATION ITEM

ISSUE: The Board will receive information regarding the Excess Liability Program.

RECOMMENDATION: None.

FISCAL IMPACT: None.

BACKGROUND: Newfront is currently exploring options to purchase additional supplemental (or sideways) aggregate to shore up existing aggregate limits quoted and will present those as soon as possible.

ATTACHMENTS: None.

Item No: F.2.

2023 PROPERTY (AND APD) RENEWAL DISCUSSION

INFORMATION ITEM

ISSUE: We will discuss the initial renewal topics, the data request that was released for the 2023 property/APD renewal process, as well as the draft timeline.

RECOMMENDATION: No action on the data request discussion.

FISCAL IMPACT: No impact on the data request discussion.

BACKGROUND: Regarding the data request topic, now that this has been released to members for the 2023 renewal, we would like to continue with ongoing dialogue regarding the collection and evaluation of the renewal data. Timely collection of the data will assist in a timely review, evaluation, reconciliation and release of the data to the markets to begin the marketing process, as well as the additional analytics work (modeling, etc.).

Regarding the CoreLogic wildfire risk score, for the 2021 renewal, SPA engaged CoreLogic in order to model the locations relative to wildfire risk. A similar project was conducted in 2022. The CoreLogic tool returns a score that evaluates the level of risk each location poses for wildfire loss. This perspective was used for two key benefits: (1) SPA Members were educated on how this tool worked and how to interpret the results, which allows each to become more familiar with their portfolio of risk as well as strategize on potential loss control needs/initiatives and (2) SPA was able to demonstrate a proactive nature to our key underwriters regarding this marquee exposure (many of which use this tool also).

ATTACHMENTS:

1. 2023 Timeline
2. A renewal presentation will be shared at the January 9th meeting.

DRAFT SPA 2023 Renewal Timeline and Milestones

Dec
Data Request

- Data Request release; 12/31/21 data

Jan
Planning, Data, Submission and Analytics

1/9 SPA BOD Mtg

- Pre-renewal discussion and planning
- Data Collection, reconciling & formatting
- Submission creation
- Data submitted for pricing and modeling

Feb-Mar
Final submission and Marketing

2/13 & 3/13 SPA BOD Mtgs

- Pricing and modeling feedback; change strategy?
- Initial feedback on marketing
- Underwriter calls/visits
- Estimated Cost Allocations

Apr
Market feedback and initial feedback

4/10 SPA BOD Mtg

- On-going market feedback, indications and strategy revisiting, if needed
- London visit

May
Final negotiations and "not to exceed"

5/8 SPA BOD Mtg

- Negotiations with markets
- "Not to Exceed" commitments

Jun
Finalize and bind program

6/12 SPA BOD Mtg

- Final positions
- Presentation of final terms
- Order to Bind
- SPA Member board presentations
- Mid/Late June TRUE-UP of values

Jul
Renewal of programs

- Binders obtained
- Timely invoicing

"In Market"

Weekly/Friday email updates to SPA Board

Schools Program Alliance

Item No: F.3.

PROPERTY PROGRAM RENEWAL - ADOPTION OF VALUATION AND TRENDING

ACTION ITEM

ISSUE: The trend factors issued by Marshall and Swift (M&S) that are used by underwriters to increase insured values to keep up with inflation are attached for review and discussion.

Duff and Phelps uses the M&S factors and trends the values at the end of the calendar year based on 4th quarter factors, as does the Alliant property program, APIP. The appraisals for Butte have been completed and values will be uploaded before the end of the year. The appraised values likely will not need to be trended this year, though the properties not appraised will be subject to trending. The remaining appraisals will be uploaded without trending, with the remaining properties subject to trending.

RECOMMENDATION: Review and provide direction regarding use of the trend factors for the SPA FY 22/23 property renewal. Program Administration is recommending the following trend factors for SIA, BSSP and all member locations that were not appraised by Kroll in 2022: Real Property 5% and Personal Property 5%.

FISCAL IMPACT: Trending the values of insured property will tend to increase the premium, though perhaps not as much as the percentage increase in the values, given target premiums.

BACKGROUND: Members have requested an overview of the trend factors used to update the property values and an update on how those factors may impact the FY 23/24 property renewal.

ATTACHMENTS:

1. Marshall Swift Trend Factors - annually as of 4th Quarter, quarterly for the last four years

MARSHALL SWIFT TREND FACTORS ANNUALLY AS OF 4TH QUARTER

Year : 2019 (4)								
1	January	•••	Western Region	2019	4.04 %	3.98 %	AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY	
2	April	•••	Western Region	2019	3.09 %	4.10 %	AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY	
3	July	•••	Western Region	2019	1.23 %	2.90 %	AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY	
4	October	•••	Western Region	2019	0.50 %	2.04 %	AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY	
Year : 2020 (4)								
1	January	•••	Western Region	2020	0.57 %	1.35 %	AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY	
2	April	•••	Western Region	2020	1.20 %	0.70 %	AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY	
3	July	•••	Western Region	2020	2.19 %	1.44 %	AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY	
4	October	•••	Western Region	2020	3.10 %	0.91 %	AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY	
Year : 2021 (4)								
1	January	•••	Western Region	2021	6.31 %	2.44 %	AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY	AB, BC, NT, YT
2	April	•••	Western Region	2021	7.07 %	3.79 %	AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY	AB, BC, NT, YT
3	July	•••	Western Region	2021	12.43 %	6.73 %	AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY	AB, BC, NT, YT
4	October	•••	Western Region	2021	19.72 %	14.17 %	AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY	AB, BC, NT, YT
Year : 2022 (4)								
1	January	•••	Western Region	2022	14.04 %	14.99 %	AK,AZ,CA,CO,HI,ID,MT,NM,NV,OR,UT,WA,WY	AB,BC,NT,YT
2	April	•••	Western Region	2022	16.26 %	17.03 %	AK,AZ,CA,CO,HI,ID,MT,NM,NV,OR,UT,WA,WY	AB,BC,NT,YT
3	July	•••	Western Region	2022	18.16 %	19.01 %	AK,AZ,CA,CO,HI,ID,MT,NM,NV,OR,UT,WA,WY	AB,BC,NT,YT
4	October	•••	Western Region	2022	10.34 %	10.56 %	AK,AZ,CA,CO,HI,ID,MT,NM,NV,OR,UT,WA,WY	AB,BC,NT,YT

Item No: F.4.

SPA OVERVIEW & BASIC MEMBERSHIP AGREEMENT

ACTION ITEM

ISSUE: Members requested an overview of SPA's formation as a partnership JPA and how that differs from a more traditional risk sharing "entity" JPA. Members also requested direction on admitting BASIC to the Liability Program.

The Program Managers have requested a memo addressing these issues from Robert Cutbirth, the attorney who assisted in writing the SPA governing documents and BASIC's legal counsel. That memo will be sent to each member individually as Attorney-Client Privileged Communication.

A summary of the overview and suggested resolution language for both SPA and BASIC will also be provided prior to and discussed at the meeting.

RECOMMENDATION: Review and discuss SPA structure and approve or provide direction regarding BASIC membership in the Liability Program.

FISCAL IMPACT: None expected from this item.

BACKGROUND: SPA was formed as a partnership JPA to provide more flexibility in how the members may group purchase goods and services. The nature and governing documents for this type of JPA are different in some respects and need to be considered as SPA continues to expand in membership, programs, or especially risk sharing.

ATTACHMENTS: SPA Operational Considerations – sent under separate cover, attorney-client privileged communication.

Item No: F.5.A.

PROPERTY PROGRAM POLICY & PROCEDURE CLAIM PAYMENTS

ACTION ITEM

ISSUE: SPA needs a policy and procedure regarding advancing claim payments to members for losses within the SPA Retained Layer. Advancing claims payments is a common practice in the insurance/reinsurance industry, for which we need similar guidelines for the SPA Retained Layer.

RECOMMENDATION: Review and approve the attached Policy and Procedure for payment of claims within the SPA Retained Layer as presented or revised or provide direction.

FISCAL IMPACT: This P&P has no direct fiscal impact other than already assumed by payment of a covered claim from the Retained Layer.

BACKGROUND: Phil Brown raised this topic at the June Board Meeting. Upon dealing with a claim in the SPA Retained Layer, he noted that our reinsurance partners advance payment for SPA claims. However, SPA does not have a P&P in place to address the Managing Member's ability to do the same for losses within the Retained Layer.

ATTACHMENTS: Property P&P - Retained Layer Claim Payment process Revised

SPA
Schools Program Alliance
c/o Alliant Insurance Services
Corporation Insurance License No. 0C36861
2180 Harvard Street, Suite 460, Sacramento, CA 95815

Policy & Procedure No. P&P ___-Property

ADOPTED: _____ __, 2023

AMMENDED:

EFFECTIVE: _____ __, 2023

SUBJECT: Claim payments within the SPA Retained Layer

Should there be any discrepancy between this documents and the JOINT POWERS AGREEMENT or the Property Program Memorandum of Coverage, the JOINT POWERS AGREEMENT and Property Program Memorandum of Coverage will govern.

PURPOSE:

The Schools Program Alliance (SPA) has developed a **Property Program** for its **Members**. Within the Property Program structure is a **Retained Layer** for which **SPA Members** participate in a shared retention. SPA annually establishes an allocation process for each **SPA Member's** liability share of the **Retained Layer,** as well as funding of that liability, per **SPA Member**. This Policy and Procedure describes the payment policy allowed by the **Managing Member** intended to release claim payment for losses impacting the **Retained Layer**.

POLICY:

It is the policy of the SPA **Board** that the **Property Program Retained Layer** shall have a payment procedure allowing for appropriate and timely release of claim payments, by the **Managing Member**, for losses impacting the **Retained Layer**. The **Managing Member** will rely on reports from the designated **Loss Adjustment Service Firm,** in terms of timing and amount of claim payment to be released.

Commented [PB1]: What does "guided" mean? They have approval authority?

Reporting of losses remain the responsibility of the **SPA Member** sustaining the loss and should follow the requirements established in the **Memorandum of Coverage** for such.

It is also understood that the SPA **Managing Member** is not handling or adjudicating any claims in the **Retained Layer**. Instead, the SPA **Managing Member** is releasing funds from the **Retained Layer** to the effected **SPA Member,** for losses within the **Retained Layer,** based upon guidance from the **Loss Adjustment Service Firm** as to amount and timing.

PROCEDURE:

The following procedures are followed in the payment of losses impacting the **Retained Layer**.

1. Retained Layer payment procedure

For losses impacting the **Retained Layer**, the SPA **Managing Member** will:

- Consult with the **Loss Adjustment Service Firm**.
- Seek the **Loss Adjustment Service Firm's** ~~guidance~~ position on
  - The amount to be paid from the **Retained Layer**
  - The timing for which the amount can be released
  - Any adjustments to the previously paid amounts until closure of the claim

The SPA **Managing Member**, in releasing the claims payment for losses impacting the **Retained Layer**, shall use the **Retained Layer** funded amounts provided by the **SPA Members**. If those funded amounts are insufficient, the **Managing Member** will notify the **SPA Members** of additional amounts owed based upon their allocation of the **Retained Layer** liability for the year in question, if applicable.

2. Reinsurer payments or advanced payments

For any amounts paid or advanced by a reinsurer to SPA in relation to a SPA Member's claim, the Managing Member shall release those funds to the SPA Member promptly, but not exceeding 10 business days

3. Post-payment reductions

Regarding Sections 1 and 2, should any future determination be made which reduces the amounts owed to the SPA Member (ex. adverse coverage determination, additional recoveries, etc.), the SPA Member shall return any overage amounts from the original payments. "Overage" is calculated as original payment less post-original payment reduction.

4. Periodic review

This Policy and Procedure shall be reviewed by the **Board** and amended as needed.

DEFINITIONS:

"Board" means the Board of Directors of the SPA Joint Powers Authority.

"Loss Adjustment Service Firm" refers to the designated firm listed in the Memorandum of Coverage

"Managing Member" means the duly authorized representative of the SPA Members and point of contact for all vendors.

"Memorandum of Coverage" refers to the document which establishes and outlines the coverage offer by SPA to the SPA Members.

Commented [PB2]: Should we better proceduralize or document the process by which a member requests for reimbursement?

Commented [DM3R2]: The member need only submit the necessary documentation already addressed in the reporting procedures. McLarens acts on the Member's behalf in working with reinsurers for payment … and it seems the Managing Member would work on the Member's behalf to release the Retained Layer payment in similar fashion.

Commented [PB4]: Should be some sort of approval process required by the Board?

Commented [DM5R4]: That is the preference of the Board. McLarens works on our behalf, so it would seem the Board would allow for reliance on McLarens' work, in allowing the Managing Member to know (1) when and (2) how much is to be released to the Member for losses in the Retained Layer. In the same vein, I don't believe the Board approves the loss amount that is sought from reinsurers (or paid to Members, in total), even though, technically, SPA pays the total loss to the Member and is reimbursed by the reinsurers.

"Property Program" means the program established by the Board to provide a combination of self-insured, insured and reinsured coverages and services designated by the Board as elements of the SPA Joint Powers Authority property program offering.

"Retained Layer" refers to any shared retention layer within the Property Program structure.

"SPA Member"/"Member" means the signatories to the SPA Joint Powers Authority.

Item No: F.5.B.

PROPERTY PROGRAM POLICY & PROCEDURE COURSE OF CONSTRUCTION

ACTION ITEM

ISSUE: The SPA Board needs to review and address the topic of Course of Construction/Builders Risk exposures for the long-term viability of the SPA Property Program. Presented here are the details and information necessary to provide guidance and/or approval of an official approach. It was decided at the June Board Meeting to handle this topic via the Underwriting Policy for SPA, instead of introducing restrictive language into the actual MOC. The initial draft changes to the Underwriting Policy were provided at the November board meeting and changes were recommended.

RECOMMENDATION: The SPA Board will review and discuss the items presented here which detail the topic of future Course of Construction/Builders Risk exposures within the portfolio.

FISCAL IMPACT: Impact is hard to determine at this point, but the revised underwriting policy on Course of Construction/Builders Risk exposure could have an impact on (1) Losses sustained by SPA and our reinsurance partners, as well as (2) premiums collected for any SPA/reinsurer approved projects.

BACKGROUND: New Construction/Builders Risk projects present a unique exposure to the SPA portfolio of risks (higher hazard), which need to be handled differently than basic homogeneous new locations added from acquisitions. Currently, the SPA MOC allows for automatic addition of COC projects under $25,000,000 in value. This topic was discussed at the June Board Meeting, regarding the importance of restricting these exposures within the portfolio, wherein it was agreed to adjust the Underwriting Policy.

Examples of potential issues with these exposures include:

- projects can stretch over multiple coverage periods, presenting unique challenges if the SPA reinsurance support, terms and conditions change at any renewal
- the risk presented by these projects result in much higher premium costs in the marketplace (up to $1 rates) compared to the "set" SPA rate for the reinsurance structure (~9 cents).
- Our reinsurance relationships/credibility could be damaged if we are viewed as "giving away" the coverage …. And could be magnified if a loss occurs.

These are examples for why SPA needs to demonstrate a more methodical approach to these risks, in order to prevent availability or coverage issues with our reinsurance partners should certain scenarios play out (i.e., we look better to our partners if they know we are consciously and pro-actively managing topics such as COC/Builders Risk exposures). Managing how we approach these risks can also have a meaningful impact to SPA experience long-term, depending on loss scenarios.

ATTACHMENTS: Revised draft of Underwriting Policy

Schools Program Alliance
c/o Alliant Insurance Services
Corporation Insurance License No. 0C36861
2180 Harvard Street, Suite 460, Sacramento, CA 95815

Policy & Procedure No. P&P 1-Property

ADOPTED: January 11, 2021

AMMENDED: January ___, 2023

AMMENDED EFFECTIVE: July 1, 2023

SUBJECT: Property Program Underwriting Procedures

Should there be any discrepancy between this documents and the JOINT POWERS AGREEMENT or the Property Program Memorandum of Coverage, the JOINT POWERS AGREEMENT and Property Program Memorandum of Coverage will govern.

PURPOSE:

The Schools Program Alliance (SPA) has developed a **Property Program** for its **Members**. SPA has established rating plans and operating practices for its **Property Program**. This Policy and Procedure describes Underwriting Procedures intended to maintain **Member** confidence in the funding and viability of SPA's **Property Program** as well as guidelines for adding locations, members to existing **Members** and prospective new **Members** to the **Property Program**.

POLICY:

It is the policy of the SPA **Board** that the **Property Program** Underwriting Procedures balance and achieve the following underwriting goals:

- Rate Stability over time so that **Members** can plan for SPA **Property Program** costs;
- Loss Accountability so that **Members** are incentivized to prevent and reduce losses;
- Relationship of loss exposure so that rates reflect each **Member's** relative exposure to loss; and
- Growth in membership managed so that addition of new locations or members to existing **Members** and addition of prospective new **Members** supports the overall goals of SPA and mitigates potential negative impacts to SPA **Members**.

PROCEDURE:

The following underwriting procedures are followed in establishing the **Property Program** funding and rates.

1. <u>Underwriting guidelines /funding requirements/rating plan</u>

   Rates are established by the **Board** based upon multiple factors including, but not limited to, the following:

- The **Program Administrator** shall gather and analyze information on **Member** exposures including but not limited to the schedule of values, loss history, loss control reports, and exposure modeling.
- The **Program Administrator** shall project funding requirements for retained layers and reinsurance costs. An actuary may be engaged to assist as needed.
- The **Program Administrator** shall present to the **Board** for each year's renewal a rating plan cost allocation and a review of the methodology for calculating member contributions and reinsurance premiums.

2. New locations, new members of existing Members and prospective new **Members** (This section does **not** apply to new construction projects applicable to Course of Construction/Builders Risk exposures– see Section 3 for handling of those risks)

Existing Members may add additional locations or members to their membership and receive coverage under the SPA Property Program as provided in the automatic acquisition and reporting requirements of the Property Program Memorandum of Coverage. If the additional locations or members exceed the automatic acquisition coverage or trigger reporting requirements of the Memorandum of Coverage, then the Member shall in advance of receiving coverage under the SPA Property Program provide underwriting information and any report or findings of the Member's own underwriting review. The Program Administrator shall then prepare a report for the Board summarizing the new locations or members and the impact on the Property Program considering the policy and procedures of this Policy and Procedure No. 1- Property. The Board may then take action to approve or deny coverage under the Property Program and may direct the Program Administrator to secure approval of the Property Program's insurance and reinsurance underwriters. The Program Administrator will advise the Member and the Board the effective date of coverage if it is approved.

A prospective new Member of SPA eligible under the joint powers agreement shall engage with the **Program Administrator** in an evaluation of potential participation in the **Property Program**. The **Program Administrator** shall conduct an initial underwriting review considering the policy and procedures of this Policy and Procedure P&P No. 1- Property and may confer with insurance and reinsurance underwriters for additional evaluation. The **Program Administrator** shall prepare a report to the **Board** summarizing the prospective new Member's application. **Board** considerations may include but are not limited to additional considerations such as:

- Prospective member's risk profile relative to existing **Members'** risk profiles
- Impact of the prospective new Member on availability of coverage and aggregate limits; and,
- SPA's ability to serve effectively the prospective member.

New Members, new locations and new members of existing Members shall be scheduled to have a property insurance appraisal within 5 years of the most recent appraisal or as soon as practicable after joining if the most recent appraisal has not been within 5 years.

This section does not apply to new construction projects that apply to Course of Construction/Builders Risk exposure – see Section 3 for information related to those risks

3. New construction projects related to Course of Construction/Builders Risk exposure

It is understood that while the SPA Property MOC allows for automatic inclusion of "Course of Construction" (COC) risks up to a stated sublimit of value, the SPA Board has implemented a targeted underwriting policy for these risks. If a member prefers not to have the contractor purchase COC coverage, SPA Members may submit new construction projects valued at $5,000,000 or less on a per building basis for automatic inclusion into the SPA Property Program. New construction and reconstruction projects or reconstruction projects valued over $5,000,000 must be placed outside of the SPA Property Program. Note that the SPA MOC and reinsurance agreements have limitations based on COC at a site, so a Member with multiple buildings in at a site as part of a package of construction should consult with the Program Administrator to see whether SPA's Property Program can accommodate a project. Also, SPA cannot guarantee that COC coverage will be available in succeeding program years so it is recommended that all significant COC exposure be placed on a separate policy outside of the SPA Property Program.

The distinction made in this Section 3 does not apply to renovation, modernization, upgrade or repair projects. Instead, this section applies only to new construction projects and reconstruction projects.

4. Periodic review

This Policy and Procedure shall be reviewed by the **Board** and amended as needed.

DEFINITIONS:

"Board" means the Board of Directors of the SPA Joint Powers Authority.

"Member" means the signatories to the SPA Joint Powers Authority.

"Program Administrator" means the person or organization designated by the Board to administer the SPA Property Program.

"Property Program" means the program established by the Board to provide a combination of self-insured, insured and reinsured coverages and services designated by the Board as elements of the SPA Joint Powers Authority property program offering.

Item No: F.5.C.

PROPERTY PROGRAM POLICY & PROCEDURE
APPROVAL OF PROPERTY PROGRAM CLAIMS PAYMENTS

ACTION ITEM

ISSUE: Two member claims have been presented for payment:

- SIG – Placer Union HSD (Mosquito Fire 2022) Partial Proof of Loss - $500,000 advance of reinsurance recoverable above $350,000 wildfire deductible to be reimbursed to SPA when reinsurers fund claim. This amount was advanced by the Managing Member based on urgent request from SIG to assist member.
- SIA – Pioneer School District – (Caldor Fire 2021) - $112,954.28 advance of reinsurance recoverable above $250,000 wildfire deductible to be reimbursed by SPA when reinsurers fund claim. This amount has not yet been advanced to SIA.

RECOMMENDATION: Staff Recommends that the Board ratify the advance of $500,000 to SIG and $112,954.28 to SIG subject to reimbursement of SPA when SPA's reinsurers fund the claims.

FISCAL IMPACT: The proposed action at today's meeting will reduce assets by $612,954.28 and create a receivable of 612,954.28.

BACKGROUND: Please refer to the attached documents for further information.

ATTACHMENTS:
1. SIG Partial Proof of Loss
2. SIA Wildfire Claim Advance Request

Amount of Policy
$125,000,000

SWORN STATEMENT
in

Policy Number **SPA2-22-23**

Agency Name **Alliant Insurance Services**

PARTIAL PROOF OF LOSS

Issued	**Expires**
July 1, 2022	**July 1, 2023**

To **SPA/Schools Program Alliance**
of **Sacramento, California**

By the above indicated policy of insurance your insured **SIG/Schools Insurance Group**

against loss by all risk of physical damage upon the property described, according to the terms and conditions of the said conditions of the said policy and all forms, endorsements, transfers and assignments attached thereto.

1. Time and Origin: A loss occurred about the hour of ____ o'clock ____ M., on the 6th day of September 20 22 .
The cause and origin of said loss were: Mosquito Wild Fire

2. Occupancy: The building described, or containing the property described, was occupied at the time of the loss as follows, and for no other purpose whatever: School owned property

3. Title and Interest: When this policy was acquired and at the time of the loss the interest of your insured in the property described therein was sole and unconditional ownership, and no other person or persons had any interest therein or incumbrance thereon. (State exceptions, if any.) NO EXCEPTIONS

4. Changes: Since the said policy was acquired there has been no assignment thereof, or change of ownership, use, occupancy, possession, location or exposure of the property described, or of our insured's interest therein. (State exceptions, if any.)
NO EXCEPTIONS

5. Total Insurance: The total amount of insurance upon the property described by this policy was, at the time of the loss,
$ ____________

6. The Cash Value of said property at the time of loss was .... $ Not Determined

7. The Whole Loss and Damage was .... $ TO BE DETERMINED

8. The Amount Claimed under the above numbered policy .... $ **$500,000.00**
(Amount claimed is net the member deductible $350,000)

The said loss did not originate by any act, design or procurement on the part of your insured, or this affiant; nothing has been done by or with the privity or consent of your insured or this affiant, to violate the conditions of the policy, or render it void; no articles are mentioned herein or in annexed schedules but such as were in the building damaged or destroyed , and belonging to, and in possession of the said insured at the time of said loss; no property saved has in any manner been concealed, and no attempt to deceive the said company, as to the extent of said loss, has in any manner been made. Any other information that may be required will be furnished and considered as part of this proof.

The furnishing of this blank or the preparation of proofs by a representative of the above insurance company is not a waiver of any of their rights.

FOR YOUR PROTECTION, CALIFORNIA LAW REQUIRES THE FOLLOWING TO APPEAR ON THIS FORM:
Any person who knowingly presents false or fraudulent claim for the payment of a loss is guilty of a crime and may be subject to fines and confinement in state prison.

State of California

(Insured Signature)

County of Placer

Kelli Rae Hanson Insured

Subscribed and sworn to (or affirmed) before me on this 18th day of November (month), 2022 (year) by Kelli Rae Hanson proved to me on the basis of satisfactory evidence to be the person(s) who appear before me.

(signature of Notary)

TERESSA A. DEFUENTES
COMM. #2295184
Notary Public - California
Placer County
My Comm. Expires June 27, 2023
NR01

Attention: Philip Brown

Schools Program Aliance
C/O Alliant Insurance Services
2180 Harvard Street, Ste 460
Sacramento, Ca. 95815
Date: 09/22/2022

Description		Amount
Property Fund(s) Advance Request		$112,954.28
Claim #21-5244. Pioneer Union		
Walt Tyler Elementary (Wildfire)		
	Subtotal	$112,954.28
	Total Requested	$112,954.28

Thank you for your time and consideration in this matter. Please feel free to contact me directly at (916) 364-1281 ext 1273 with any questions.

Sincerely yours,

Joshua J. Arnold
Property & Liability Claims

Item No: F.6.

COST ALLOCATION: CONCEPTUAL QUESTIONS LTP

ACTION ITEM

ISSUE: In order to update and improve the Cost Allocation Exhibit, SPA will need to provide guidance on the following conceptual questions regarding the next iteration of the exhibit. These questions were raised at the Long Term Planning meeting in September but are now brought to SPA's attention for guidance/decision, for the next iteration of the Cost Allocation Exhibit. As a reminder, we have three cost components to the SPA program: Admin (appraisals/loss control), Retained Layer and Reinsurance Cost.

Factors for Reinsurance Cost allocation: To date, we use size, experience and exposure to build the allocation factor for the Reinsurance Cost portion of the Cost Allocation Exhibit. The "size" component is straight forward and based on TIV (including a size credit for credibility of data).

For the experience component, we use the following:

a) Experience for Non-Cat losses: 5 full years of losses + current partial year; losses excess of $250,000 but capped at $10M
b) Experience for Cat losses (Wildfire, specifically): 5 full years of losses + current partial year; losses excess of $250,000 but capped at $10M

Question 1: Does SPA still agree with using both Non-Cat and Cat Losses data, on a 5 year basis, excess of $250,000 and capped at $10M? Similarly, are the criteria listed above still preferred?

For the exposure component, we use the following:

a) Portfolio Cat Model: The total AALs, per SPA Member, relative to the group AAL. (Mainly Wildfire, but Earthquake Fire Following, as well as Sprinkler Leakage are also used)
b) CoreLogic WF Risk Score: A relativity of the total of high hazard locations relative to the overall group for the same.

Question 2: Does SPA want to use both the portfolio modeling and the risk score output in determining this part of the allocation factor? Again, we can also weight one more than the other, if desired, or if we are less confident in one vs the other.

Retained Layer/Experience Mod: In the Cost Allocation versions reviewed since 2020 (before SPA had any experience of its own), a 10 year loss history of retained layer "qualifying" losses was used on an "as if" basis. Question 3: Does SPA want to continue to use the rolling 10 year history in the X-mod calculation, or start using only SPA experience (2020 forward). Question 4:

Or does SPA want to use a combination of both, with a heavier weighting given to one data set vs the other data set (For example, a 50% weighting to SPA experience years and a 50% weighting to the rolling 10 year experience? Or 80%/20%? Or something else?)

Collars: In the Cost Allocation versions reviewed since 2020, 20% collars have been added to the calculation to assure a member does not go higher or lower than 20% in increase or reduction, year over year. To date, these collars have been applied to the overall SPA Deposit (Reinsurance, Admin and Retained layer) and have been part of the reason that judgmental allocation was needed more than the formulaic approach. Question 5: Does SPA still believe this 20% range is preferred? Question 6: Should the collar only apply to the Reinsurance Cost, as that cost is more variable compared to the Admin an Retained Layer allocations?

Absolute vs Relative use of formulaic output/short-term impact: As the Cost Allocation Exhibit has been used in 2020, 2021 and 2022 to inform a mostly judgmental allocation of the costs, it is important to remind you that moving more towards a formulaic approach could cause substantial movement in allocations for certain members in the next year of allocation if we use an "absolute" allocation approach. Alternatively, we could also (1) accept the current allocations as "right"/the base level and in future years (2) use the formulaic output as a relative basis of allocating the renewal increase (or decrease). Question 7: Does SPA want to pursue an absolute allocation approach of the output going forward or does SPA want to use a "relative" approach of accepting the current allocation levels/amounts as "right" and "set" those as the base going forward, and then use the formulaic output as a relative basis to allocate any increase/decrease in reinsurance costs, year over year?

To illustrate this question, if we took Butte for example, the "absolute" formulaic output for the reinsurance cost is ~$4.8M (2022), which is a massive increase from their current $1.9M allocation. Alternatively, the "relative" approach would say that we accept the $1.9M as "right" and as the starting base of Butte for which the formulaic output would be used to allocate only the renewal increase year or year (or decrease). In this case, Butte would then receive 32% of the renewal cost increase (i.e., derived by dividing the $4.8M formulaic output against the total $15M reinsurance cost). These relativities would change over time, as the inputs of the calculations would change (in Butte's case, eventually, the wildfire losses will roll-off the 10 year loss runs in the allocation components, while the cat modeling outputs may not change much).

Adjustments at True-up Phase: This was not discussed at the LTP meeting, but came up recently, so I will include it here as the last question. Historically, we have "set" the allocations for Admin and Retained Layer based on *submission* TIV only. We have also set the allocation for the Reinsurance Cost, but then adjusted only this component based upon the change in TIV at the True-Up phase in June (since owe the reinsurers that premium). The TIV, obviously, does not fluctuate dramatically, but Question 8 is: Should the final True-Up TIV reported in June be used to also adjust the final Admin and Retained Layer cost (not just the Reinsurance Cost)?

RECOMMENDATION: No recommendation at this time, but perspectives will be shared in the open discussion.

FISCAL IMPACT: Direction on the above question will not modify the overall costs to SPA. They will, however, modify the individual member allocations of the overall SPA Costs.

BACKGROUND: A cost allocation process is necessary to allocate the operating/coverage costs of SPA amongst its membership. Some allocation approaches are straightforward, using only TIV relative to the group. Some allocation approaches include a more robust and diverse set of factors and calculations. In 2020, SPA Members reviewed and considered a Cost Allocation approach. The principles behind the approach included:

1) Experience component (using experience Cat and Non-Cat experience in the retained layer and the reinsurance program)
2) Size component (TIV)
3) Catastrophe exposure component (using Modeling)
4) Protection from large swings (collars)
5) Judgement/Market Conditions

In 2020, the allocation was set more heavily based upon judgement and, in some cases, divergent as to what the Cost Allocation calculation suggested. Some members' Cost Allocation initial suggested result was a fraction of what they were currently paying (NBSIA), while others were multiples (Butte). The thought process was that over time, members would "float" towards their equilibrium allocation. Similar issues arose in 2021 and 2022, wherein the Cost Allocation calculation was not able to be relied on as much as judgement, given the divergent start in 2020.

ATTACHMENTS: None – however, the Cost Allocation Exhibit used at the LTP meeting will be available to be shared on screen as we review the questions, if needed

Item No: F.7.

POTENTIAL GROUP SERVICES FOR PARTICIPATION IN WC DATA WAREHOUSE

ACTION ITEM

ISSUE: In a recent discussion with North Bay Schools Insurance Authority, it was suggested that the SPA Board of Directors discuss the members' current and potential participation in the California Worker's Compensation Institute. CWCI manages a statewide worker's Compensation claims database that members can utilize to gain insight on their own claims and opportunities for improvement. Perhaps there is an opportunity similar to the Public School Works SPA group initiative to jointly participate in CWCI.

RECOMMENDATION: The program administrator recommends that the board of directors discuss participation and CWCI and provide direction to staff as to next steps, if any.

FISCAL IMPACT: No fiscal impact is expected from action at today's meeting.

BACKGROUND: Please visit www.CWCI.org for more information.

ATTACHMENTS: None.

Capgemini

INSURANCE INFORMATION INSTITUTE

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TAMPING DOWN WILDFIRE THREATS

HOW INSURERS CAN MITIGATE RISKS AND LOSSES

Tamping down wildfire threats: How insurers can mitigate risks and losses

Wildfire risk is complicated – and not just in terms of predicting, preparing for, and mitigating damage. Wildfires play a complex role in overall climate risk that insurers need to understand and to develop new strategies to address as the impacts of climate change continue to evolve.

Insured wildfire losses are on the rise, but insurers' appetite for writing coverage in fire-prone areas has declined in recent years; however, ceasing to insure complex risks isn't a strategy for long-term success. What's needed instead is risk reduction, pre-emptive damage mitigation, and a deeper understanding of the evolving nature of this hazard.

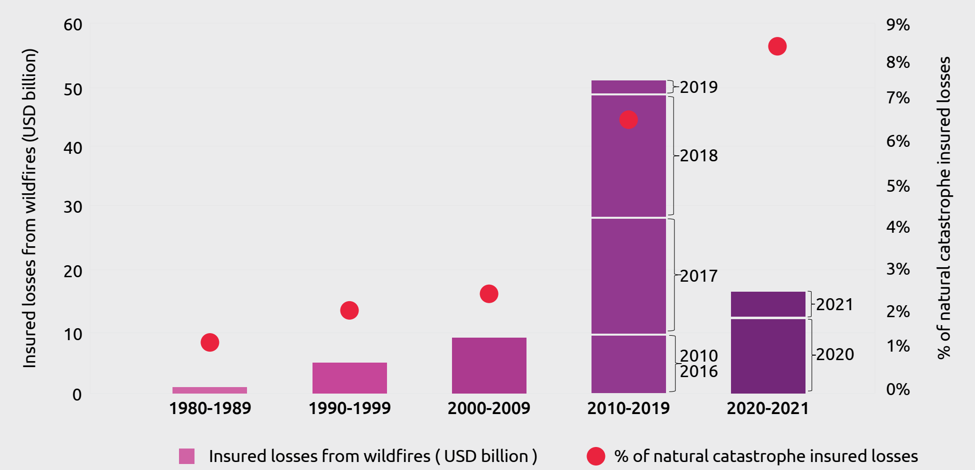
Insurers are well positioned to lead the way, but to do so they have to augment their traditional strengths with the capabilities offered by new data and analytical tools.

Wildfire risk is chaotic and interconnected

Most fires don't threaten populated areas, but when they do, they become very costly. Insured wildfire damage in 2021 was $5 billion, marking the seventh straight year such losses surpassed $2 billion. Before 2015, only four years were recorded in which aggregated wildfire-related insured losses topped $2 billion.[1]

As shown in the chart below, insured wildfire losses have been rising in absolute terms and as a percentage of total insured natural catastrophe losses, which also are on the rise. Swiss Re estimates global insured losses from natural catastrophes in the first half of 2022 at USD35 billion, 22% above the average of USD29 billion for the past 10 years.[2]

Insured wildfire losses since 1980 by decade (US$ billion -- 2022 dollars)



Swiss Re Institute

Wildfires are not just more destructive than in the past: they now behave differently:

- Eight of the 10 most destructive fires in California have happened in the past five years.
- In 2017, the Tubbs and Thomas fires were severe wind-driven urban conflagrations – a new phenomenon for the state.
- The 2018 Camp Fire in the Sierra Nevada showed that such fires can happen in different geographies.
- In 2020, multiple fires were ignited by "dry lightning" events.

In other words, three out of the last five years witnessed some kind of novel fire behavior. This presents a challenge for insurers.

"Traditionally, insurers of properties in wildfire-affected areas have bought data from third-party modelers. Understandably, insurers require multiple years of loss history for the model to justify major changes that affect their underwriting or pricing."

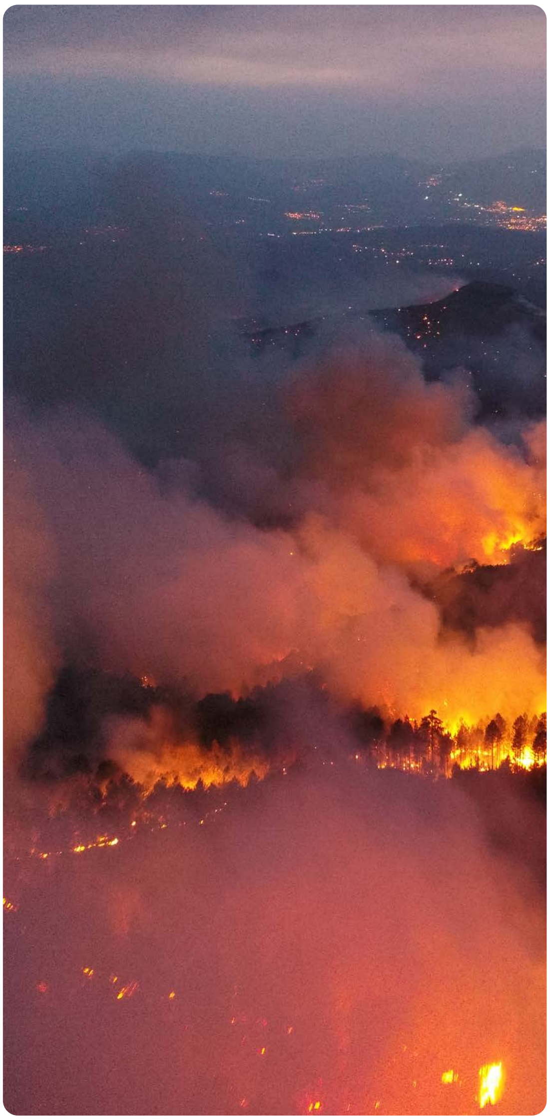
Kevin Stein
CEO, Delos Insurance

The result is an average update cycle of three to five years.

"Given what has happened in California over the past five years," Stein explains, "if you're using a third-party data model at the tail end of its cycle, it doesn't capture the exposure on the ground because the peril has fundamentally changed."

This can significantly affect the insurer's exposure.

Delos takes a different approach. As a managing general agent with catastrophe and climate modeling built into its underwriting and pricing process, Stein says, "We can modify our portfolio strategy or pricing within six weeks of a new type of behavior surfacing."



In addition to damaging property and putting lives directly at risk, wildfires add carbon to the atmosphere, contributing to longer-term weather extremes and affecting conditions in various parts of the globe. Pyrocumulonimbus clouds attending massive wildfires are becoming more common.[3] Also known as "fire-breathing dragon clouds," they can create their own weather systems. Rain may fall, which could help squelch the blaze – but lightning and powerful winds, that increase the fire's intensity while driving it toward new sources of fuel, are also likely.[4]

Wildfires also destabilize soil, increasing the potential for landslides and mudflows when dry seasons end and rain and snow come,[5] potentially causing damage downhill from burn sites – some of it insured, some not. Particles from wildfires travel great distances and can cause health issues far from where they originated.[6] Recent research at the University at Albany has found that more frequent and intense western wildfires are affecting air quality as far away as the East Coast.[7]

Research also suggests that wildfire emissions may affect El Niño and La Niña events[8] – temperature conditions in the Pacific Ocean that influence formation of Atlantic hurricanes. La Niña is characterized by cooler-than-average water in the central Pacific, during which time the Atlantic hurricane season tends to be more active. Hurricane losses are on the rise generally, and Atlantic hurricanes in recent years have involved more severe inland flooding, as exhibited during Ida in 2021[9] and Ian in 2022 [10].

Further illustrating the interconnectedness of wildfire and hurricane risk, the 2022 Chipola Complex in Florida's panhandle burned over 34,000 acres, with three simultaneous blazes[11] fueled by dead trees and other vegetation left behind by 2018's Hurricane Michael.

Wildfire timing, size, and costs are shifting

A dozen European countries have suffered through major blazes in 2022, with thousands forced to evacuate homes and businesses.[12] France, Spain, and Portugal have been fighting fires, and in Greece the first few months of the year saw 30 forest fires – a massive increase from the usual four – that burned over 1,000 hectares of land, compared to a past average of 37.5.[13]

In the US, fires are starting earlier, inflicting greater losses, occurring in more states, and taking more time to suppress.[14] While California's 2022 fire season has been quieter than in recent years – thanks mainly to positive wind conditions[15] – an unusually high number of wildfires have been burning in the Pacific Northwest, Intermountain West, and Canada.[16] In British Columbia, there have been more than 1,700 wildfires in 2022.

Wildfire isn't just an issue for states like California that are typically associated with out-of-control burning. Minnesota, for example, came in at number eight among the National Interagency Fire Center's top 10 states for wildfires, ranked by number of fires and number of acres burned for 2021.[17] Georgia was number seven, just behind Oregon. North Carolina, Montana, and Florida were three, four, and five, respectively. California topped the list, followed by Texas.

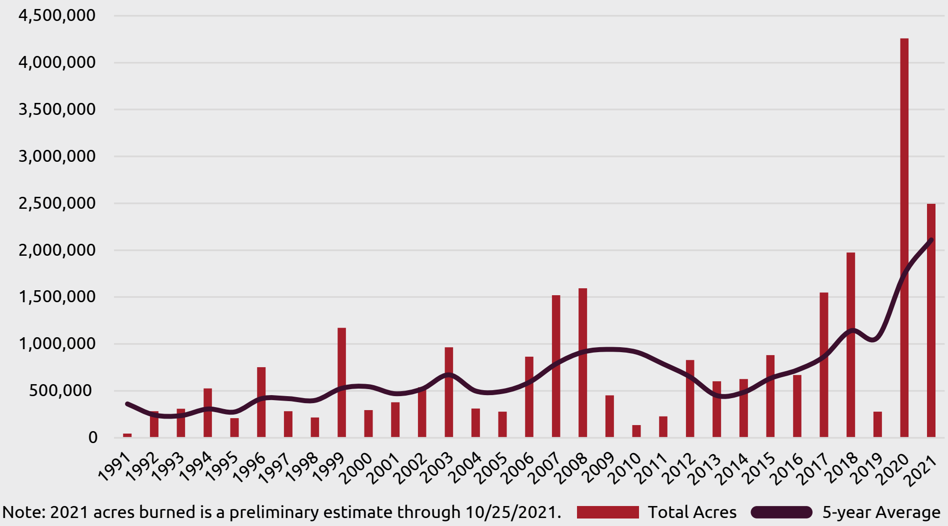
While as many as 90% of wildfires are caused by people, according to the U.S. Department of Interior, Insurance Information Institute (Triple-I) Non-resident Scholar Craig Clements, "Climate change has its fingerprints all over" the increasingly costly wildfire activity of recent years.[18]

"Warm temperatures and drier atmospheric conditions affect the fuel," says Clements, a professor of meteorology at San José State University and director of the Wildfire Interdisciplinary Research Center. "If you get an ignition, these conditions make the fires burn more rapidly, more intensely, and harder to put out."

Add to this the trend of more people moving into vulnerable areas and you have a truly complex challenge – involving both climate dynamics and socio-economic behavior – when it comes to reducing wildfire risks and losses. "In 2021, we saw $20 billion of economic losses due to wildfire, with $5 billion of those insured," says Triple-I CEO Sean Kevelighan. "We're trying to help people understand this issue, particularly because populations are growing in high-risk areas."

Annual Wildfire Acres Burned in California
with 5-year Moving Average (1991—2021)

The five-year average of total acres burned in California first surpassed 1 million acres in 2018 and reached 2.1 million acres in 2021.



Note: 2021 acres burned is a preliminary estimate through 10/25/2021.
Data: CAL FIRE
Analysis: Bay Area Council Economic Institute

Better mitigation is a starting point

From an insurance perspective, wildfire is an interdependent risk – meaning damage faced by homeowners doesn't just depend on their own decisions to invest in protection, but also on their neighbors making similar investments. Even the most well-prepared home can fall victim to embers scaterred from ill-prepared structures nearby. This can make it hard to insure homes in fire-prone areas. To borrow a term from epidemiology, what's needed is something like "herd immunity" from fire.

Since 2008, California has had rules about keeping a certain amount of space around homes clear of trees and brush, as well as what materials people can use for their roofs, siding, vents, decks, and fences. Those requirements have made a big difference, according to a National Bureau of Economic Research study: homes built to the newer standard are 40% more likely to survive a major wildfire.[19]

The Insurance Institute for Home and Business Safety (IBHS) has created a wildfire-mitigation designation program called Wildfire-Prepared Home that focuses on three vulnerable areas: the roof, specific building features, and defensible space. Currently available only in California – where increasing numbers of insurers have begun offering discounts for such pre-emptive mitigation efforts [20] – the program provides an excellent example of the insurance industry using its knowledge and expertise to drive behavioral changes that are needed to significantly reduce risk.

In recent testimony before the U.S. House of Representatives Committee on Financial Services Subcommittee on Housing, Community Development, and Insurance[21], IBHS president and CEO Roy Wright called adoption rates for existing wildfire codes and standards "even lower than the shamefully low adoption rates for modern versions of the International Residential Code, and far more sporadic in their usage."

A study by Marsh McLennan and the Nature Conservancy emphasizes the role of fire buffers – areas of reduced fuel that might include parks and sports fields – in reducing wildfire risks and costs.[22] When combined with improved building codes and incorporated into structures like community-based catastrophe insurance programs, buffer zones can help communities capture the financial benefits of risk reduction and may help make insurance more available and affordable.[23]

Wildfire Defense Systems (WDS), of Bozeman, MT, provides private firefighting for insurance companies. Unlike public firefighters, whose main objectives are to save lives and bring the wildfire under control, WDS aims to prevent insured clients' homes from burning down. WDS crews work far from the active fire, preparing the homes its clients insure. CEO David Torgerson emphasizes the company's focus on mitigation. "It's not a first responder service," Torgerson says. "We do things like fuel mitigation, embers, leaves, sprinkler systems, retardant fire lines outside of the property on natural vegetation, fire-blocking gel sprayed on the property. We take a lot of firewood piles and move them 100 feet away from the property."[24]

While every bit helps, mitigation on the scale needed to make a difference requires money. The infrastructure law[25] President Biden signed in 2021 includes \$3.3 billion for critical wildfire risk-reduction efforts; \$5 billion for utilities and grid operators to bury power lines and install fire-resistant technologies, among other measures; and \$3.5 billion to help homeowners make energy-efficiency and fire-resistance improvements.

"To strengthen the resilience of vulnerable homes and communities, adoption and enforcement of wildfire codes and standards must increase."

Roy Wright
President and CEO,
IBHS

Uncomplicate claims management

Claims management can be complicated in the best of times, as insurers balance efficiency and customer experience. After a catastrophe strikes, the impact of any inconvenience for the policyholder is multiplied by the emotional stress of the event and its aftermath. A well- or poorly-designed automated claims system at such times can make all the difference. Similarly, the "human touch" can be a blessing or a curse, depending on the quality of the contact.

Many InsurTechs offer solutions to streamline the process and use the data these systems generate to inform decision making. All have benefits and limitations. Artificial intelligence and machine learning can be particularly valuable in managing disaster claims, given the vast amount of data involved in massive loss-creating events.

The pandemic underscored the value of "remote adjusting" solutions to address the lack of property access many adjusters faced due to travel restrictions. Crawford & Co. was well positioned for this, having previously acquired a majority stake in WeGoLook, whose platform allowed Crawford to send one of 46,000 "lookers" to claim sites to record video for professional adjusters to survey damages. The lookers follow a script telling them exactly what to photograph and from which angles.[26]

"What we are seeing now is an acceleration of adoption of these tools," said Ken Tolson, U.S. president of Crawford Claims Solutions. "Up until now, a lot of people have tinkered with it, but never really embedded it into their claims processes." [27]

Parametric insurance holds promise

Parametric insurance is gaining attention with regard to weather and climate-related risks, including wildfire.[28] Unlike traditional indemnity insurance, parametric structures cover risks without the complications of sending adjusters to assess damage after an event. Instead of paying for damage that has occurred, it pays out if certain agreed-upon conditions are met, regardless of damage. For example, a parametric policy for wildfire might pay out when a certain threshold of "acres burned" is exceeded.

Parametric insurance typically is used as a complement to – not a substitute for – indemnity coverage. Speed of payment and

reduced administration costs can ease the burden on insurers and policyholders, and provide the liquidity that businesses, families, and communities need for post-catastrophe resilience.

To date, there are not many examples of parametric coverage for wildfire risk, says Jonathan González, CEO and co-founder of parametric insurance platform Raincoat. "There's a big opportunity in insurance and reinsurance, with rising global temperatures and wildfire seasons becoming more intense, especially in the U.S., Australia, Brazil, and Indonesia," González says. "Wildfire tends to be more difficult to model and detect in real time, compared to hurricanes and earthquakes. We expect to develop more solutions that address this peril in the coming years."

A study by The Nature Conservancy and insurance and reinsurance broker Willis Towers Watson found that residential insurance premiums in wildfire-prone areas could decline 41% when ecological forestry techniques – such as forest thinning and prescribed burning – are combined with parametric insurance.[29] Risk reduction through ecological forestry would reduce claims, creating more insurance capacity for vulnerable regions, and parametric coverage would let funds flow more quickly to property owners, facilitating their recovery.

Only

35%

of insurers have adopted advanced tools – such as machine-learning-based pricing and risk models

Data is the key

"Risk prevention based on data and behavioral science is at the top of the agenda for future-focused insurers," says Seth Rachlin, Global Insurance Industry Leader, at Capgemini, adding that relatively few insurers are "on course to achieve climate resiliency." Climate resilience requires a sophisticated data strategy, yet only 35% of insurers surveyed by Capgemini in a recent report[30] said they have adopted advanced tools – such as machine-learning-based pricing and risk models – that Capgemini calls "critical to unlocking new data potential and enabling more accurate risk assessments."

Such tools certainly exist to address wildfire risk. Using aerial imagery, land-based sensors, and sophisticated prediction tools and capabilities, San José State's Dr. Clements and his team study conditions that lead to catastrophic fires and the behavior of large blazes to understand how extreme fires spread and who's most at risk.[31]

"For the first time we can look at the wind field around the fire, the plume dynamics using radar, and the fire progression at high resolution," Clements said after several days of monitoring the Mosquito Fire in El Dorado and Placer Counties, Calif., in 2022.[32] "Those three observations have never been used together on any fire anywhere in the world."

Such data offers opportunities for safer, more efficient, and effective fire suppression. It also can help inform emergency preparation, land-use policy, and risk management. However, insurers' reliance on historical loss data and traditional catastrophe models limits its understanding of evolving climate risks. Insurers tend to use models that ingest data from two primary sources: the U.S. Census Bureau data and the U.S. Forest Service.[33]

Bob Frady, vice president of data and analytics company Guidewire and founder of its Hazard Hub subsidiary, says most insurers are using "exceptionally blunt tools to gauge wildfire risk." The quality of available tools has increased markedly over the past 20 years, but a lot of insurers aren't using them.[34]

Frady says the industry has done pretty well at identifying areas in which the risks are too daunting to insure, those prone to the sort of all-engulfing blazes he calls "Bambi fires." Where insurers may not have done as good a job, he says, is in identifying communities that have an "excessive risk from vegetation layers, not just from trees." Within such areas, he says, there are some neighborhoods that are "great risks" for insurers to write coverage for, where homes are built to withstand fires and the owners have cleared out the vegetation. Because even the largest wildfires are still relatively small – compared to events like hurricanes – Frady says, "You can always cherry-pick the best risks, if you have the right tools."

Zesty.ai makes a similar pitch to insurers. The company has been gathering data and using it to train machine learning models to better assess climate-related risks like wildfire. "We take satellite imagery, we take building permit data, we take local weather station data, and we are using artificial intelligence to explain the impact of climate risk to every single property," says CEO Atilla Toth.[35] The company uses this data to generate a score that assesses wildfire risk on a property-by-property basis.

"In the past, risk has been explained at the regional level," Toth says. "But with the advent of Big Data, and aerial imagery and other data sources that can be analyzed with artificial intelligence, we can build models that are very precise and look at risk at the individual property level."[36]

GIA Map is a startup that helps auto, home, and commercial property insurers measure and manage exposure using geospatial data. Founded by two insurance industry veterans, GIA Map incorporates clients' book-of-business data with natural hazard and geospatial data to inform decision making.

CEO David Jowell, with 30 years' insurance experience that includes managing catastrophe risk exposure for Kemper and Travelers, emphasizes the importance of data relevance. "Just because you have 1,000 points of data doesn't mean those 1,000 points of data are relevant to the insurance underwriting decision-making process," he says. "As a matter of fact, that might actually lead to paralysis where you have too much information."

For example, GIA Map points out that on its website, ZIP codes aren't geographic boundaries: "They are a collection of routes used for postal delivery. When used in data analysis, they often mask real insights."

In Conclusion:
Complex risks demand coordinated solutions

As wildfires and other climate-related catastrophes become more frequent, more severe, and harder to predict, global insurance demand is likely to increase. The insurance industry, with its long experience in assessing, quantifying, and pricing all kinds of perils, must be involved in helping to manage these evolving risks, both for the protection of the clients it serves as well as for its own vitality and growth.

But the industry's traditional focus on risk transfer is no longer sufficient:

- Because wildfire is an interdependent risk – meaning possible damages and protection against them depends on the actions of others, too – insurers should take action to incent mitigation efforts by policyholders and communities.

- New technologies and tools should be embraced to improve claims management.

- In addition to serving as financial first responders, insurers should also use their unique position in the global economy to inform public policy, promote and facilitate constructive partnerships, and drive behavioral change.

- Further, community-based catastrophe insurance programs – perhaps using captive models and/or combinations of indemnity and parametric policies – could make coverage more available and affordable to all participants. By reducing claims costs, such programs might also increase insurers' capacity to cover communities that don't lend themselves to the same approach.

Key ingredients for all of these actions are timely and relevant data, accompanied by rigorous analytics. Future-focused insurers should put these front and center as they help build a case for ever-increasing climate resiliency.

About the Authors

Sean Kevelighan

President and Chief Executive Officer,

Insurance Information Institute

Before joining Triple-I, Sean was Group Head of Public Affairs for Zurich Insurance Group, where he oversaw Government and Industry Affairs, as well as Corporate Responsibility. He has served in various public sector posts in Washington, D.C.

Dr. Seth Rachlin

Global Insurance Industry Leader,

Capgemini

Dr. Seth Rachlin leads Capgemini's global insurance industry strategy and manages its relationships with the insurance technology ecosystem. Seth has 25+ years of experience in innovation at the intersection of insurance and technology.

Endnotes

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CALIFORNIA

CALIFORNIA STATISTICS SUMMARY (2011 - 2021)

25	CLIMATE DISASTER DECLARATIONS
HIGHEST	NUMBER OF DISASTERS IN THE COUNTRY
NAPA	COUNTY WITH THE HIGHEST DISASTER OCCURENCES
15	COUNTIES WITH FIVE OR MORE DISASTERS
BUTTE	COUNTY WITH THE HIGHEST FEDERAL SPENDING ON CLIMATE DISASTERS
1966	SUPERFUND SITES
2557	WASTEWATER DISCHARGE SITES
C-	ASCE INFRASTRUCTURE REPORT CARD GRADE
ALAMEDA, CONTRA COSTA, DEL NORTE, SACRAMENTO, SAN JOAQUIN, YUBA	HIGHEST COMPOUNDING RISKS
$6.2 BILLION	FEMA + HUD POST-DISASTER FUNDING
39.3 MILLION	POPULATION TOTAL
$157	PER CAPITA SPENDING ON CLIMATE DISASTERS
$32.9 BILLION	OF CLIMATE INFRASTRUCTURE COULD BE SUPPORTED THROUGH A SMALL INSURANCE SURCHARGE

DISASTER OCCURRENCES 2011-2021

FEDERALLY DECLARED MAJOR DISASTERS BY COUNTY

25 disaster declarations

Fifty-eight counties in California have had recent disasters.

Napa County has had the highest number of recent disasters in the state: 9 disasters.

Number of Disaster Events

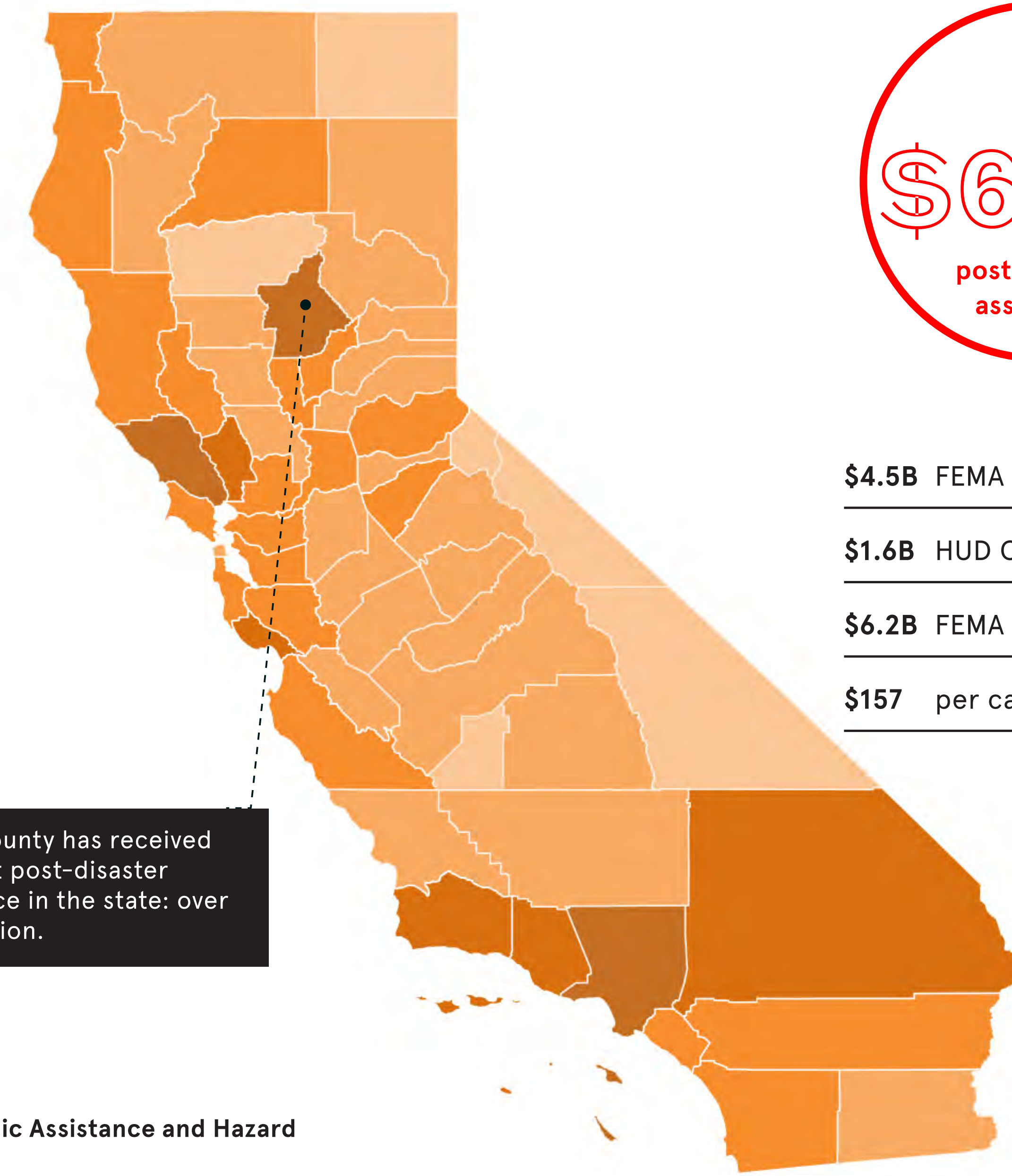
Major Disaster Declarations (2011-2021)

- 0 occurences
- 1 occurrence
- 2-3 occurences
- 4-6 occurrences
- 7-9 occurrences
- 10+ occurrences

Source: FEMA 2021
Maps courtesy of iParametrics

FEDERAL ASSISTANCE 2011-2021

POST-DISASTER PUBLIC ASSISTANCE AND HAZARD MITIGATION FUNDS OBLIGATED BY COUNTY FOR CLIMATE DISASTERS



$6.2B post-disaster assistance

$4.5B	FEMA obligations
$1.6B	HUD CDBG-DR Funds
$6.2B	FEMA + HUD assistance
$157	per capita cost

Butte County has received the most post-disaster assistance in the state: over $183 million.

FEMA Public Assistance and Hazard Mitigation

Federal Share Obligated (2011-2021)

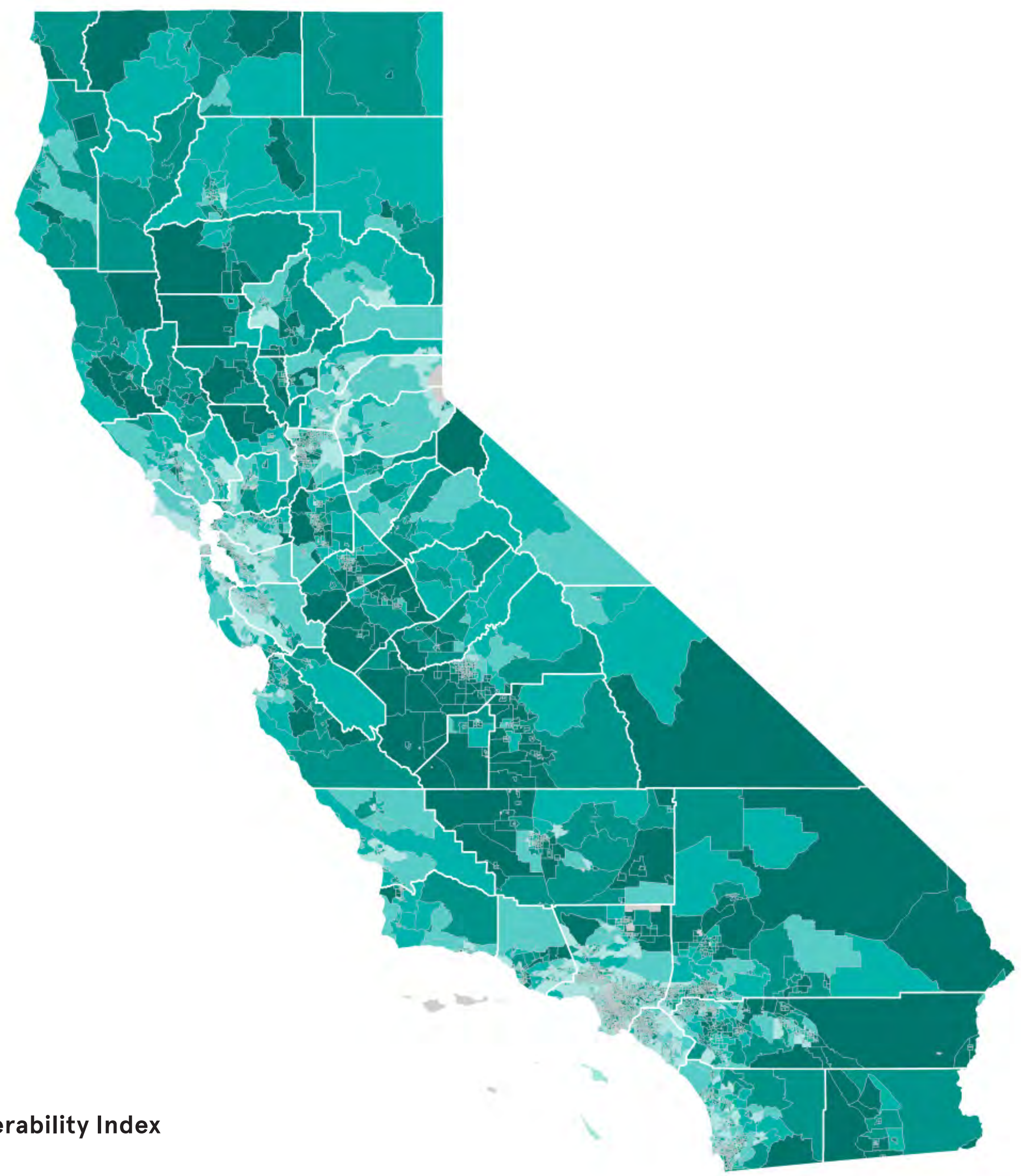
- $0 to $100K
- $100K to $1M
- $1M to $10M
- $10M to $50M
- $50M to $100M
- $100M to $1B
- $1B to $9B

Source: FEMA 2021
Maps courtesy of iParametrics

In 2018, California received $2 billion in post-disaster FEMA assistance across three wildfire disasters.

SOCIAL VULNERABILITY INDEX 2011-2021

AREAS OF GREATEST SOCIAL VULNERABILITY



Social Vulnerability Index

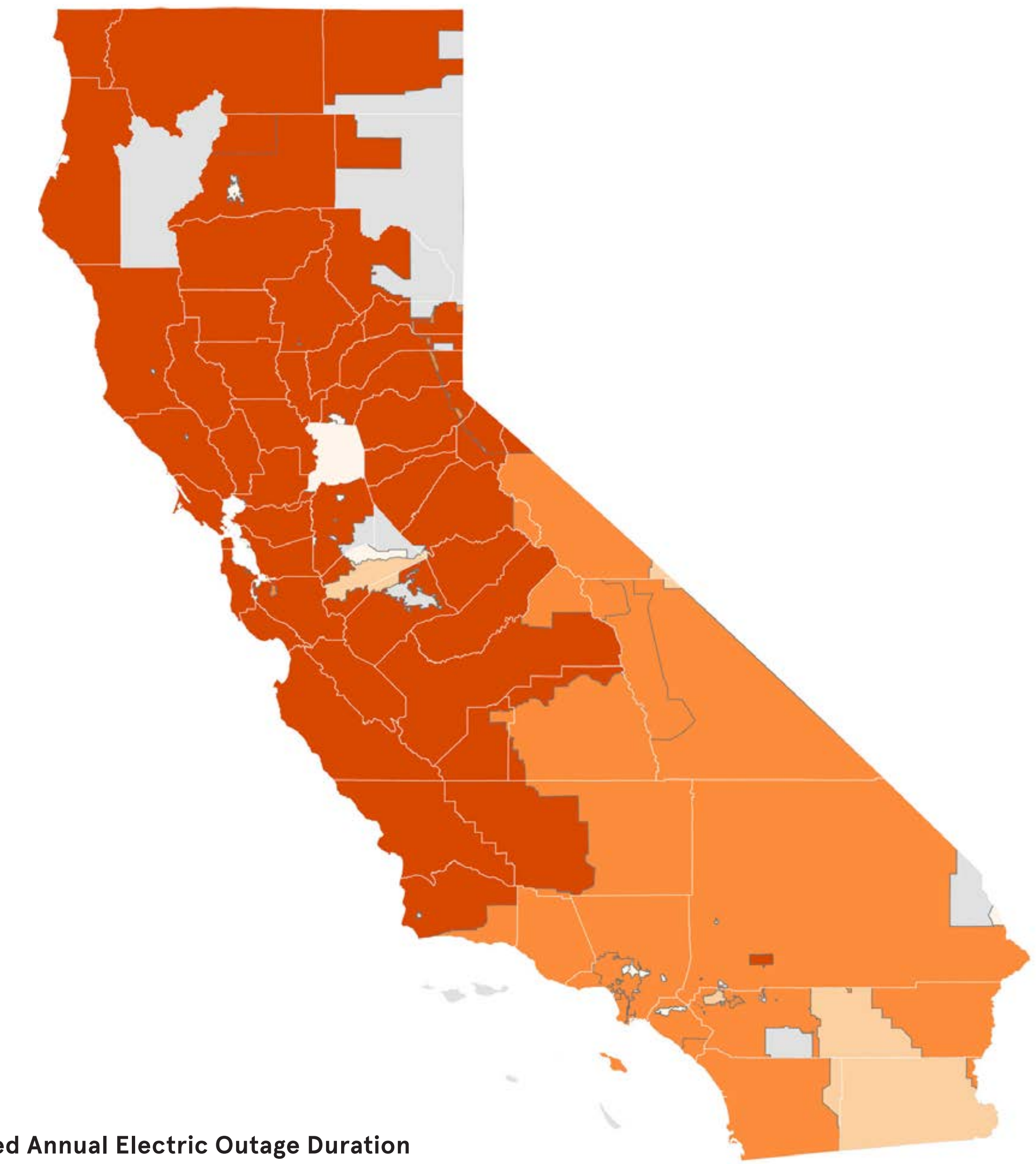
CDC (2018)

- No Value
- 0.0 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0

Source: CDC/ATSDR 2018 Social Vulnerability Index
Maps courtesy of iParametrics

ENERGY RELIABILITY 2011-2021

COUNTIES AT GREATEST RISK OF POWER OUTAGES



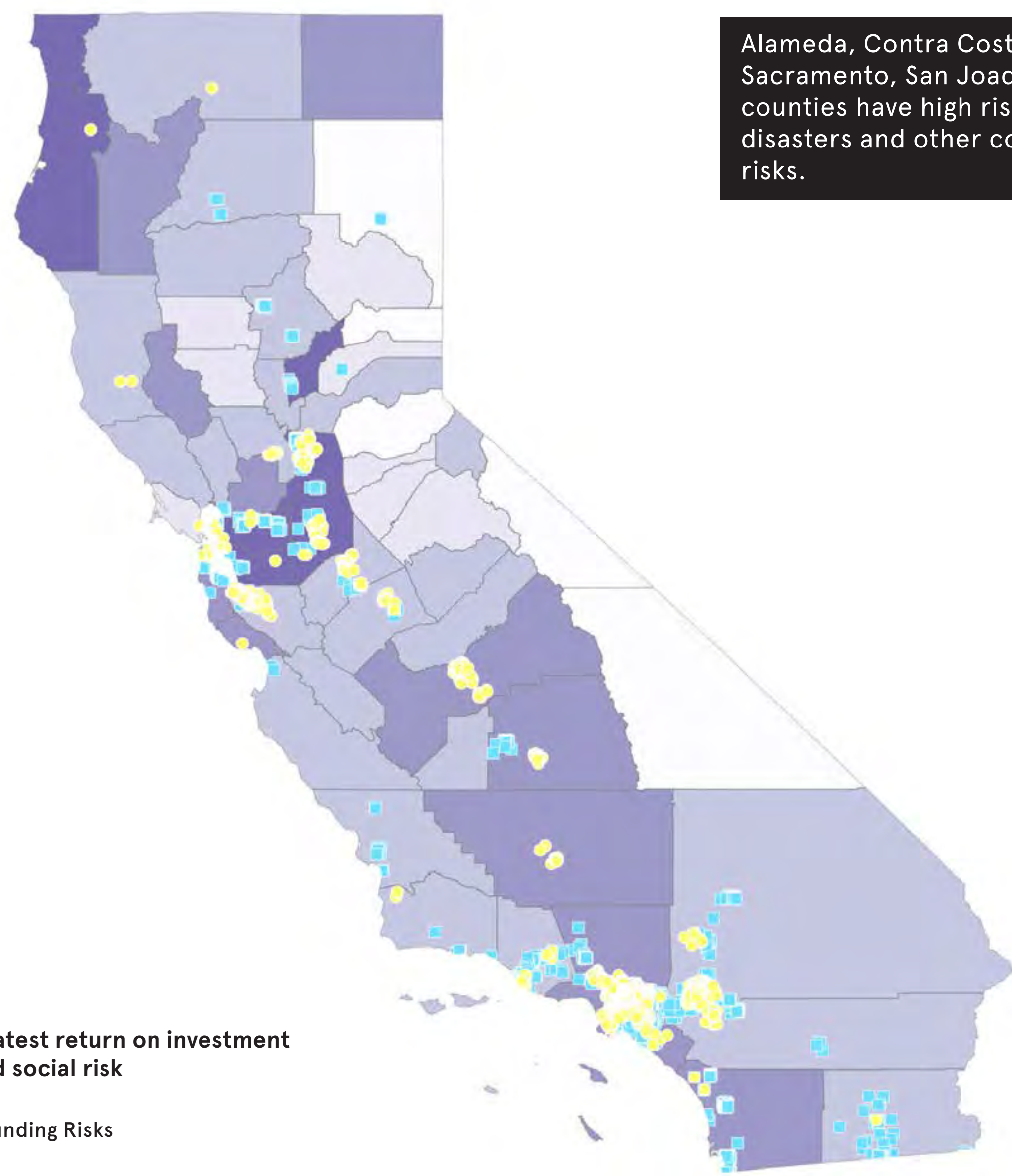
Aggregated Annual Electric Outage Duration

Including major events - SAIDI_W_MED

- missing electric outage data
- 0 - 60 minutes
- 60 - 120 minutes
- 120 - 240 minutes
- 240 - 456 minutes
- 456- 7,700 minutes

Source: U.S. Energy Information Administration
Maps courtesy of APTIM

COMPOUNDING RISKS: A FRAMEWORK FOR FUTURE INVESTMENT



Alameda, Contra Costa, Del Norte, Sacramento, San Joaquin, and Yuba counties have high risk of climate disasters and other compounding risks.

Areas with the greatest return on investment due to physical and social risk

High Compounding Risks

Low Compounding Risks

Superfund Sites

Wastewater Discharge Sites

U.S. counties were analyzed for social benefits using the following parameters: NOAA Sea Level Rise (Source: Sea Level Rise and Coastal Flooding Impacts (noaa.gov)); Population Density (Source: 2020 Census Demographic Data Map Viewer); Population Change (Source: 2020 Census Demographic Data Map Viewer); Poverty (Source: 2020 Census Demographic Data Map Viewer); Cardiovascular Diseases (Source: US Data | GHDx (healthdata.org)); Neoplasms (Source: US Data | GHDx (healthdata.org)); Diabetes, urogenital, blood, and endocrine diseases (Source: US Data | GHDx (healthdata.org)); FEMA Natural Hazard risk (Source: Map | National Risk Index (fema.gov))t | Map courtesy of APTIM.

County Name	High Population Density	High Percent of Population Change	High Poverty Rate	High Health Risk	Types of High Climate Risk	Sea Level	Total Risk Count
Alameda					2		4
Alpine					1		2
Amador					1		1
Butte					4		2
Calaveras					3		1
Colusa					1		1
Contra Costa					2		4
Del Norte					1		4
El Dorado							0
Fresno					5		3
Glenn					1		1
Humboldt					2		4
Imperial					3		2
Inyo							0
Kern					3		3
Kings					2		2
Lake					3		3
Lassen							0
Los Angeles					6		3
Madera					4		2
Marin							1
Mariposa					2		2
Mendocino					5		2
Merced					4		2
Modoc					2		3
Mono							0
Monterey					4		2
Napa					2		2
Nevada					2		1
Orange					2		3
Placer					1		2
Plumas					3		1
Riverside					4		2
Sacramento					3		4
San Benito					1		2
San Bernardino					3		2
San Diego					3		3
San Francisco					1		3
San Joaquin					2		4
San Luis Obispo					1		2
San Mateo					1		3
Santa Barbara					3		2
Santa Clara					1		2
Santa Cruz					2		3
Shasta					5		2
Sierra							0
Siskiyou					3		2
Solano					2		3
Sonoma					4		2

County Name	High Population Density	High Percent of Population Change	High Poverty Rate	High Health Risk	Types of High Climate Risk	Sea Level	Total Risk Count
Stanislaus					2		2
Sutter					1		2
Tehama					1		2
Trinity					2		3
Tulare					4		3
Tuolumne					3		1
Ventura					3		2
Yolo					1		2
Yuba					1		4

THE SHELL FIRE RAGES ON LATE SUNDAY NIGHT, JULY 27, 2021, HAVING BURNED NEARLY 2,000 ACRES. | RUSS ALLISON LOAR

"The magnitude of the challenge is self-evident, the extreme droughts, the record-breaking heat that we experienced just 24 or so months ago, record-breaking wildfires ... require us to do more and to manage these existential threats more aggressively. We're doing everything in our power, not just rhetorical."

– Governor Newsom

CALIFORNIA

TOTAL: 25 DISASTERS
FEMA PA + HM: $ 4.5 B
HUD CDBG-DR: $ 1.6 B
FEMA + HUD ASSISTANCE: $6.2 B

			2011				2013				2014	
			1952: SEVERE WINTER STORMS, FLOODING, AND DEBRIS AND MUD FLOWS		1968: TSUNAMI WAVES		4142: WILDFIRE		4158: RIM FIRE		4193: EARTHQUAKE	
County Name	# of Climate Disasters 2011-2021	Total FEMA Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations
Statewide	25	$3,397,710,976	$8,686,951	$1,667,616	$1,284,364	$1,172,334	$444,517	$0	$20,313,601	$273,204	$5,535,216	$310,972
Alameda County	3	$17,941,389							$2,929,011	$0		
Alpine County	1	$458,117										
Amador County	3	$3,210,712										
Butte County	6	$183,345,251										
Calaveras County	5	$21,592,448										
Colusa County	3	$2,306,197										
Contra Costa County	3	$24,374,863										
Del Norte County	4	$21,133,115			$18,646,214	$686,966						
El Dorado County	5	$15,160,710										
Fresno County	1	$2,436,863										
Glenn County	2	$2,260,743										
Humboldt County	3	$22,066,055										
Imperial County	0	$36,505										
Inyo County	3	$304,067	$304,067	$0								
Kern County	2	$8,110,387	$4,100,690	$0								
Kings County	2	$84,569	$84,569	$0								
Lake County	8	$23,935,714										
Lassen County	4	$1,988,639										
Los Angeles County	4	$93,695,636										
Madera County	1	$1,463,196	$350,914	$0								
Marin County	4	$11,314,293										
Mariposa County	3	$1,259,142	$103,994	$0								
Mendocino County	7	$24,200,612										
Merced County	2	$1,325,424										
Modoc County	3	$232,758										
Mono County	3	$391,746										
Monterey County	5	$27,448,218			$3,107,906	$0						
Napa County	9	$46,941,315									$20,730,200	$2,247,438
Nevada County	5	$3,379,843										
Orange County	3	$18,287,244	$8,912,552	$0								
Placer County	2	$4,110,232										
Plumas County	4	$2,011,890										
Riverside County	3	$28,699,813	$4,106,705	$133,200								
Sacramento County	3	$13,347,528										
San Benito County	2	$1,216,536										
San Bernardino County	2	$45,802,859	$43,112,365	$217,028								
San Diego County	4	$14,189,170	$7,800,776	$736,983								
San Francisco County	0	$0										
San Joaquin County	1	$4,423,391										
San Luis Obispo County	4	$7,940,038	$621,522	$2,395,019								
San Mateo County	3	$11,326,679										
Santa Barbara County	5	$65,357,839	$1,207,247	$931,373								
Santa Clara County	3	$32,342,737							$335,353	$2,720,383		
Santa Cruz County	5	$65,900,583			$14,665,229	$601,692						
Shasta County	5	$29,166,087										
Sierra County	3	$4,236,110										
Siskiyou County	3	$1,336,614										
Solano County	5	$10,797,401									$3,344,995	$120,882
Sonoma County	6	$97,869,536										
Stanislaus County	2	$2,902,424										
Sutter County	2	$9,208,304										
Tehama County	3	$748,113										
Trinity County	7	$4,448,776										
Tulare County	2	$1,510,392	$1,497,218	$0								
Tuolumne County	6	$9,168,127							$1,156,987	$892,467		

	2015				2017							
	4206: SEVERE STORMS, FLOODING, AND MUDSLIDES		4240: VALLEY FIRE AND BUTTE FIRE		4301: SEVERE WINTER STORMS, FLOODING, AND MUDSLIDES		4302: SEVERE WINTER STORM		4305: SEVERE WINTER STORMS, FLOODING, AND MUDSLIDES		4308: SEVERE WINTER STORMS, FLOODING, AND MUDSLIDES	
County Name	PA Obligations	HM Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations
Statewide	$1,068,005	$0	$209,373,270	$1,884,146	$16,585,550	$1,389,288	$3,345,510	$0	$3,796,780	$495,692	$600,492,556	$6,635,187
Alameda County					$2,752,582	$3,062,355			$264,901	$0	$6,647,458	$2,285,083
Alpine County					$241,192	$0					$216,925	$0
Amador County					$1,119,012	$0					$1,858,303	$0
Butte County					$6,302,647	$0					$3,268,948	$0
Calaveras County			$13,642,173	$3,411,750	$1,634,280	$0			$11,144	$6,626	$1,170,911	$0
Colusa County					$272,363	$0					$1,076,677	$0
Contra Costa County					$3,608,183	$0			$451,791	$0	$16,369,184	$3,945,705
Del Norte County											$1,704,751	$0
El Dorado County					$6,793,300	$0			$840,071	$0	$6,848,395	$0
Fresno County												
Glenn County											$168,870	$0
Humboldt County					$7,973,332	$1,974,171					$7,206,106	$0
Imperial County									$36,505	$0		
Inyo County					$0	$0			$0	$0		
Kern County									$4,009,697	$0		
Kings County											$0	$0
Lake County			$12,256,828	$897,881	$1,868,024	$0					$3,503,225	$99,774
Lassen County					$459,692	$0					$1,290,665	$0
Los Angeles County					$962,413	$0			$11,220,114	$712,936		
Madera County												
Marin County					$3,701,206	$2,982,753					$2,708,858	$0
Mariposa County											$1,155,148	$0
Mendocino County					$4,474,676	$0			$5,440,648	$286,443		
Merced County					$616,093	$0					$709,330	$0
Modoc County									$10,484	$0	$86,708	$0
Mono County					$64,968	$0			$28,827	$0	$297,951	$0
Monterey County					$12,144,855	$0					$11,442,337	$0
Napa County					$3,955,989	$474,035			$970,869	$0	$2,616,699	$0
Nevada County					$1,744,146	$0					$834,491	$0
Orange County									$3,417,567	$30,000		
Placer County					$4,078,725	$0			$31,507	$0		
Plumas County					$853,091	$0					$989,817	$0
Riverside County									$3,356,628	$0		
Sacramento County					$4,072,664	$973,888			$4,084,714	$0	$4,115,780	$100,482
San Benito County					$508,402	$0					$708,134	$0
San Bernardino County												
San Diego County									$5,244,045	$0		
San Francisco County												
San Joaquin County											$3,954,475	$468,917
San Luis Obispo County					$1,275,992	$0			$439,596	$0	$967,574	$2,240,335
San Mateo County									$2,982,312	$381,474	$5,269,333	$1,125,767
Santa Barbara County									$644,977	$1,127,835	$3,077,948	$3,922,882
Santa Clara County					$13,423,881	$0					$11,244,170	$3,000,000
Santa Cruz County					$3,617,472	$838,388			$11,590,950	$41,438	$27,297,925	$0
Shasta County					$4,268,736	$0					$2,643,163	$0
Sierra County					$1,277,981	$0					$2,620,630	$0
Siskiyou County					$471,575	$0					$566,342	$0
Solano County					$3,841,915	$0					$1,102,689	$0
Sonoma County					$2,889,042	$2,407,018					$2,889,794	$2,849,656
Stanislaus County											$2,533,063	$0
Sutter County					$1,415,377	$2,624,163					$5,168,764	$0
Tehama County											$264,383	$0
Trinity County					$35,390	$0			$1,215,994	$0	$1,193,086	$0
Tulare County												
Tuolumne County					$4,236,608	$0			$741,467	$0	$1,270,759	$0

	2017				2018					
	4312: FLOODING		4344: WILDFIRES		4353: WILDFIRES, FLOODING, MUDFLOWS, AND DEBRIS FLOWS		4382: WILDFIRES AND HIGH WINDS		4407: WILDFIRES	
County Name	PA Obligations	HM Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations
Statewide	$269,935	$0	$416,028,795	$21,317,309	$269,715,536	$752,202	$314,655,848	$1,171,510	$1,043,935,632	$21,111,412
Alameda County										
Alpine County										
Amador County										
Butte County			$106,139	$0					$158,859,407	$6,034,778
Calaveras County										
Colusa County										
Contra Costa County										
Del Norte County										
El Dorado County										
Fresno County										
Glenn County										
Humboldt County										
Imperial County										
Inyo County										
Kern County										
Kings County										
Lake County			$314,835	$86,125			$2,305,129	$0		
Lassen County										
Los Angeles County					$0	$2,222,817			$51,523,775	$20,650,738
Madera County										
Marin County										
Mariposa County										
Mendocino County			$5,711,765	$6,008,591						
Merced County										
Modoc County										
Mono County										
Monterey County										
Napa County			$7,268,977	$2,912,999						
Nevada County			$137,302	$498,167						
Orange County			$2,689,082	$3,238,043						
Placer County										
Plumas County										
Riverside County										
Sacramento County										
San Benito County										
San Bernardino County										
San Diego County					$0	$0				
San Francisco County										
San Joaquin County										
San Luis Obispo County										
San Mateo County										
Santa Barbara County					$52,413,167	$253,204				
Santa Clara County										
Santa Cruz County										
Shasta County							$17,208,844	$860,700		
Sierra County										
Siskiyou County										
Solano County			$794,522	$197,032						
Sonoma County			$58,372,563	$18,225,521						
Stanislaus County										
Sutter County										
Tehama County										
Trinity County										
Tulare County										
Tuolumne County										

	2019									
	4422: SEVERE STORMS, FLOODING, LANDSLIDES, AND MUDSLIDES		4423: SEVERE STORMS AND FLOODING		4425: SEVERE STORMS AND FLOODING		4431: SEVERE WINTER STORMS, FLOODING, LANDSLIDES, AND MUDSLIDES		4434: SEVERE WINTER STORMS, FLOODING, LANDSLIDES, AND MUDSLIDES	
County Name	PA Obligations	HM Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations
Statewide	$540,891	$0	$2,087,711	$0	$173,370	$0	$6,673,995	$344,489	$1,639,547	$324,359
Alameda County										
Alpine County										
Amador County									$233,397	$0
Butte County									$1,756,391	$0
Calaveras County							$1,318,199	$397,365		
Colusa County							$87,103	$0	$870,054	$0
Contra Costa County										
Del Norte County									$4,874	$0
El Dorado County									$0	$317,250
Fresno County										
Glenn County									$2,091,873	$0
Humboldt County									$4,696,357	$112,500
Imperial County										
Inyo County										
Kern County										
Kings County										
Lake County									$1,865,504	$158,468
Lassen County										
Los Angeles County										
Madera County										
Marin County							$1,598,222	$0	$323,254	$0
Mariposa County							$0	$0	$0	$0
Mendocino County							$0	$0	$2,121,729	$0
Merced County										
Modoc County							$135,566	$0		
Mono County										
Monterey County									$347,453	$0
Napa County							$0	$0	$512,055	$0
Nevada County										
Orange County										
Placer County										
Plumas County										
Riverside County							$21,103,280	$0		
Sacramento County										
San Benito County										
San Bernardino County										
San Diego County										
San Francisco County										
San Joaquin County										
San Luis Obispo County										
San Mateo County										
Santa Barbara County							$1,367,567	$411,639		
Santa Clara County										
Santa Cruz County										
Shasta County							$3,655,537	$0		
Sierra County										
Siskiyou County										
Solano County										
Sonoma County									$7,248,226	$888,119
Stanislaus County										
Sutter County										
Tehama County									$483,730	$0
Trinity County							$869,493	$0	$180,108	$0
Tulare County										
Tuolumne County									$579,104	$0

	2020				2021			
	4558: WILDFIRES		4569: WILDFIRES		4610: WILDFIRES		4619: WILDFIRES	
County Name	PA Obligations	HM Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations	PA Obligations	HM Obligations
Statewide	$281,259,360	$170,974	$133,062,736	$67,278	$7,737,043	$0	$9,916,286	$0
Alameda County								
Alpine County								
Amador County								
Butte County	$7,016,942	$0						
Calaveras County								
Colusa County								
Contra Costa County								
Del Norte County			$90,310	$0				
El Dorado County							$361,695	$0
Fresno County			$2,436,863	$0				
Glenn County								
Humboldt County	$103,589	$0						
Imperial County								
Inyo County								
Kern County								
Kings County								
Lake County	$579,921	$0					$0	$0
Lassen County	$238,282	$0			$0	$0		
Los Angeles County			$6,402,844	$0				
Madera County			$1,112,282	$0				
Marin County								
Mariposa County								
Mendocino County	$86,143	$0	$70,616	$0				
Merced County								
Modoc County								
Mono County								
Monterey County	$405,667	$0						
Napa County	$2,314,798	$0	$2,937,255	$0				
Nevada County	$165,737	$0			$0	$0		
Orange County								
Placer County					$0	$0		
Plumas County	$108,038	$0			$60,943	$0		
Riverside County								
Sacramento County								
San Benito County								
San Bernardino County			$2,473,466	$0				
San Diego County			$407,366	$0				
San Francisco County								
San Joaquin County								
San Luis Obispo County								
San Mateo County	$1,567,794	$0						
Santa Barbara County								
Santa Clara County	$1,618,950	$0						
Santa Cruz County	$7,247,488	$0						
Shasta County			$529,107	$0				
Sierra County	$337,499	$0						
Siskiyou County			$298,697	$0				
Solano County	$1,395,366	$0						
Sonoma County	$1,350,715	$0	$748,884	$0				
Stanislaus County	$369,361	$0						
Sutter County								
Tehama County					$0	$0		
Trinity County	$946,479	$0			$8,227	$0		
Tulare County	$13,174	$0						
Tuolumne County	$290,735	$0						

DISASTER OCCURRENCES 2011–2021

	TOTAL DISASTERS
California	25
Mississippi	22
Oklahoma	22
Iowa	21
Tennessee	20
Louisiana	18
Alabama	17
Texas	17
Vermont	17
West Virginia	17
Arkansas	16
New Hampshire	16
New York	16
Washington	16
Alaska	15
North Carolina	15
Nebraska	14
Missouri	13
Kansas	13
New Jersey	13
North Dakota	13
South Dakota	13
Kentucky	12
Montana	12
Oregon	12

	TOTAL DISASTERS
Virginia	11
Florida	11
Georgia	11
Minnesota	11
Connecticut	10
Hawaii	10
Maryland	10
New Mexico	10
Wisconsin	10
Delaware	9
Idaho	9
Massachusetts	9
Pennsylvania	9
South Carolina	8
Colorado	7
Utah	7
Maine	6
Michigan	6
Ohio	6
Arizona	5
Illinois	5
Indiana	4
Rhode Island	4
Wyoming	4
Nevada	3

FEMA AND HUD COST PER CAPITA 2011–2021

	PER CAPITA
Louisiana	$1,736
New York	$1,348
New Jersey	$815
North Dakota	$738
Vermont	$593
Texas	$518
West Virginia	$481
Alaska	$401
Florida	$390
Nebraska	$390
South Carolina	$289
Alabama	$275
South Dakota	$269
North Carolina	$243
Hawaii	$229
Iowa	$228
Oklahoma	$215
Oregon	$210
Missouri	$162
Mississippi	$159
California	$157
Connecticut	$149
Colorado	$141
Kentucky	$105
Tennessee	$97

	PER CAPITA
New Mexico	$97
Arkansas	$81
Massachusetts	$73
Georgia	$64
Montana	$63
Kansas	$60
New Hampshire	$55
Rhode Island	$53
Minnesota	$49
Pennsylvania	$49
Virginia	$49
Maryland	$39
Washington	$36
Wyoming	$32
Idaho	$32
Wisconsin	$27
Illinois	$24
Michigan	$23
Ohio	$19
Maine	$18
Delaware	$14
Utah	$11
Nevada	$11
Indiana	$7
Arizona	$2

MAPPING THE IMPACT

DATA VISUALIZATION TOOLS

It is evident the U.S. is already paying a steep price for this challenge. Rebuild by Design partnered with APTIM and iParametrics to create the following visual tools to demonstrate how climate events have affected each state. Together, these maps depict which areas have been hit the hardest by recent climate events, where recovery funds are focused, where those individuals with high social vulnerabilities live, and which areas have the least energy reliability.

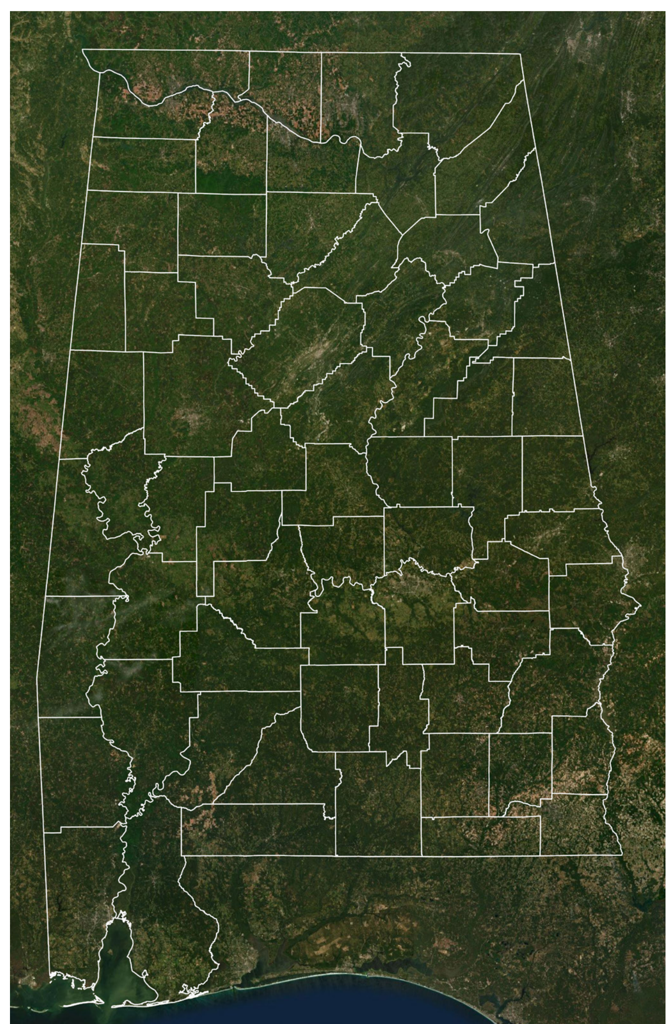
The U.S. needs to change the way we are making funding decisions. Where we make priority investments is equally important to what we invest in. Returns on investments (ROI) in the form of social benefits to communities needs to be part of grant evaluations. The U.S. needs to utilize new decision-making frameworks that are forward-looking. The final map in the set of maps includes an example of a new decision-making framework that takes into account current vulnerabilities and future climate risks. This is one example of how physical and social vulnerability indicators could inform where investments in adaptation infrastructure can yield high returns in social benefits to the most impacted communities. Our team recognizes, however, that there are other decision-making frameworks to explore, and further research is needed to understand which indicators should be included in any state-specific model. Given the ever-present constraints on funding availability, the intent of presenting these maps together is to prompt investments that address multiple known vulnerabilities simultaneously within projects, furthering comprehensive climate adaptation planning

The following data is designed as a tool to help communities understand their risks to make better-informed choices with higher returns on investment though each state should determine their own framework for investment.

There are always many ways to present this data. For the purposes of this report, we chose to analyze the years 2011-2021. The following six maps and two tables are presented in this format with the following considerations and limitations:

GEOGRAPHIC MAP:

The map provides topographic and geographic context for each state and its surrounding areas, indicating whether the state encompasses coastal, riverine, lake, alpine, or desert land.

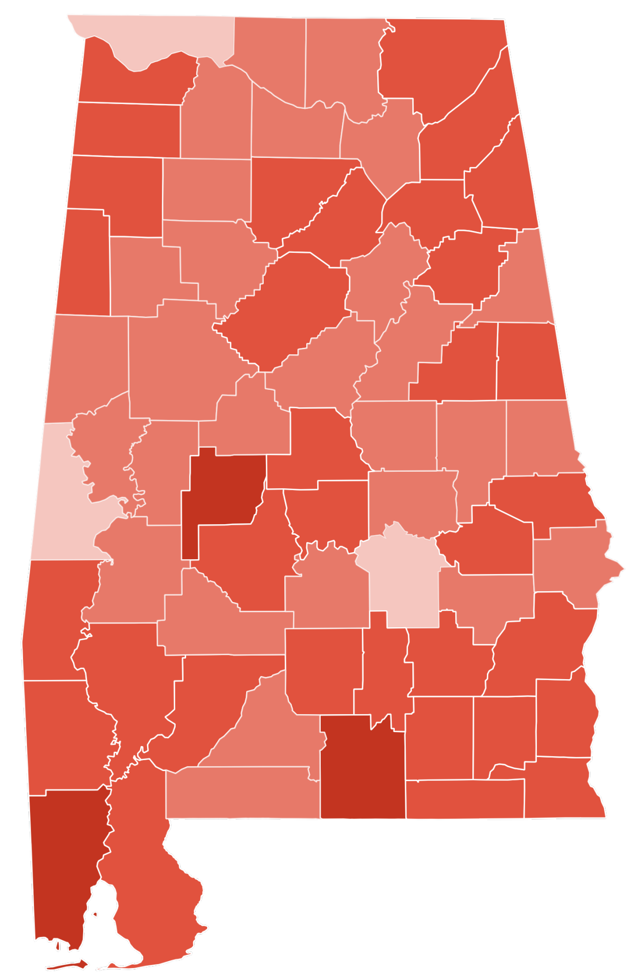


GEOGRAPHIC MAP. SOURCE: ESRI WORLD IMAGERY BASEMAP

DISASTER DECLARATIONS (RED):

Federally declared climate disasters by county 2011-2021. The map provides a snapshot of the magnitude of climate disasters across the country in recent history. This report only identifies federally declared disasters, as there is no entity that collects and publishes state Disaster Declarations. It should be noted that the declarations shown in this report do not reflect every climate event that has occurred between 2011-2021; the report instead only shows those which have met the cost threshold for a federal Disaster Declaration. Therefore, the findings overall underestimate the number of occurrences and the suffering that some communities have experienced.

According to the Stafford Act, as amended in May 2021, a "major disaster" includes "any natural catastrophe (including any hurricane, tornado, storm, high water, winddriven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought), or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity 2 and magnitude to warrant major disaster assistance under this Act to supplement the efforts and available resources of States, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby."[1]



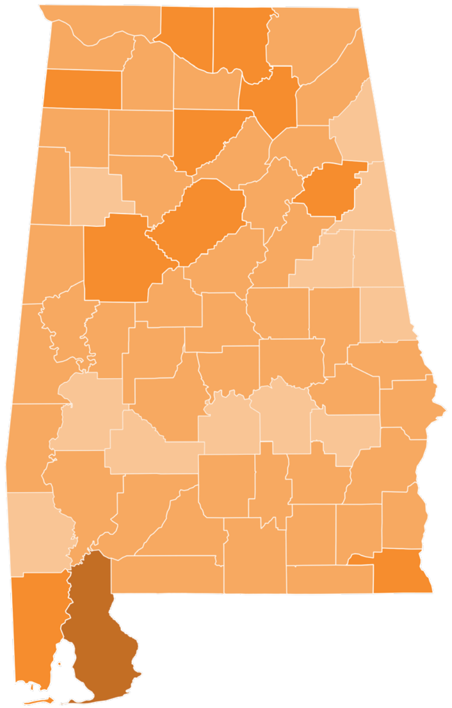
DISASTER DECLARATIONS. SOURCE: FEMA 2021 | MAPS COURTESY OF IPARAMETRICS.

Importantly, extreme heat waves do not fit the criteria for federal Disaster Declarations despite being the leading cause of deaths among climate hazards. Likewise, sea level rise is not included in this definition despite the threat it poses to numerous communities, including damage to property, loss of land, and displacement.

FEDERAL ASSISTANCES (ORANGE):

Public Assistance and Hazard Mitigation funding obligated by county for climate disasters 2011-2021 The map shows the amount of federal dollars allocated to counties through FEMA's Public Assistance and Hazard Mitigation Grant Programs between 2011-2021 which allocates funding to individual counties and statewide. The map does not show where "statewide" allocations were spent within the state, but rather only shows county allocations. However, these statewide allocations are in the Disaster Declaration table and included in the "FEMA Total." The adjacent table adds HUD's Community Development Block Grant Disaster Recovery funds – which are only available to states after a disaster – to the FEMA Total for an estimate of federal post-disaster spending in each state.

The Disaster Declaration tables provided at the end of each chapter show all federal Disaster Declarations declared between 2011-2021 and the corresponding FEMA obligations associated with those events. However, in some instances, FEMA continues to obligate funds for years following a declaration. Some states have received funds for events that took place between 2011-2021 after 2021, so the total sum of funds associated with that event are not captured. All FEMA funds allocated to counties between 2011-2021 are shown in the federal assistance map; however, they do not show up in the Disaster Declaration table if their corresponding event took place prior to 2011. For example, counties in the State of Illinois are still receiving funds from a 1960s storm. The



FEDERAL ASSITANCES. SOURCE: FEMA 2021 | MAPS COURTESY OF IPARAMETRICS.

funds obligated to those counties are included in the map, but that event is not included in the Disaster Declaration table at the end of the chapter.

There are additional sources of federal funding made available to governments or individuals in response to disasters, such as the U.S. Army Corp of Engineers (USACE) projects, Small Business Administration (SBA) loans, and private insurance payouts, which are not included in this report because they are harder to uniformly track and/or must be paid back. Therefore, our findings underestimate the total support available to states and individuals post-disaster.

Since disaster aid is allocated to repair physical damage to property, events such as extreme heat, which creates physical damage to persons and not property, rarely qualify for federal disaster recovery aid. Additionally, there is only a shallow understanding of the economic impact of social and health-related costs and environmental degradation after a disaster.

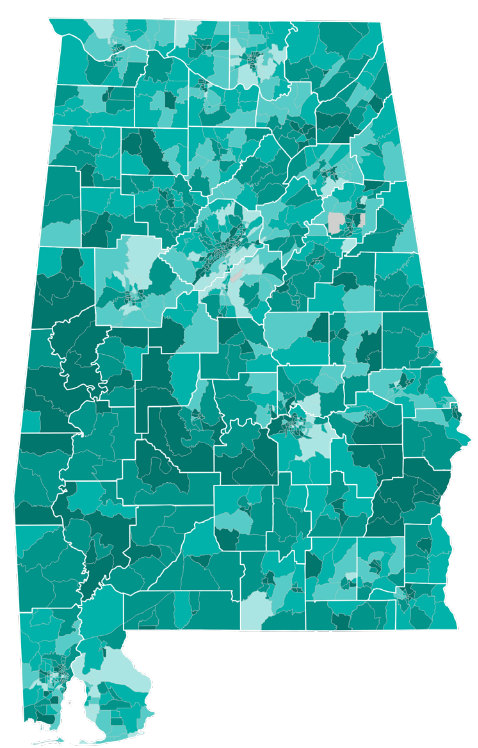
SOCIAL VULNERABILITY INDEX (GREEN):

Social vulnerability refers to the potential negative effects on communities caused by external stresses on human well-being. Such stresses include natural or human-caused disasters or disease outbreaks.

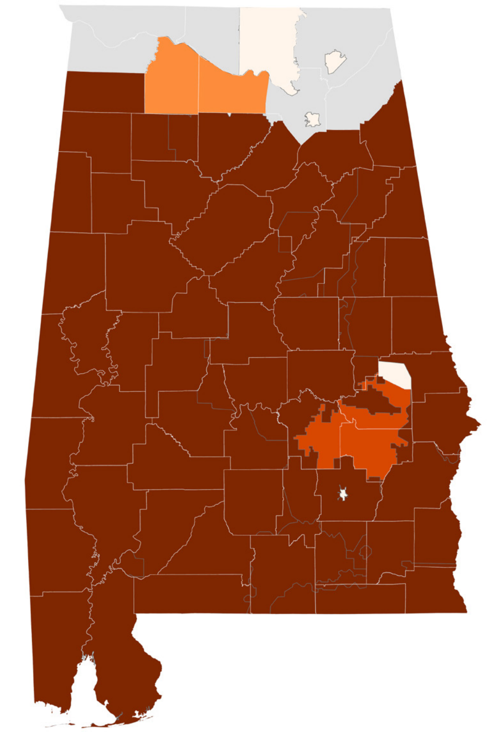
The factors that determine social vulnerability are directly tied to social determinants of health or the social, economic, and physical factors – such as race, socioeconomic status, and environmental conditions – that influence health. Socially vulnerable populations fare the worst during a disaster and often take longer to recover.[2] The Center for Disease Control/Agency for Toxic Substance and Disease Registry Social Vulnerability Index (CDC/ATSDR SVI) uses 15 U.S. census variables to help local officials identify communities that may need support before, during, or after disasters. The map presents the SVI on a census block level, indicating where the most socially vulnerable populations within each county live. The 15 indicators are grouped into four themes: Socioeconomic Status (below poverty, unemployed, income, no high school diploma); Household Composition & Disability (aged 65 or older, aged 17 or younger, older than age 5 with a disability, single-parent households); Minority Status & Language (minority, speak English "less than well"); and Housing Type & Transportation (multi-unit structures, mobile homes, crowding, no vehicle, group quarters).

Social Vulnerability Index data is not being used to make post-disaster assistance funding decisions. HUD only requires Low and Moderate Income for a portion of their funding. FEMA does not consider it in their allocations.

To learn more about how vulnerable populations fare during climate events, turn to page XX



SOURCE: CDC/ATSDR 2018 SOCIAL VULNERABILITY INDEX | MAPS COURTESY OF IPARAMETRICS



SOURCE: US ENERGY INFORMATION ADMINISTRATION | MAPS COURTESY OF APTIM

ENERGY RELIABILITY (BROWN):

Climate events often lead to energy disruptions for hours, days, or weeks. This map shows the annual average interruption time (in minutes) across the different energy utility providers within a state. Regions (or utility territories) in the darkest shade, on average, experience longer energy outages. This data is aggregated by utility territory, not county, meaning more than one provider can serve a county or group of counties.

Viewing the Energy Reliability Map next to the SVI Map, one can begin to infer which regions have the most socially vulnerable residents and are served by the least reliable energy providers. Energy reliability is increasingly becoming related to climate disasters and weather events. Inclusion of these maps is to support evaluation of need for concurrent flood and energy resilience projects. To read more about how energy reliability is calculated, see Appendix A.

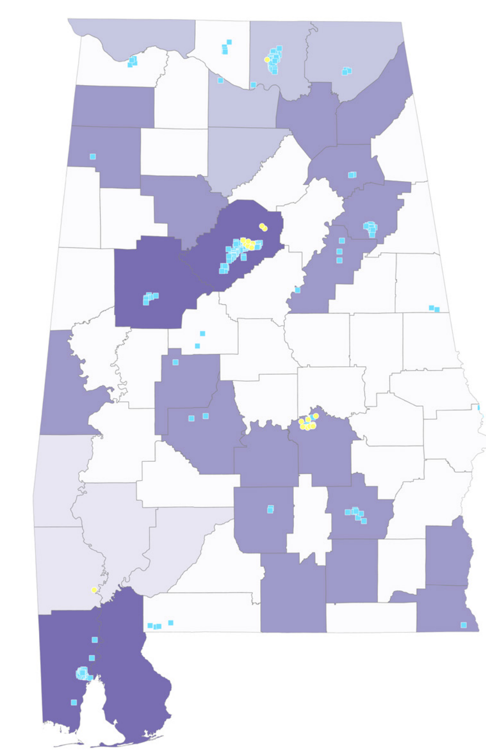
COMPOUNDING RISKS (PURPLE):

This map overlays multiple physical and social vulnerability indicators to identify areas where new climate infrastructure would have the greatest return on investment.

This map overlays social inputs – population density, increase in population, and health risks – with physical risk inputs – high risk of climate hazards and sea level rise – to get a more detailed picture of the populations who are most vulnerable to climate events to inform future choices of where new climate infrastructure may have the greatest return on investment.

While other composite maps such as FEMA's National Hazard Risk Index demonstrate climate impact and some demographic information, these maps have added additional criteria, such as population density, population increase, high poverty rates, and health risks. We did this to focus on the compounding effects. For instance, if a climate event happens in an area where there is already high social vulnerability, that community is likely to suffer more.

This approach provides an example of how to begin to create new frameworks for allocating funding, moving away from funding based on damage estimates from the previous storm. These assumptions should be ground-checked by each state as data does not always give us the full picture. For instance, in some cases, the areas highlighted for "greatest need" may already have numerous funding sources while others, such as rural communities, may not. In other areas,



SOURCES: NOAA, FEMA, 2020 US CENSUS, GHDX | MAP COURTESY OF APTIM the location where investments need to be directed may be adjacent to the county with the highest need. For example, an adaptation intervention to protect a downstream riverine community may need to be built upstream in a less vulnerable area to stop flooding at its source.

ANALYZED RISKS INCLUDE:

+ **Climate:** sea level rise, multiple climate hazards
+ **Social:** population density, population increase, and poverty
+ **Health:** cardiovascular disease, neoplasms, and other health indicators

Storm water discharge indicator and Superfund proximity: U.S. Environmental Protection Agency EJSCREEN Indexes—2020 Public Release.

RANKING OF NEEDS:

Though 10 data sources went into the data for the purple map, the chart shows a simplified view into how the areas of most need were chosen. An array of physical and social challenges were combined and then ranked on a scale of 0 to 6, with 6 showing areas with the highest potential for returns on investment in the form of social benefits to the county. In order to qualify for a high need of investment, counties needed to have high climate risk. Read more about this approach in Appendix B.

DISASTER OCCURRENCES AND FEMA INVESTMENTS BY COUNTY

The chart provides the raw county-level disaster data used to inform the first two maps. Our team found that sifting through Disaster Declaration data is often difficult or not available. By making this data public and easily accessible, it is our intent that other organizations, academics, governments, and other decision-makers will continue to make use of and build on this collection.

1 Federal Emergency Management Agency, 2021. Robert T. Stafford Disaster Relief and Em Act, Public Law 93-288, as amended, 42 U.S.C. 5121 et seq., and Related Authorities. [online], https://www.fema.gov/sites/default/files/documents/fema_stafford_act_2021_vol1.pdf

2 Flanagan, B., Gregory, E., Hallisey, E., Heitgerd, J. & Lewis, B. (2011). A Social Vulnerability Index for Disaster Management. Journal of Homeland Security and Emergency Management, 8(1), 0000102202154773551792. https://doi.org/10.2202/1547-7355.1792

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