Wildfire Evacuation – Annotated Bibliography Evacuation Outreach and Preparedness Resources

Community Warning Systems, Notifications and Weather Information

To register your cell and VoIP (internet connected) phone numbers for mass alerting of an emergency.

Contra Costa Community Warning System (CWS) http://cococws.com/

AC Alert https://member.everbridge.net/453003085612570/new

Nixel alerts in many cities <u>https://local.nixle.com/register/</u>. Text zip code to 888777 to opt in to alerts from local agencies.

Fire Weather Watches and Red Flag Warnings. National Oceanic and Atmospheric Administration. <u>https://www.wrh.noaa.gov/fire2/?wfo=mtr</u>. Daily fire weather forecasts, watches and warnings from the Monterey office that covers Alameda and Contra Costa County. <u>https://www.weather.gov/mtr/</u>

AlertWildfire. regional cameras in the South and East Bay.

<u>http://www.alertwildfire.org/southeastbay/</u> Access to state-of-the-art Pan-Tilt-Zoom fire cameras and associated tools to help firefighters and first responders. Provided by consortium of the University of Nevada, Reno, University of California San Diego and the University of Oregon and local partners.

Federal Communications Commission **Emergency Communications Tips** <u>https://www.fcc.gov/emergency</u> website with tips, PSAs, videos and links.

Alameda and Contra Costa County Evacuation Guides & Websites

Alameda County. Website. <u>https://www.acgov.org/emergencysite/</u> Emergencies information including: subscribe to AC Alert, emergency preparedness kits, link to PG&E Public Safety Power Shutoff FAQ, information about wildfire smoke safety and indoor facilities for weather related respite. Twitter alerts @AlamedaCoAlert, @AlamedaCoFire and @ACSOSheriffs. <u>https://www.acgov.org/ready/</u> more information on having a plan, make a kit, be informed, get involved.

City of Berkeley Wildfire Evacuation. Website.

https://www.cityofberkeley.info/WildfireEvacuation/ Includes links to Citywide Evacuation Zone Map. Emergency Alerting, Quick Evacuation Checklist. Evacuation packing list and more on preparedness and wildfire prevention. Links to Berkeley Ready preparedness program. https://www.cityofberkeley.info/ready/ including Fire Safety and Suppression Activity Guide with evacuation activities.

City of Hayward and Fairview Fire Protection District Residents Guide to Wildfire Preparedness & Evacuation. 17 pages. <u>https://www.hayward-</u> <u>ca.gov/sites/default/files/fire/COH_FFPD Resident Evacuation Guide rev1.pdf</u> Similar guide as Contra Costa County.

City of Lafayette <u>https://www.lovelafayette.org/residents/public-safety/are-you-ready</u> Are you Ready website includes link to community warning system, community informaiton and emergency radio station, and other resources. Emergency Operations Plan. Annex Wildfire Evacuation Plan. August 2018. <u>https://www.lovelafayette.org/Home/ShowDocument?id=4054</u>

City of Oakland Website. <u>https://www.oaklandca.gov/services/fire-emergency-preparedness</u>. Information on sirens and alerts, sign up for AC Alert. Links to red flag warning – power outages information. <u>https://www.oaklandca.gov/resources/red-flag-warning</u> <u>https://www.oaklandca.gov/resources/wildfire-event</u>

City of Richmond. <u>http://rtransit.com/3627/Wildfire-Information</u> Wildfire information including: wildfire preparedness and evacuation guide, emergency alerts, wildland vegetation standards, community wildfire protection plan and links to CAL Fire's ready for wildfire site and other resources.

Contra Costa County Individual and Family Preparedness Guide. Tri-fold pamphlet. <u>https://www.cocosheriff.org/home/showpublisheddocument?id=92</u> Also in Spanish.

Contra Costa County Residents Guide to Wildfire Preparedness & Evacuation. 16 pages. <u>https://www.contracosta.ca.gov/DocumentCenter/View/60616/Residents--Contra-Costa--</u> <u>County-Guide</u>. Similar guide as LAMORINDA with additional information on preparing for power outage and other hazards (earthquakes).

EL Cerrito & Kensington Residents Guide to Wildfire Preparedness & Evacuation. 16 pages. <u>https://www.kppcsd.org/files/9227af8b3/Fire+Pamphlet+7-24-2019.pdf</u> Similar guide as LAMORINDA with additional information on Diablo winds, El Cerrito/ Kensington CERT, map of emergency access and evacuation network2

Hills Emergency Forum. Website. <u>http://hillsemergencyforum.org/wildfireevacuation.html</u>. Evacuation tips pamphlet and why evacuation is different.

Kensington Community Evacuation Plan. 8 pages.

https://www.kensingtonfire.org/files/d0d046e90/KFPD+Evacuation+Brochure.pdf Based on CAL FIRE Ready Set Go (ReadyforWildfire.org) with Kensington map and supply list.

LAMORINDA Residents Guide to Wildfire Preparedness & Evacuation. 16 pages.

https://lamorindacert.org/evacuate/documents/Residents Guide.pdf Lafayette Emergency Preparedness Commission.

- How to get ready. Stay informed. Evacuate and Recover. Also includes links to:
 - Receiving Alerts when your cell phone is set to "do not disturb." <u>https://lamorindacert.org/resource/cell-phone-do-not-disturb/</u>
 - Safe and Well program https://www.redcross.org/get-help/disaster-relief-and-recovery-services/contact-and-locate-loved-ones.html American Red Cross program to allow you to register to let family and friends know you are safe and well.
 - Lamorinda Evacuation Zones <u>https://lamorindacert.org/map-page/</u> Evacuation maps by jurisdiction for Lafayette, Moraga and Orinda.
 - Best Weather Radio & Emergency Radio reviews for NOAA Alerts in 2020. https://www.weatherstationadvisor.com/best-weather-radio-reviews/

Uninterruptible Power Supply (UPS) Information
 https://lamorindacert.org/evacuate/documents/UPS info.pdf

Livermore Pleasanton Fire Department. Website.

http://www.cityoflivermore.net/citygov/fire/about/disaster_preparedness/default.htm. Information on individual and family preparedness, as well as for businesses, with links to Ready.gov resources, Red Cross, CDC, FEMA and Small Business Administration. CERT program with 10 CERT districts. Links to AC Alert

Evacuation Preparedness Information

Alameda County Office of Emergency Services. <u>http://www.acgov.org/ready/</u>Website.

Alameda County Public Health Department. <u>https://acphd.org/air-quality/</u> Website. Wildfire Smoke.

California Department of Public Health. Emergency Preparedness Office. website. <u>https://www.cdph.ca.gov/Programs/EPO/Pages/Wildfire%20Pages/Wildfires--.aspx</u> Topics include: Wildfire smoke. Avoid breathing smoke. N95 respirator masks FAQ. Safe cleanup of ash. Wildfires and mental health.

California Office of Emergency Service . **Listos California** Emergency Preparedness Campaign. <u>https://www.listoscalifornia.org/#</u> People centered approach to emergency preparedness. Five easy steps. Tools and resources.

City of Bainbridge Island Washington. Hazard specific annex: Wildfire response and evacuation plan. <u>https://www.bainbridgewa.gov/DocumentCenter/View/12152/Wildfire-Response-and-Evacuation-Plan---Hazard-Specific-Annex-July-2019</u> Supplemental document to Comprehensive emergency Management Plan. Provides wildfire specific information and response procedures related to firefighting, evacuation, and emergency public information. July 2019

City of Thousand Oaks. Hill & Woolsey fires After action summary report. https://www.toaks.org/home/showdocument?id=23249 Nov 2019

Contra Costa County Emergency Operations Plan. https://www.cocosheriff.org/home/showpublisheddocument?id=168 2015.

Contra Costa Sheriff's Office. **Preparing for a power outage during fire season**. tip sheet available in English and Spanish. <u>https://www.contracosta.ca.gov/DocumentCenter/View/59212/CCCOES-Power-Outage-</u> Preparedness-2019

County of Marin Wildfire Evacuation Zones.

https://www.marincounty.org/depts/fr/divisions/operations/wildfire-evacuation-zones maps for for 23 communities in Marin County, CA.

County of Nevada, Office of Emergency Services. **Wildfire Evacuation Preparedness Action Plan** <u>https://www.mynevadacounty.com/1238/County-Emergency-Plans</u> Five initiatives addressing: evacuation routes, early warning systems defensible space, wildfire response preparedness and critical infrastructure. May 2020.

County of San Diego Resilience Review Report 1:19: Wildland Fires.

https://bosagenda.sandiegocounty.gov/cob/cosd/cob/doc?id=0901127e80ade43f Formed in March of 2019, the Resilience Review Working Group is tasked with developing recommendations to further reduce wildfire risk and strengthen community resilience. Working Group performed a comprehensive assessment of existing County wildfire preparedness and response and recovery plans, programs, projects, and outreach strategies. Report provides County leadership with proactive recommendations related to pre-fire, response and recovery. 2019.

FEMA. Covid-19 supplement for planning considerations: Evacuation and shelter in **place.** September 2020.

https://www.fema.gov/sites/default/files/2020-09/fema_covid-19_supplement-evacuation-shelter-in-place.pdf

Firefighters on your side. <u>https://firefightersonyourside.org/plan</u> **Red flag warnings and 5 minute evacuation plans campaign**. Public service announcements (radio and video), social media graphics, outdoor advertising, brochures, posters. Sponsored by California Fire Foundation and Pacific Gas and Electric.

Mendocino County. Evacuation Plan.

<u>https://www.mendocinocog.org/files/cbb6532a3/%2307c+EvacuationPlan071520.pdf</u> Annex to Mendocino County Emergency Operations Plan. Includes repopulation. July 2020.

National Academies of Science, Engineering and Medicine. Emergency Alert and Warning Systems: Current knowledge and future research directions. 2018. <u>https://www.nap.edu/catalog/24935/emergency-alert-and-warning-systems-current-knowledge-and-future-research</u>

Pacific Gas and Electric Company Public Safety Power Shutoff (PSPS) Website. https://www.pge.com/en_US/residential/outages/public-safety-power-shuttoff/learn-aboutpsps.page

Plumas County. **Emergency preparedness for Residents of Plumas County**. <u>https://www.plumascounty.us/DocumentCenter/View/13958/EMERGENCY-PREPAREDNESS-GUIDE-2015?bidId=</u> April 2015. Wildfire Evacuation Maps. <u>https://www.plumascounty.us/2414/Wildfire-Evacuation-Maps</u>

Unified San Diego County Emergency Services Organization and County of San Diego. **Operational Area Emergency Operations Plan Annex Q: Evacuation**. <u>https://www.sandiegocounty.gov/content/dam/sdc/oes/emergency_management/plans/op-area-plan/2018/2018-Annex-Q-Evacuation.pdf</u> Intended to be used as a template and to support or supplement evacuation plans prepared and maintained by each local jurisdiction. This annex outlines strategies, procedures, recommendations and organizational structures that can be used to implement a coordinated evacuation effort in the San Diego County Operational Area. September 2018.

University of Nevada Cooperative Extension. <u>https://www.livingwithfire.com/get-prepared/</u> publications, checklists, links to additional resources for planning, evacuating and after the fire.

Evacuation Information - Fire Safe Councils

Amador FireSafe Council Website. <u>https://amadorfiresafe.org/evacuation/</u> Ready, Set, Go CAL FIRE evacuation guide, evacuation checklist and phone tree template.

Diablo FireSafe Council. Website. <u>http://www.diablofiresafe.org/index.html</u> Red flag weather. <u>http://www.diablofiresafe.org/red_flag.html</u>

Fire Safe Council of San Diego County Website. <u>http://firesafesdcounty.org/</u> Includes information on Evacuation preparedness fair (2019), Deer Springs evacuation workshop (2017) and wildfire evacuation preparation for large animal large animal owners' workshop (2018).

Fire Safe Marin Wildfire Evacuation Preparedness <u>https://www.firesafemarin.org/evacuation</u> Website. Emergency notifications and information. Evacuation terminology. Before a fire threatens. Monitoring daily weather conditions. Hardening your home. Create defensible space. What should I do during a red flag warning. When evacuation is a possibility. The evacuation process. Sheltering in place. Large animal evacuation. Returning home.

Lassen County FireSafe Council Website <u>http://lassenfiresafecouncil.org</u> Sheriff's Office Evacuation and preparedness checklist and five minute plan campaign.

Nevada County FireSafe Council. Website. <u>https://www.areyoufiresafe.com/go</u> Link to CAL FIRE Ready for Wildfire website information for evacuate early, animal evacuation and what to do if you get trapped.

Oakland FireSafe Council <u>https://oaklandfiresafecouncil.org/</u> Oakland Community Preparedness and Response program <u>https://www.oaklandcpandr.org/</u> two-page evacuation guides in English and Spanish covering 22 evacuation related topics.

Oak Hill Area FireSafe Council Website. <u>https://www.oakhillfiresafe.org/plan-ahead</u> Emergency alerts, go bags, action plan, emergency communication plan, fire bunkers.

Plumas County Fire Safe Council Website and 4-page pamphlet. <u>https://www.plumasfiresafe.org/wildfire-evacuation.html</u> Link to Plumas County Office of Emergency Services Wildfire Evacuation Maps for communities in the county (26 pdf files). <u>https://plumascounty.us/2414/Wildfire-Evacuation-Maps</u>

Rancho Santa Fe Fire Protection District Website. <u>https://www.rsf-fire.org/preparing-for-wildfire/</u> Includes information on preparing for wildfire, AlertSanDiego and SD Emergency app, time for evacuate, road closures, sheltering in your home and when the fire approaches. Include six evacuation maps. "Getting out Alive" and "Shelter in Place…if you can't evacuate" (7-page pamphlet).

Santa Clara County FireSafe Council Website. <u>https://sccfiresafe.org/learn/wildfire-evacuation-workshop/</u> Sample agenda for Evacuation Workshop.

Tuolumne FireSafe Council (Highway 108 Fire Safe Council) Website.

<u>https://tuolumnefiresafe.org/faqs/</u> FAQs on how fire evacuation notifications, sheltering options, unable to evacuation, pet evacuation, evacuation tips. Links to ready set go information <u>https://tuolumnefiresafe.org/resources/documents/</u>

Yuba Watershed Protection & FireSafe Council. Website <u>http://yubafiresafe.org/evacuations/</u> evacuation tags with Yuba County Sheriff's Office <u>https://yubafiresafe.org/evacuation-tags/</u> additional information on evacuation, animal evacuation, evacuation preparedness. Search "evacuation" on website for posts and programs.

General Wildfire Preparedness that includes Evacuation Information

Burn Institute. Website and 16 page booklet. <u>https://burninstitute.org/now-is-the-time-to-prepare-for-wildfire/</u> Living with wildfire: a guide for the homeowner. Includes information on evacuation.

CALFIRE Ready for wildfire. <u>https://www.readyforwildfire.org</u> (CAL FIRE program). Website + App. Includes of Ready Set Go (3 brochures – 8 pages each) – Wildfire is coming are you...Ready (Set! To Go!). Includes: pre-evacuation preparation, creating a Wildfire Action Plan, emergency supply kit, knowing when to evacuate and what to do if you become trapped. (also available as Spanish pdf). Web based app "Ready for Wildfire." Go! Early public service announcement. Also has information on defensible space and hardening your home.

Fire Adapted Communities (FAC) Learning Network <u>https://fireadaptednetwork.org/</u>Website. Nationwide network for spreading best practices and innovation. Blogs include first hand accounts: What does it take to get your community planning. How to prepare your community for a wildfire evacuation. Search under term "evacuation" for more.

Firewise USA org National Fire Protection Association. Website

https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA Teaches people how to adapt to living with wildfire and encourages neighbors to work together and take action now to prevent losses. Recognition program called Firewise USA®. Educational materials include:

- Preparing your home (defensible space) <u>https://www.nfpa.org/Public-Education/Fire-</u> causes-and-risks/Wildfire/Preparing-homes-for-wildfire
- Research fact sheets on home hardening with the Insurance Institute for Business and Home Safety (IBHS) <u>https://www.nfpa.org/Public-Education/Fire-causes-and-</u> risks/Wildfire/Firewise-USA/Firewise-USA-Resources/Research-Fact-Sheet-Series
- Preparing your pet for evacuation
- Take Action Teens for wildfire safe communities <u>https://www.nfpa.org/Public-</u> Education/Fire-causes-and-risks/Wildfire/TakeAction

Federal Emergency Management Agency (FEMA) Website.

Ready.gov <u>https://www.ready.gov/</u> Emergency preparedness for businesses. <u>https://www.ready.gov/business</u>

Map Your Neighborhood (MYN). https://mil.wa.gov/map-your-neighborhood.

Washington State Emergency Management Division.

Program guide to prepare, learn and improve readiness at the neighborhood level. Offered by Bay Area 10 county UASI Region including Alameda County as a 3 hour training to enable neighbors to learn steps to respond to emergency (no date). http://www.acgov.org/fire/documents/MYN%20Overview.pdf

My Hazards <u>http://myhazards.caloes.ca.gov/</u> California Office of Emergency Services (CAL OES). Website. Enter address and discover hazards in area (earthquake, flood, fire, tsunami) and list of potential mitigations.

Red cross. Red Cross Website. <u>https://www.redcross.org/get-help/how-to-prepare-for-emergencies/types-of-emergencies/wildfire.html</u> Be Red Cross ready wildfire safety checklist, tips and links. **Readyrating.com** for organizations.

US Fire Administration Wildfire Evacuation flyer.

https://www.usfa.fema.gov/downloads/pdf/publications/wildfire_evacuation_flyer.pdf

International Guides

Fire & Emergency Service Authority of Western Australia. **Bushfire Survival**. <u>https://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/Pages/publications.aspx.</u> Resources including survival plan checklists, prepare, act, survive guides including sheltering in your home, travelling, safer places, warning system, how to keep informed.

New South Wales, Rural Fire Service, Australia. **Brushfire Survival**. <u>https://www.rfs.nsw.gov.au/resources/bush-fire-survival-plan</u> Information on how to prepare, act and survive. Includes concepts of personal protective clothing, leave early and stay and defend, neighborhood safer places as last resort as well as a kids activities section.

Preparing Animals for Disaster & Evacuation

ASPCA (American Society for Prevention of Cruelty to Animals) **Disaster Preparedness**. <u>https://www.aspca.org/pet-care/general-pet-care/disaster-preparedness</u>

American Veterinary Medical Association "**Saving the Whole Family**" <u>https://ebusiness.avma.org/ProductCatalog/product.aspx?ID=140</u>

California Animal Response Emergency System (CARES) <u>https://cal-cares.com</u> Brochure on emergency preparedness for pet owners <u>https://animalsindisasters.files.wordpress.com/2013/11/cares-brochure-petsr2.pdf</u>

California Department of Food and Agriculture Animal Health and Food Safety Services and California Veterinary Medical Association. Series of brochures about disaster preparedness for dog and cat owners, bird and reptile owners, horse owners, livestock owners. https://cal-cares.com/personal-family/

CAL FIRE. Wildland fire safety for your livestock and pets.

https://www.readyforwildfire.org/prepare-for-wildfire/go-evacuation-guide/animal-evacuation/

Contra Costa Animal Response Team (CART) Website. <u>https://contracostacart.org/index.html</u> Volunteer organization who set up and staff temporary animal shelters in time of emergency. Operates under auspices of Contra Costa Animal Services. Resources include 3 step disaster plan, species feed water reference, owner care authorizations and links to other programs.

FEMA Ready.gov Prepare your pets for emergencies. https://www.ready.gov/pets

Hold your horses. Livestock emergency evacuation response team. Based out of Brentwood, CA. <u>https://holdyourhorsesevac.com/</u> and <u>www.fb.com/HoldYourHorsesContraCosta</u>

Nevada County Veterinary Disaster Response Team https://www.nevcoanimalevac.org

North Valley Animal Disaster Group https://www.nvadg.org

Palo Alto Humane Society <u>https://www.paloaltohumane.org/education-programs/disaster-preparedness/</u> Disaster preparedness information series "Prepare the Animals" with separate flyers for bird, cat, dog, reptile, small mammal, horse and livestock. Information for after the disaster: first aid for animals and is it safe for you.

Ready Set Go Wildland Fire Preparedness for Farmers and Ranchers. 8-page booklet <u>https://www.iafc.org/docs/default-source/pdf/farmers-ranchers-and-growers-action-guide-california_web.pdf</u>

The Humane Society of the United States Pet disaster preparedness resources. https://www.humanesociety.org/resources/pet-disaster-preparedness

Community Training Programs

Community Emergency Response Teams (CERT) <u>https://www.ready.gov/cert</u> FEMA.Gov information about the CERT program and how to find a local program

Local CERT Programs

- Alameda CERT (City of Alameda) <u>https://www.alamedaca.gov/Departments/Fire-Department/Alameda-CERT</u>
- Alameda County CERT <u>https://fire.acgov.org/EmergencyPreparedness/emergencypreparedness.page?</u>
- Berkeley CERT <u>https://www.cityofberkeley.info/cert/</u>
- Berkeley Disaster Team (UC Berkeley) <u>https://callink.berkeley.edu/organization/BDT</u>
- City of Albany CERT <u>https://www.albanyca.org/recreation/classes-camps/cert-program-</u> 1553
- City of Emeryville CERT <u>https://www.ci.emeryville.ca.us/1105/Emergency-Response-</u> <u>Training</u>
- City of Freemont CERT https://fremont.gov/105/CERT
- City of Pittsburg (East County CERT) <u>http://www.ci.pittsburg.ca.us/index.aspx?page=378</u>
- City of Richmond REACT/CERT https://www.ci.richmond.ca.us/339/REACTCERT
- Chabot-Las Positas Community College District CERT
 <u>http://www.clpccd.org/emerinfo/EmergencyPreparedness.php</u>
- Clayton CERT https://ci.clayton.ca.us/police/emergency-preparedness/
- Communities of Oakland Respond to Emergencies (CORE) https://www.oaklandca.gov/services/readyoakland
- Concord CERT <u>https://www.cityofconcord.org/314/Community-Emergency-Response-</u> Team
- Contra Costa County CERT <u>https://www.cccfpd.org/education-programs#cert</u>
- Contra Costa County C8 CERT for CERT program managers and coordinators <u>https://sites.google.com/view/contracostacert/home?authuser=0</u>
- Crocket and Port Costa CERT https://www.facebook.com/groups/340217056330409/
- El Cerrito Kensington CERT <u>https://el-cerrito.org/176/Community-Emergency-Response-</u> <u>Training-CE</u>

- Hayward CERT <u>https://www.hayward-ca.gov/fire-department/disaster-preparedness/community-emergency-response-team</u>
- Lamorinda CERT <u>https://lamorindacert.org/</u>
- Livermore-Pleasanton CERT https://www.cityoflivermore.net/citygov/fire/about/disaster_preparedness/cert/default.htm
- Martinez CERT <u>https://martinezcert.org/</u>
- Pleasant Hill CERT https://www.ci.pleasant-hill.ca.us/572/CERT
- Rodeo Hercules FPD CERT <u>https://www.rhfd.org/community/rhfpd-is-looking-for-cert-members/</u>
- San Pablo CERT <u>https://www.sanpabloca.gov/1074/CERT</u>
- San Ramon CERT <u>https://www.firedepartment.org/community/outreach-programs/cert</u>
- Union City CERT https://www.unioncity.org/344/CERT
- Walnut Creek CERT <u>https://www.walnut-creek.org/departments/public-</u> safety/emergency-preparedness/cert-community-emergency-response-teams **Building**

Disaster Resiliency: A Roadmap for Investment & Innovation in California. <u>https://www.californiavolunteers.ca.gov/</u> California Volunteers program through the Office of the Governor. 2019 Final report highlighting six opportunities for impact. https://californiavolunteers.app.box.com/s/i1cl1py11r35hwpydgydky93j2gyjwyk

Communications – Social media, toolkits and videos

Evacuation Outreach Project Wildfire Takes the Video Series Approach

https://fireadaptednetwork.org/wildfire-evacuation-planning-outreach-video/

Project Wildfire in Deschutes County Oregon developed "Make a Plan Monday," a six part video series highlighting what citizens should do to prepare for evacuation including: Evacuation basics, building go-kits, aiding children, assisting vulnerable populations, preparing businesses, and arranging for pet evacuation. Campaign videos ran on Project Wildfire's website, social media, YouTube and local radio stations. See all videos

<u>https://www.facebook.com/pg/ProjectWildfre/videos/?ref=page_internal</u>. Web information at <u>http://www.projectwildfire.org/evacuation/</u>

Federal Communications Commissions. **Wireless Emergency Alerts (WEA).** <u>https://www.fcc.gov/consumers/guides/wireless-emergency-alerts-wea</u> information about WEA public safety system that allows customers who own compatible mobile devices to receive geographically targeted, text-like messages alerting them of imminent threats to safety in their area.

In the eye of the storm: A people's guide to transforming crisis and advancing equity in the disaster continuum. NAACP Environmental and Climate Justice Program. An action toolkit. 2018. <u>https://www.naacp.org/climate-justice-resources/in-the-eye-of-the-storm/</u> Manual prepares frontline communities to be first responders in disasters as well as to serve as monitors for equity in disaster response, and to advance an equitable disaster policy platform

Lessons Learned 2017 North Bay Fire Siege. Marin County Fire Department. September 2018

http://marin.granicus.com/DocumentViewer.php?file=marin_391924bfb015b94ea9311ab792521 5fc.pdf

NFPA Social Media Toolkits

<u>https://www.ready.gov/wildfire-safety-social-media-toolkit</u>. Safety and preparedness messages you can share on your social media channels. You can either copy these messages directly or customize them to reach your audience. Includes: links to FEMA wildfire safety graphics, NWS weather ready safety outreach materials, Smokey bear website, NFPA Firewise, National Wildfire Community Preparedness day.

Survivor Stories from Camp Fire <u>https://www.youtube.com/embed/NDSgZ8_MpS0</u> Charles 1 minute.

This is why fire officials don't want you to stay and defend your home. Sharon McNary LA Times article.

https://laist.com/2018/11/15/this is why fire officials dont want you to stay and defend yo ur home.php

US Department of Health and Human Services. **Capacity Building Toolkit for including Aging and Disability Networks in Emergency Planning.** 2019. a resource to guide the aging and disability networks in increasing their ability to plan for and respond to public health emergencies and disasters. For organizations already engaged in emergency planning, this Toolkit can help expand and improve their capabilities. For organizations new to emergency planning, this Toolkit will help orient them to the process. <u>https://www.hsdl.org/?abstract&did=821516</u>

Insurance

Apps for taking inventory at home. New York Times review. https://www.nytimes.com/2013/03/14/technology/personaltech/apps-to-keep-an-inventory-ofitems-in-your-home.html

California Department of Insurance. Evacuation checklist for policyholders. With home inventory guide. <u>http://www.insurance.ca.gov/01-consumers/140-</u> <u>catastrophes/EvacuationChecklist.cfm</u> Wildfire response and readiness website. <u>https://www.insurance.ca.gov/01-consumers/200-wrr/</u>

United Policy Holders How to create your inventory Includes excel spreadsheet template. <u>https://uphelp.org/how-to-create-a-home-inventory/</u>

Returning After a Wildfire

Air Quality. <u>AirNow.gov</u> website. Current air quality readings.

Alameda County Public Health Department. Protecting your health during wildfire season. <u>http://www.acgov.org/sustain/what/resilience/smoke.htm</u> air quality. <u>https://acphd.org/air-guality/</u>

After wildfire guides. Alberta Health Services, Canada. Water safety including: Use and Boil Water Advisory. Re-opening your building checklist. Returning to your home after wildfire. https://www.albertahealthservices.ca

American Veterinary Medical Association (AVMA) **Wildfire smoke and animals**. <u>https://www.avma.org/resources/pet-owners/emergencycare/wildfire-smoke-and-animals</u>

Guidelines for Food Safety during Short Term Power Outages. Consumer Fact Sheet. University of California Agricultural and Natural Resources Publication 7264. <u>https://ucanr.edu/sites/fire/files/287883.pdf</u>

Cal FIRE Returning Home After a Wildfire. <u>https://www.readyforwildfire.org/post-wildfire/after-a-wildfire/</u>

California Department of Public Health Emergency Preparedness Office. <u>https://www.cdph.ca.gov/Programs/EPO/Pages/Wildfire%20Pages/Wildfires--.aspx</u> Wildfire related information and links related to after a wildfire: smoke, respirator masks, cleanup of ash, mental health, state partners. Public health flyers on smoke, preparednes

Environmental Protection Agency (EPA). Dealing with debris and damaged buildings. https://www.epa.gov/natural-disasters/dealing-debris-and-damaged-buildings planning, cleanup, general cautions, contacts, avoiding problems, disposal of waste, guidance for structurally unsound buildings

Firewise Idaho. <u>http://idahofirewise.org/evacuation/returning-home/</u> Returning home tips.

Red Cross. Returning home and recovering after a wildfire. <u>https://www.redcross.org/get-help/how-to-prepare-for-emergencies/types-of-emergencies/wildfire.html</u>. Checking your home after a fire. <u>https://www.redcross.org/get-help/how-to-prepare-for-emergencies/types-of-emergencies/fire/checking-home-after-fire.html</u> Cleaning up <u>https://www.redcross.org/get-help/how-to-prepare-for-emergencies/types-of-emergencies/fire/cleaning-up-after-fire.html</u>

Recovering after a wildfire. <u>https://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/preparedbc/know-your-hazards/wildfires/after-wildfire</u> From Prepared BC (British Columbia).

United Policy Holders. Returning to your home after a wildfire: A post-evacuation checklist. <u>https://uphelp.org/claim-guidance-publications/returning-to-your-home-after-a-wildfire-a-post-evacuation-checklist/</u>

University of California Division of Agriculture and Natural Resources (ANR). Homeowners guide to recovering from wildfire. Post fire guides and links. https://ucanr.edu/sites/postfire/Homeowners Guide to Recovering from Wildfire/

University of Idaho Extension and Colorado State University Extension. Safely return to your home after a wildfire.

https://www.draperutah.gov/DocumentCenter/View/4360/returning_after_wildfire?bidId=

Wildfire Recovery Oregon State University Extension Services.

<u>https://extension.oregonstate.edu/forests/fire/after-wildfire</u> website with links, guides, webinars and checklists.

Research

Alexander, M.E. You are about to be entrapped or burned over by a wildfire. What are your survival options? Forest Ecology and Management, 234S, 2006. Available online at Science Direct. <u>https://www.sciencedirect.com/science/article/abs/pii/S0378112706005299</u>.

Bachman ML, R. Church et al. **Wayfinding during a wildfire evacuation.** Disaster Prevention Management 2019, 29(3) 249-265.

https://www.researchgate.net/publication/338692695 Wayfinding during a wildfire evacuation Analysis of empirical data from post fire survey of a single wildfire evacuation to determine whether evacuees took a shortest distance route to their nearest exit and to identify any alternate wayfinding strategies that they may have used

Beloglazov A, M. Almashor et al. Simulation of Wildfire Evacuation with Dynamic Factors and Model Composition. IBM Research Australia technical report. April 8, 2015. https://www.sciencedirect.com/science/article/abs/pii/S1569190X15001483 . Evacuation modelling and simulation systems are essential tools for such planning and decision making. During a wildfire evacuation, the behavior of people is a key factor; what people do, and when they do it, depends heavily on the spatio-temporal distribution of events in a scenario. A new modeling approach accounts for dynamic factors. Approach composes several simulation and modelling systems, including a wildfire simulator, behavior modeler, and microscopic trac simulator, to compute detailed projections of how scenarios unfold. The level of detail provided enables the definition of a new risk metric, the exposure count, which directly quantifies the threat to a population. Experiments for a wildfire-prone region in Victoria, Australia, resulted in statistically significant differences in clearance times and exposure counts when comparing our modelling approach to an approach that does not account for dynamic factors. The approach has been implemented in a high performance and scalable system — the architecture of which is discussed — that allows multiple concurrent scenarios to be simulated in timeframes suitable for both planning and response use cases.

Berkeley Engineering. **How can companies like Airbnb, Lyft or Uber help in disasters?** Linda Vu. 6/19/2019. <u>https://engineering.berkeley.edu/news/2019/06/how-can-companies-like-airbnb-lyft-or-uber-help-in-disasters/</u>

Cohn, Patricia and Matthew Carrol. **Evacuation behavior during wildfires: Results of three case studies.** Western Journal of Applied Forestry 21(1) 2006. <u>https://academic.oup.com/wjaf/article/21/1/39/4718010</u> Interviews of evacuees and public safety officials in three case studies of wildfire evacuations in the western United States during 2000 and 2002 highlight differences in perceptions and concerns about evacuation process. Includes lessons learned for use in planning future wildfire evacuations.

Collins, Jennifer, Robin Ersing, Amy Polen, Michelle Saunders. **Evacuation Behavior Measured during an Evacuation Order. An assessment of the effects of social connections on the decision to evacuate.** Natural Hazards Center, QR267, 2017. <u>https://hazards.colorado.edu/quickreport/evacuation-behavior-measured-during-an-evacuation-order</u> <u>order</u> Using Hurricane Irma as a case study, researchers investigated evacuation decisions, specifically the influence of social connections on that decision. A survey of those who

evacuated and those who did not evacuate was conducted to assess individual social connections by examining three dimensions: dependability, density, and diversity. These variables, together with socioeconomic variables (e.g. race/ethnicity, age, education) were looked at to better explain the influences on evacuation decision making. Through statistical analyses, researchers found that evacuees had significantly more dense and diverse relationships. However, no significant relationship was found between the perceived dependability of a person's social connections (i.e. their perceived access to resources and support) and the decision to evacuate or not. This study has important implications for adding to the knowledge base on community-based sustainable disaster preparedness and resilience.

Collins, Sherrie. **Evaluation of evacuation planning in wildland urban interface environments**. Research project to National Fire Academy as part of Executive Fire Officer Program. October 2004. <u>https://www.hsdl.org/?view&did=749793</u> Evaluation of evacuation planning efforts by Arizona communities to determine best practices in community notification, education, and crisis communication efforts.

City of Colorado Springs. Wildfire Evacuation Modeling. <u>https://icma.org/sites/default/files/302857_Colorado%20Springs%2C%20C0.pdf</u> no date.

Cova, Thomas J. and Justin P. Johnson. "Microsimulation of Neighborhood Evacuations in the Urban-Wildland Interface." Environment and Planning, volume 34, pages 2211-2229. December 2002.

<u>https://www.researchgate.net/publication/23539140_Microsimulation_of_Neighborhood_Evacua</u> <u>tions in the Urban - Wildland Interface</u> Use of microscopic traffic simulation to develop and test neighborhood evacuation plans. Case study for controversial fire prone canyon community east of Salt Lake City, Utah. Results indicate that the second road will reduce some household travel time much more than others, but all evacuation travel times will become more consistent.

Cova, Thomas J., Philip Dennison, Dapeng Li, Frank Drews, Laura Siebeneck and Michael LIndel. **"Warning triggers in environmental hazards: Who should be warned to do what and when**." Risk Analysis April 2017. <u>https://pubmed.ncbi.nlm.nih.gov/27409767/</u> Explores warning triggers as proactive means for emergency managers to simultaneously answer the questions of who, best action, and when should it be initiated, should a preset environmental trigger condition occurs. Unifies "advance protection action theory" in hazards research into one framework. Reveals important information about emergency managers' risk perception, situational awareness and threat assessment. Advances spatiotemporal models for representing geography and timing of disaster warning and response. Overview of research agenda designed to advance understanding and modeling of warning triggers.

Doermann, Jessica, Erica Kuligowski and James Mike. From social science research to engineering practice: Development of a short message creation tool for wildfire emergencies. Fire Technology 57 (815-837) (2020).

https://www.researchgate.net/publication/343271615 From Social Science Research to Engineer ing Practice Development of a Short Message Creation Tool for Wildfire Emergencies Article presents a bridge between social science research on short message alert effectiveness and the practical generation of messages during imminent threat emergencies. Includes review of current research regarding best practices for creating short message alerts and analysis to develop evidence-based guidance, and in turn, create a tool that, with only fifteen user-prompts, can be used to rapidly create effective and informative wildfire evacuation messages of up to 360c. A message creator can use this tool by selecting or entering responses to each of the fifteen prompts. Future research is proposed to develop this tool for purposes other than evacuation, for hazards other than wildfires, and for systems other than WEA (e.g., mass notification systems).

Edgeley, Catrin and Travis Paveglio. **Exploring influences on intended evacuation behaviors during wildfire: What roles for pre-fire actions and event-based cues?** International Journal of Disaster Risk Reduction. Vol 37, July 2019. <u>https://www.sciencedirect.com/science/article/abs/pii/S2212420919300858?via=ihub</u> Based on survey in McCall, Idaho. Analysis of intended evacuation behavior and cues influencing such actions. Pre-fire and event-based cues were correlated with specific intended behaviors. A group of respondents had no evacuation plans and were not influenced by any cues Flexible guidance that incorporated dynamic cues could improve evacuation planning.

FEMA. **Buildings cultures of preparedness.** Report for the emergency management higher education community. January 2019. <u>https://www.preventionweb.net/publications/view/63407</u> A review of the last couple of decades of the federal government's approach to developing more disaster- resilient communities yielded the stark affirmation that those efforts have failed because of a top-down, one- size-fits-all approach that doesn't reach most communities. A better approach is to develop individual cultures of preparedness from the bottom up based on four guiding principles: trust, inclusion, cross cultural communications and support local practices and successes.

Fox Glassman, Katherine and Melissa Tier. **Risk perceptions and wildfire evacuation.** USGS Center for Research on Environmental Decisions. 2014 <u>https://www.usgs.gov/media/files/risk-perceptions-and-wildfire-evacuation-report</u> A case study of wildfire experiences in Southern California. Survey of residents of the evacuation zones and nearby areas for the Cold (November 2012), Lookout (October 2012), Madison (April 2013), Mills (June 2013), and Powerhouse (May/June 2013) wildfires in southern California. Findings confirmed that evacuation rates are lower than expected given these residents' regular experience with wildfire threats. A range of psychological rationalizations involve thoughts such as: "I've evacuated before and nothing bad happened, so why evacuate this time?" and "My house was damaged in the past, so it's unlikely to happen to me again!" Several factors that consistently increased residents' protective behaviors: Receiving an official warning to evacuate, such as from a Reverse 911 call or a door-to- door visit, up-to- date information about whether the fire would reach their neighborhood, as well as if they had previously made an evacuation plan.

Inrini, Paolo, Enrico Ronchi, et al. **Traffic modeling for wildland urban interface fire evacuation**. <u>https://ascelibrary.org/doi/pdf/10.1061/JTEPBS.0000221</u> Journal of Transportation Engineering. Part A: Systems. Volume 145 Issue 3 – March 2019.Review of potential trafficmodeling approaches in the context of wildland–urban interface (WUI) fire-evacuation applications. Existing modeling approaches and features are evaluated pertaining to fire-related, spatial, and demographic factors; intended application (planning or decision support); and temporal issues. This systematic review shows the importance of the following modeling approaches: dynamic modeling structures, considering behavioral variability and route choice; activity-based models for short-notice evacuation planning; and macroscopic traffic simulation for real-time evacuation management. Subsequently, the modeling features of 22 traffic models and applications currently available in practice and the literature are reviewed and matched with the benchmark features identified for WUI fire applications. Based on this review analysis, recommendations are made for developing traffic models specifically applicable to WUI fire evacuation, including possible integrations with wildfire and pedestrian models.</u>

Jenichen, Claudine. **Visual + Effective communication for emergency information.** Preptalks: New perspectives for emergency managers. <u>www.fema.gov/preptalks/jaenichen</u>

Johansen, Chloe, Jennifer Horney, and Iris Tien. **Metrics for evaluating and improving community resilience.** Journal of Infrastructure Systems, August 2016. Review of existing community resilience metrics and tools, classifying them into one of three main categories: community-level, sector-specific, or sociological. Short descriptions of metrics and assessment of strengths and limitations of these metrics. Discussion of challenges in improving community resilience, and recommendations for the development of new measures of resilience. Need for metrics that apply across hazards, geographic areas, and factors affecting resilience. https://www.researchgate.net/publication/305923479_Metrics_for_Evaluating_and_Improving_C_ommunity_Resilience

Kittleson & Associates. **Emergency evacuation strategies for every community.** Transportation engineers with multiple US offices. Partner with Stephen Wong UC Berkeley Doctoral candidate to apply research findings on evacuation planning. https://www.kittelson.com/ideas/evacuation-planning-principles-for-every-community/

Kuligowski, Erica. Evacuation decision-making and behavior in wildfires: Past research, current challenges and future research agenda. Fire Safety Journal. May 2020 <a href="https://www.researchgate.net/publication/341116170_Evacuation_decision-making_and_behavior_in_wildfires_Past_research_current_challenges_and_a_future_research_agenda_agenda_acticle presents current research performed and data collected on evacuation decision-making and behavior during wildland-urban interface (WUI) fires, identify gaps in the research, and develop a future research plan for further data collection of important WUI fire evacuation topics. Research in this area can support developments of evacuation simulation models, and improvements in education programs, planning, decision-making, and design requirements for community-wide WUI fire evacuation.

Li, Dapeng, Thomas Cova and Philip Dennison. Setting wildfire evacuation triggers by coupling fir and traffic simulation models: A spatiotemporal GIS approach. Fire Technology. 2018.

https://content.csbs.utah.edu/~pdennison/reprints/denn/2019 Li etal FT.pdf This paper substantially improves on previous methods by coupling fire and traffic simulation models to set triggers, which allows us to estimate evacuation time using a traffic simulation model rather than relying on expert judgment. A three-step method within a spatiotemporal GIS framework is used to couple these models and to evaluate the value of the generated trigger buffers. A case study of Julian, California is used to test the proposed method. The paper concludes with a discussion of the strengths and limitations of the proposed method, as well as future research directions.

Lindell, Michael K. **Communicating Imminent Risk**. In H. Rodriguez, J. Trainer and W. Donner (edl.) Handbook of Disaster Research (pp. 440-488) New York: Springer. Nov 2017. https://www.researchgate.net/publication/321136049_Communicating_Imminent_Risk. Warning research has identified people's major information sources as environmental cues, social cues, and social warnings from authorities, news media, and peers. Social sources are differentiated by expertise, trustworthiness, and responsibility for providing protection. Warning messages are most likely to produce appropriate protective actions if they provide information receivers need to understand the threat, expected time of impact, affected (and safe) areas, appropriate protective actions, and assistance. Such information produces situational risk perceptions that can be characterized in term of expected casualties, damage, and disruption to the community in general and to one's family in particular. People's choices of response actions can be frustrated by situational inhibitors or enhanced by situational facilitators that arise from their physical, social, and household contexts.

Lovreglio, Ruggiero, Erica Kuligowski, et al. **A modelling framework for householder decision making in wildfire emergencies.** International Journal of Disaster Risk Reduction. Vol 41, Dec 2019, 101274.

https://www.sciencedirect.com/science/article/abs/pii/S221242091930041X Although, several studies investigating household wildfire risk perception and decision-making are available in the literature, modelling solutions to predict household behavior in wildfire scenarios are still in their early stages. Hence the lack of a behavioral model suitable for embedding within a simulation tool. Researchers propose a mathematical framework aimed at simulating how householders perceive the risk associated to wildfires and how they take protective actions in response to such threats. A conceptual Wildfire Decision Model, based on nine assumptions derived from existing literature on human behavior in wildfires, is introduced. A mathematical framework is then proposed to implement such a model within a simulation tool. The proposed modelling solution can help identify the information required to generate new dynamic and behavioral travel demand models for wildfire evacuation.

McCaffrey, Sarah. **Community Wildfire Preparedness: A Global State of the Knowledge Summary of Social Science Research.** Current Forestry Report 1:81-90, 2015. <u>https://link.springer.com/article/10.1007/s40725-015-0015-7</u> Findings from fire social science research. Overall, findings from the current review re-enforce key themes identified in the previous synthesis work and provide a deeper and more nuanced understanding of how certain variables, such as risk perception, may influence public response to wildfires. Patterns suggest that while no single outreach approach or policy is likely to be effective everywhere or for everyone, efforts that facilitate development of relationships, within communities and between community members and fire personnel, can contribute to increased preparedness at the individual and community level by facilitating information exchange and helping to build a sense of community.

McCaffrey, Sarah, Robyn Wilson and Avishek Konar. **"Should I stay or should I go now? Or should I wait and see? Influences on wildfire evacuation decisions.**" Risk Analysis. 2017. <u>https://www.fs.fed.us/rm/pubs_journals/2018/rmrs_2018_mccaffrey_s002.pdf</u> Understanding why some people leave early, some choose to stay and defend their homes and other wait to assess conditions before making final decision. Survey of three areas of US that recently experienced a wildfire. Protective Action Decision Model used to identify suite of relevant factors: belief in efficacy of response, difference in risk attitude, and emphasis on different cues to act.

McCaffey, Sarah, and Alan Rhodes. **Public Response to Wildfire: Is the Australian "stay and defend or leave early" approach an option for wildfire management in the United States**. Journal of Forestry Jan/Feb 2009. <u>https://www.fs.usda.gov/treesearch/pubs/19391</u> Article examines the Australian "stay and defend or leave early" (SDLE) approach (which is not inherently the same as shelter in place) and the contextual factors that may make it more or less appropriate in the United States. Discusses what SDLE actually entails and then examine four contextual areas that could influence how appropriate the approach might be in the United States: nature of fire risk, agency roles and responsibilities, education and shared responsibility, and human dimensions and decision- making. Although some contextual differences may mean that there are US locations where the approach would be inappropriate, they are not systematic enough to mean that the approach would not be viable in many localities. However, significant groundwork would need to be laid to ensure success.

McCaffey, Sarah, Alan Rhodes, et al. **Wildfire evacuation and its alternatives: perspectives from four United States' communities.** International Journal of Wildland Fire 2015, 24, 170-178. <u>https://www.fs.fed.us/nrs/pubs/jrnl/2015/nrs 2015 mccaffrey 001.pdf</u> Findings from interviews in four communities in the United States where some alternative to mass evacuation during a wildfire was being considered. The results show that opinions were mixed. Individuals who were primarily thinking of improving safety and reducing uncertainty for emergency responders tended to think mass evacuation was the best approach, whereas those who were primarily thinking of increasing safety and reducing uncertainty for homeowners were more likely to think that alternative responses were a valid option. These findings demonstrate the complicated nature of developing evacuation strategies that are beneficial to all parties involved.

McLennan, Jim, Barbara Ryan, Chris Bearman, Keith Toh. **"Should we leave now?** Behavioral factor in evacuation under wildfire threat." Fire Technology. July 2018. <u>https://www.researchgate.net/publication/326453600_Should_We_Leave_Now_Behavioral_Fac</u> tors in Evacuation_Under_Wildfire_Threat_Review of North American (US + Canadian) and Australian research between Jan 2005 and June 2017.

National Emergency Management Executive Academy Cohort III. **Development of metrics for personal preparedness.** January 27, 2016.

https://www.domesticpreparedness.com/preparedness/development-of-metrics-for-personalpreparedness/ Method for measuring the success of personal preparedness programs is needed to determine their effectiveness and to develop new programs to ensure community resilience. Evaluation of current initiatives. Factors for evaluating individual preparedness. Evaluation and recommendations for direct, insurance, product and business incentives and youth programs.

Paz de Araujo, Maureen, Craig Casper et al. Adapting a four-step MPO travel mode for wildfire evacuation: A practical application from Colorado Springs. https://www.trbappcon.org/2011conf/trb2011papers/s16/s16_04_124.pdf_Explanation of

<u>https://www.trbappcon.org/2011conf/trb2011papers/s16/s16_04_124.pdf</u> Explanation of adapting a MPO traffic model for use as a wildfire evacuation planning tool and how the analysis results were put into active use by the emergency response community of Colorado Springs. Addressed are model inputs and assumptions, emergency scenarios, traffic control strategies, shelters or destinations of evacuees, and evacuation time frames. May 2011

Pei Adam, Michiel Bliemer and Serge Hoogendoorn. **A review on travel behavior modeling in dynamic traffic simulation models for evacuations.** Transportation (2012) 39:97-123. <u>https://ideas.repec.org/a/kap/transp/v39y2012i1p97-123.html</u> Review of the different (mathematical) model formulations underlying traffic simulation models used in evacuation studies and the behavioral assumptions that are made. The appropriateness of these behavioral assumptions is elaborated on in light of the current consensus on evacuation travel behavior, based on the view from the social sciences as well as empirical studies on evacuation behavior. The focus lies on how travelers' decisions are predicted through simulation regarding the choice to evacuate, departure time choice, destination choice, and route choice. Includes within each of these discussions, current limitations and corresponding suggestions on promising future research directions.

Ronchi, Enrico, Steven Gwynne et. Al. **An Open multi-physics framework for modeling wildfire urban evacuation.** NFPS Research Foundation. December 2017. <u>https://www.nfpa.org//-/media/Files/News-and-Research/Fire-statistics-and-reports/WUI/RFWUIEvacuationModelingFramework.pdf</u> Recognizing, there is a lack of comprehensive tools able to inform, train or aid the evacuation response and the decision

making in case of wildfire. Work describes a novel framework for modelling wildfire urban evacuations based on multi-physics simulations that can quantify the evacuation performance. An integrated approached requires considering and integrating all three important components of WUI evacuation: fire spread, pedestrian movement, and traffic movement. The report includes a systematic review of each model component, and the key features needed for the integration into a comprehensive toolkit. For related article in Wildfire Today see https://wildfiretoday.com/2019/06/24/planning-evacuations-using-dynamic-fire-vulnerability-mapping/?hilite=%27dynamic%27%2C%27fire%27%2C%27vulnerability%27%2C%27mapping%27

Ronchi, Enricho. **New approaches to evacuation modeling.** Lund University. 2017. <u>https://portal.research.lu.se/portal/en/publications/new-approaches-to-evacuation-modelling(398d35ad-35f0-49bf-8534-87e5eefc5e35).html</u> Workshop summary from "New approaches to evacuation modelling" June 11, 2017 in Lund, Sweden within the Symposium of the International Association for Fire Safety Science (IAFSS). The scope of the workshop was to get insights into the building fire evacuation modelling world from experts in areas other than fire safety engineering. The workshop included contributions from five experts in different fields, namely 1) Psychology/Human Factors, 2) Sociology, 3) Applied Mathematics, 4) Transportation, 5) Dynamic simulation and biomechanics.

StreetLight Data. How safely can you leave your city. https://www.usfa.fema.gov/operations/infograms/082919.html

StreetLight Data. **Planning effective evacuation routes: How big data can help. Dr. Laura Schewel.** Oct. 26, 2017. <u>https://www.streetlightdata.com/using-big-data-to-plan-effective-evacuation-routes/</u>

Strough, Laura M and Elizabeth McAdams Ducy. **Evacuating under fire: Children with special health needs in disaster.** Natural Hazards Center. November 11, 2020. <u>https://hazards.colorado.edu/news/research-counts/evacuating-under-fire-children-with-special-healthcare-needs-in-disaster</u>

US Department of Transportation (USDOT). **Using Highways during Evacuation Operations For Events with Advance Notice.** First in a series titled "Routes to effective evacuation planning." <u>https://ops.fhwa.dot.gov/publications/evac_primer/00_evac_primer.htm</u> Covers use of highway system during evacuation operations when advance planning is possible. Intended as tool to aid local and state planers in maximizing use of highway network.

US DOT. Using Highways for No-Notice evacuations.

<u>https://ops.fhwa.dot.gov/publications/evac_primer_nn/index.htm</u>. 2007. Sections include: discussion of the planning process used to develop an evacuation plan; explanation of no-notice incidents and their likely scale and consequences; considerations of the unique aspects of nonotice incidents and the need for different transportation strategies and tactics; discussion of evacuation planning issues and how the planning process needs to account for the no-notice factor; and a checklist that planners can use in preparing a plan for a no- notice evacuation, whether natural or man-made.

Vorst, Harrie, C.M. **Evacuation Models and Disaster Psychology**. Procedia Engineering 3, 15-21, 2010.

https://www.researchgate.net/publication/229401313_Evacuation_Models_and_Disaster_Psychology_Discusses variables from disaster psychology. Evacuation models will be more effective

if phases and accompanying human behavior are taken into account. John Leach's Dynamic Disaster Model describes three phases and five stages. In each phase and stage specific human behavior has been supposed to be a psychological response to a disaster. These responses are remarkably consistent and transferable across kinds of disasters.

Wahlqvist, Jonatha, Enrico Ronchi et al. The simulation of wildland urban interface fire evacuation: The WUI-NITY platform. Science Direct.

<u>https://www.sciencedirect.com/science/article/pii/S0925753520305415</u> A new modeling platform built on the Unity3D game engine and simulates and visualizes human behavior and wildfire spread during an evacuation of WUI communities. The purpose is to enhance the situational awareness of responders and residents during evacuation scenarios by providing information on the dynamic evolution of the emergency. WUI-NITY represents current and predicted conditions by coupling the fire, pedestrian, and traffic movement. This allows predictions of evacuation behavior over time. The current version of WUI-NITY demonstrates the feasibility and advantages of coupling the modelling layers. WUI-NITY can enable education and training of communities, forensic studies of past evacuations and dynamic vulnerability assessment of ongoing emergencies.

Walpole, Hugh D., Robyn Wilson and Sarah McCaffrey. **If you love it, let it go: the role of home attachment in wildfire evacuation decisions.** Environmental Systems and Decisions. Vol 40, 20-40 October 2019. <u>https://link.springer.com/article/10.1007/s10669-019-09741-3</u> Researchers explored the role of home attachment in the evacuation decision and the effectiveness of communication and other cues in motivating safer, more decisive response actions. Using an online sample (n = 268), they conducted a 3 (information) × 2 (physical cue) experimental design. Hypothesized that higher home attachment would increase intentions to stay and defend the home, or to wait and see before making the decision to evacuate. Findings suggest that caution should be used when communicating about the benefits of home defense in isolation, as this may motivate decision delays.

Wetterbrerg, Niklas, Enrico Ronchi and Jonathan Wahlqvist. **Individual driving behavior in wildfire smoke.** Fire Technology. Open Access. August 2020. <u>https://link.springer.com/article/10.1007/s10694-020-01026-5</u> Results of a virtual reality (VR) experiment aiming at investigating how individual driving behavior is affected by the presence of wildfire smoke.

Wong, Stephen, Jacquelyn Broader et al. **Understanding California Wildfire Evacuee Behavior.** University of California Berkeley Transportation Sustainability Research Center. May 2020. <u>https://escholarship.org/uc/item/4fm7d34j</u> Survey of individuals impacted by the 2017 December Southern California Wildfires (n=226) and the 2018 Carr Wildfire (n=284). Researchers developed two simple binary choice models to evaluate and compare the factors that influence the decision to evacuate or stay. Mandatory evacuation orders and higher risk perceptions both increased evacuation likelihood. Individuals with children and with higher education were more likely to evacuate, while individuals with pets, homeowners, low-income households, long-term residents, and prior evacuees were less likely to evacuate. Second, researchers developed two portfolio choice models (PCMs), which jointly model choice dimensions to assess multi-dimensional evacuation choice. To help build a transportation toolkit for wildfires, researchers provided a series of evidence-based recommendations for local, regional, and state agencies..

Wong, Stephen and Susan Shaheen, PhD. Current state of sharing economy and evacutions: Lessons from California. University of California Institute of Transportation

Studies. 2019. <u>https://escholarship.org/uc/item/16s8d37x</u> Feasibility assessment on leveraging use of sharing economy for transportation and sheltering resources. See also: Berkeley Engineering. **How can companies like Airbnb, Lyft or Uber help in disasters?** Linda Vu. 6/19/2019. <u>https://engineering.berkeley.edu/news/2019/06/how-can-companies-like-airbnb-lyft-or-uber-help-in-disasters/</u>

Operational Plans

Rhode & Associates. **WUI Fire Plan for Laguna Coast Central**. 5/11/16. 6-page format. Rhode & Associates, Rancho Santa Margarita. <u>http://rohdeassociates.net/wui-fire-plans</u> accessed 8/20/19. Operational guide for first responders including: Risk assessment (critical information, briefing information, unified command, large fire development factors, WUI arrangement). Tactical Plan (recommended strategies and tactics (FIRESCOPE/PACE), evacuation plan, population at risk, emergency resource needs – first six hours). Tactical Map. Area Map. Aerial Map. Additional information (fire progression simulation).

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