



Hazard Mitigation Update Report 2019

For credit under the Community Rating System, this report must be distributed to the media and be made available to the public. Notification of the availability of the report will be sent to the media that cover Boulder County via a press release. Copies of this report and the 2016 Plan Update are available for review at the Boulder Office of Emergency Management or on the website (BoulderOEM.com).

The original Hazard Mitigation Planning process was managed by the Boulder Office of Emergency Management and included representatives from communities throughout Boulder County, non-profit agencies, Boulder County departments, members from the State Department of Homeland Security and Office of Emergency Management Mitigation Division and FEMA Region 8. The plan was adopted officially on April 4, 2016 and covers the following communities; Boulder County; the Cities of Longmont and Louisville; the Towns of Erie, Gold Hill, Jamestown, Lyons, Nederland, and Superior; and the Fire Protection Districts of Fourmile and Sunshine. The plan will expire in 2021 and the update process is currently under way.

Mitigation Plan Goals

Goal 1: Reduce the loss of life and personal injuries from hazard events

- Continue to manage development in hazard-prone areas, including property acquisitions to remove development from hazardous locations, pursuing relocation/elevation actions for flood-impacted properties, and providing enforcement measures following disasters to ensure that all redevelopment and recovery activities follow existing development codes
- Continue programs to further identify hazards including but not limited to, flood, erosion, wildfire, debris flows, rock fall, etc. and assess risk associated.
- Provide timely notification and direction to the public of imminent and potential hazards, including installing rain gauges, soil saturation sensors and stream monitoring systems for early warning identification of pending flooding situations and debris flows.

Goal 2: Reduce impacts of hazard events on property, critical facilities/infrastructure, and the environment

- Continue to manage development and placement of structures in hazard-prone areas, , including applying land use regulations to minimize exposure to potential hazards and expanding current wildfire mitigation and defensible space programs (prescriptive, negotiated - e.g. Transfer of Development Rights (TDRs), Transfer of Development Credits (TDCs), conservation easements, purchase of development rights - and educational) on both public and private lands
- Protect existing property to the extent possible through regulations, codes, education, cooperative agreements, hazard reduction projects, and other means

- Protect critical facilities and infrastructure to minimize loss of critical services following a hazard event including installation of back-up generators and other vital infrastructure at critical county facilities
- Create incentives for the public to mitigate hazards on their own property through education, cooperative land acquisitions, Elevation and relocation programs, Community Wildfire Protection Plans, TDRs and TDCs, and other means as they become available or are created.
- Continue to reduce flood losses through compliance with National Flood Insurance Program requirements; continue to comply with Community Rating System requirements, where applicable (i.e., Boulder County, Longmont, and Louisville).

Goal 3: Strengthen intergovernmental coordination, communication, and capabilities in regard to mitigating hazard impacts

- Promote planning efforts that foster cooperation and coordination among jurisdictions, agencies, and organizations involved in hazard mitigation. Further integrate land use planning and mitigation planning efforts.
- Maximize the use of shared resources between jurisdictions and special districts for mitigation purposes.
- Maintain and strengthen the Boulder County Multi-Agency Coordination System.
- Establish and maintain processes and resources to incorporate mitigation into recovery efforts following a hazard event.

Goal 4: Improve public awareness regarding hazard vulnerability and mitigation

Enhance public education efforts regarding hazards and risk in Boulder County and the role of the public in mitigation. Continue involving the public in hazard mitigation planning and implementation. Combine mitigation education efforts with existing governmental and nongovernmental outreach programs.

The following table describes the hazard mitigation projects of the plan and the actions taken to date. If there is more information needed or future presentations specific to a project or hazard mitigation activities, please contact the following personnel responsible for the project area.

- Varda Blum- Flood Plain Management
- Dale Case- Land Use
- Mike Chard- Emergency Management
- Theresa Glowacki- Parks and Open Space
- Julie McKay- Transportation
- James Webster- Wildfire Partners

Mitigation Action Title	Jurisdiction	Priority	Goals	Hazards	Status	
Multi-Hazard Actions						
Boulder County						Update
Mechanical Treatment of Boulder County Parks and Open Space Forests	Boulder County Parks & Open Space	High	Goal 2	Flood & Wildfire	In Progress	<p>2016- Completed 32.1 acres with in-house operations at Hall Ranch. Completed 199 acres via Helicopter Yarding Contract at Betasso funded by FEMA HMGP and CSFS</p> <p>2017- Completed approximately 30 acres with in-house operations at Hall Ranch and Williams Merlin. Completed 35 acres by contract at Heil Valley Ranch, Pyrite Project.</p> <p>2018-Completed approximately 5 acres with in-house operations at Williams Merlin. Started 47 acres (23.5 complete) of ecological aspen promotion treatments by contract at Reynolds Ranch.</p> <p>2019- Completed approximately 3 acres with in-house operations at Williams Merlin. Finished 23.5 acres of ecological aspen promotion treatments by contract at Reynolds Ranch. Completed 14 acres of tree felling operations at Hall Ranch. 90 cords of wood removed from Walker Ranch</p>
Restoration of Fire as an Ecological Process within Boulder County Parks and Open Space Forest	Boulder County Sheriff & Parks and Open Space	Medium	Goal 2	Flood, Debris Flows & Wildfire	In Progress	<p>2016- Completed 249 acres of Rx Fire at Heil Valley Ranch</p> <p>2017- Completed 185 acres of Rx Fire at Rabbit Mountain Completed 40 acres of Rx Fire at Hall Ranch</p> <p>2018-Completed 40 acres of Rx Fire at Rabbit Mountain (Dowe Flats)</p>

						<p>2019 Completed 35 acres of Rx fire at Rabbit Mountain (Dowe Flats)</p> <p>Completed 10 acres of Rx fire at Rabbit Mountain</p> <p>Completed 5 acres of Rx fire at Heil Valley Ranch</p> <p>1069 piles of slash burned at Hall Ranch, Walker Ranch, and Reynolds Ranch.</p>
Management within the Boulder County Parks and Open Space (BCPOS) System	Boulder County Sheriff & Parks and Open Space	Medium	Goal 2	All Hazards	In Progress	2016, 2017, 2018, and 2019- See Above Mechanical and Rx Fire.
Landscape Restoration and Climate Change Adaptation	Boulder County Parks & Open Space	Medium	Goal 2	All Hazards	In Progress	2016, 2017, 2018, and 2019-See above Mechanical and Rx Fire treatments.
Research and Monitoring the Health and Resiliency of Boulder County Parks and Open Space (POS) Forest and the impact of POS Management	Boulder County Parks & Open Space	Medium	Goal 2	Flood, Debris Flows & Wildfire	In Progress	<p>2016- Inventoried over 537 acres of Forest, Approved 696 acres of prescriptions, and Inventoried 272 acres for legacy trees.2017-Inventoried 460 acres of Forest, wrote prescriptions for 663 acres, approved management on 354 acres, and marked 61 acres for treatment.</p> <p>2018-Inventoried 590 acres of forest, mapped 92 acres of legacy trees and 30 acres of slash piles.</p> <p>2019- Inventoried 159 acres of forest, mapped 112 acres of legacy trees and 12 acres of burn pile, and marked 162 acres for treatment.</p>
Boulder County Community Forestry Sort Yards	Boulder County Parks & Open Space	Medium	Goal 2,3	Wildfire	In Progress	<p>2016- 1373.6 total tons diverted from landfill with over 6509 loads.1180 individual users dropped off biomass for forest health and fire mitigation on private property</p> <p>2017- 1192 total tons diverted from the landfill with 6945 loads. Over 1250 individual users dropped off biomass for forest health and fire mitigation on private property</p> <p>2018- 1505 total tons diverted from the landfill with 6878 loads.</p>

						2019- 1347 total tons diverted from the landfill with 6157 loads (incomplete data)
Boulder County Youth Corps Forestry and Fire Projects	Boulder County Parks & Open Space	Medium	Goal 2	Wildfire	In Progress	<p>2016 and 2017-We had two Youth Corps teams each year work successfully piling slash (600+ total piles over two years) created from forestry operations.</p> <p>2018- We had one Youth Corps Team piling over 200 piles of slash at Walker Ranch.</p> <p>2019- We had two Youth Corps teams. One piling 43 piles across 47 acres at Reynolds Ranch, and one at Hall Ranch piling 186 piles across 12 acres.</p>
Boulder County Wildfire Mitigation Requirements for New Homes and Remodels	Boulder County Land-Use	Medium	Goal 1,2,4	Wildfire	In Progress	<p>2018: Boulder County has been implementing wildfire mitigation requirements since 1993. 2018 was another busy year with more than 100 building permits issued with wildfire mitigation requirements.</p> <p>2019- Boulder County has been implementing wildfire mitigation requirements since 1993. In the first 10 months of 2019, 95 homeowners (new construction, additions and decks) performed wildfire mitigation according to our land use and building codes.</p>
Boulder County Wildfire Partners and Defensible Space	Boulder County Land-Use	High changed from medium	Goal 1,2,4	Wildfire	In Progress	<p>2018: Purchase of the grinder supports the Community Forestry Sort Yards as well as Wildfire Partners. For more 2018 was the fifth year of Wildfire Partners. This public-private partnership continues to serve as a national model for effective mitigation. We performed at least 330 individual home assessments in 2018 (in addition to our work with new homeowners and building permit applicants who select the regulatory path). We also continued to work with the 1,450 participants who joined the program from 2014-2017. In 2018, our forestry contractors have completed projects totaling more than \$524,000.</p>

						2019 was the sixth year of Wildfire Partners. This public-private partnership continues to serve as a national model for effective mitigation. In the first 10 months of 2019, we performed 240 assessments (197 for new participants) as well as numerous inspections. This year we celebrated the completion of our 2,000-initial assessment.
Boulder County Wildfire Partners and Grinder	Boulder County Land-Use	Medium	Goal 1,2,4	Wildfire	On-going	2018-2019: Purchased the grinder that supports the Community Forestry Sort Yards as well as Wildfire Partners.
Boulder County Forest Health Education and Outreach Program	Boulder County Land-Use	Medium	Goal 1,4	Wildfire	In Progress	2018: Enewsletters were sent on a variety of topics to participants in this program. 2019: Wildfire Partners worked with 27 landowners to plan for future forest health and wildfire mitigation projects
Boulder County Wildfire Partners and Ignition-Resistant Construction	Boulder County Land-Use	High	Goal 1,2,4	Wildfire	In Progress	2018 was the fifth year of Wildfire Partners. This public-private partnership continues to serve as a national model for effective mitigation. In 2018, more than 1,800 homeowners and multiple home retrofit contractors continued to harden and retrofit structures as part of our certification process. More than 800 homes have received their Wildfire Partners Certificate. In 2019, participants in Wildfire Partners continued to harden and retrofit structures as part of our certification process. More than 860 homes have received their Wildfire Partners Certificate.
May Wildfire Awareness Month	Boulder County Land-Use	Medium	Goal 1,4	Wildfire	On-going	2018-2019: Wildfire Awareness Month was moved to May and featured a variety of mitigation contests to engage residents who were new to mitigation and who have been performing mitigation for years.
Boulder County Community Chipping Program	Boulder County Land-Use	High	Goal 1,4	Wildfire	In Progress	2018: Boulder County provided funded 12 community chipping projects. At the time of this update, communities are still in the process of reporting their

						<p>results so data on the number of participants and the total chipping costs is not available.</p> <p>2019: Boulder County provided funded 7 community chipping projects. At the time of this update, communities are still in the process of reporting their results so data on the number of participants and the total chipping costs is not available.</p>
Saws and Slaws	Boulder County Land-Use	High	Goal 1,4	Wildfire	On-going	2018-2019: Boulder County provided funding for Saws and Slaws projects.
Firewise Communities	Boulder County Land-Use	Medium	Goal 1,2,3,4	Wildfire	On-going	2018-2019: Boulder County supported Firewise communities with funding through its Wildfire Partners and community chipping programs.
Property Acquisition	Boulder County Land Use / Transportation	High	Goal 1,2	Flood	In Progress	<p><u>2018</u> -- Finished HUD funded planning effort for long term flood hazard mitigation program (including acquisition, elevation, and relocation of structures) and property conversion to open space.</p> <p><u>2019 action</u>– Begin implementing 2017 FEMA Flood Mitigation Assistance (FMA) Advance Assistance grant to collect data necessary to apply for FEMA FMA property acquisition grants.</p> <p>2020 action- Complete implementation of 2017 FEMA FMA Advance Assistance grant to collect data necessary to apply for FEMA FMA property acquisition grants.</p>
Elevation of Flood-prone structures	Boulder County Land Use / Transportation	Medium	Goal 1,2	Flood	In Progress	<p><u>2017</u> -- Five residential structures funded through HMGP for elevation not able to show cost reasonableness. Projects closed, and homes not elevated.</p> <p><u>2018</u> -- Finished HUD funded planning effort for long term flood hazard mitigation program (including acquisition, elevation, and relocation of structures) and property conversion to open space.</p>

						<p><u>2019 action</u>—Begin implementing 2017 FEMA Flood Mitigation Assistance (FMA) Advance Assistance grant to collect data necessary to apply for FEMA FMA elevation or relocation grants.</p> <p>2020 action- Complete implementation of 2017 FEMA Flood Mitigation Assistance (FMA) Advance Assistance grant to collect data necessary to apply for FEMA FMA elevation or relocation grants.</p>
Incorporate identified resiliency actions including projects, policies, and programs into Transportation plans, codes, and standards.	Boulder County Transportation	High	Goals 1,2,3, 4	All Hazards	In Progress	<p><u>2018</u> – initiated HUD funded Floodplain Program and Transportation Resiliency Study (F&TRS) and county funded Transportation Master Plan (TMP) update with integrated resiliency component</p> <p><u>2019 action</u> – complete F&TRS and TMP</p> <p>2020 action- Begin implementation of highest priority recommended actions of the F&TRS and the TMP.</p> <p>Implementation of PDM AA- Resilient Design grant, which includes conceptual designs of 2-3 infrastructure projects identified in the F&TRS.</p>
Acquisition of properties damaged in the September 2013 Rain and flood event through CDBG-DR and other available relevant programs	County, Jamestown, Lyons	Medium	Goal 1,2	Debris Flows	Complete	Completed acquisition and demolition/reclamation of 47 Rain and flood event damaged properties split between HUD CDBG-DR and FEMA Hazard Mitigation Grant Program funding sources
<p>Replace and/ or upsize structures to improve resiliency</p> <ul style="list-style-type: none"> • 55th at Boulder/Whiterock Ditch • N 61st at Fourmile Canyon Creek • Overland Rd at South St. Vrain Creek 	Boulder County Transportation	High	Goal 2	Flood	In Progress	<p><u>2018</u> – completing design</p> <p><u>2019, 2020 action</u> – perform work</p> <ul style="list-style-type: none"> • 55th St at Boulder and White Rock Ditch structure replacement completed July 2019; • N 61st St at Fourmile Canyon Creek – Design completed in 2019; Construction planned for 2020 / 2021; <p>Overland Road at South St. Vrain Creek- Surveys and Alternative Assessment Memo completed in 2019;transportation looking at crossing alternatives. Design anticipated to start in 2020 and construction to</p>

						follow contingent on timelines for right-of-way and permitting.
Replace minor structure at Baseline Rd over Dry Creek #3	Boulder County Transportation	High	Goal 2	Flood	In Progress	<p>Minor structure replacement - prioritized "Urgent" in 2017-2018 structure inspection report. Design to integrate improved conveyance, with underpass and permanent BMPs, ecological integration improvements. transportation looking at crossing alternatives.</p> <p><u>2018</u> – Included in Mile High Flood District (MHFD)¹ funding request for 2020 design and construction funding</p> <p>2019 – Updated request for funding to MHFD; entered into shared funding agreement with MHFD; Completed structure selection report; begin design in November; 2020 – Design anticipated to start in 2020 and construction to follow contingent on timelines for right-of-way and permitting.;</p>
Replace Bridges on N. 61 st St. and N 75 th St over Boulder Creek	Boulder County Transportation	Low	Goal 2	Flood	In Progress	<p>Identified in Boulder Creek Drainage Master Plan (MHFD - 2015) as flood risk. Bridge is undersized and functionally obsolete. No immediate plans to replace but design should include resiliency measures.</p> <p><u>2018</u> –Included in MHFD funding request for 2022 design funding</p> <p>2019 – Included N 75th St Bridge in MHFD's 5-Year CIP funding with design funds in 2022 and construction funds in 2023. The N 61st St Bridge was deprioritized.</p>
Improve flood conveyance of Boulder Creek under N. 95 th St.	Boulder County Transportation	Medium	Goal 2	Flood	In Progress	Additional structure north of existing crossing location will improve resiliency of both the road and the creek itself.

¹ Urban Drainage and Flood Control District (UDFCD) has changed its name to Mile High Flood District (MHFD)

						<p><u>2018</u> –Included in MHFD funding request for 2022 design funding</p> <p>2019 – Included in MHFD’s 5-Year CIP funding request for design funds in 2020 and construction funding in 2022.</p>
Replace Bridge on East County Line Road over Boulder Creek	Boulder County Transportation	Medium	Goal 2	Flood	In Progress	<p><i>Boulder County Transportation is looking at improving flood resiliency on two creek crossings on East County Line Road: Dry Creek #2 and Boulder Creek. Replacement of one or both of these structures is dependent on the availability of road and bridge funding. Boulder Creek bridge s undersized but otherwise in good condition. No immediate plans to replace but design should include resiliency measures and ability to match conveyance of CDOT structure directly upstream.</i></p>
Sugarloaf Rd improvements for 2,000 ft. above intersection with SH 119 to lessen potential for landslide related road closure	Boulder County Transportation	High	Goal 2	Landslide	In Progress	<p>The ECLR structure is undersized for flood events on Dry Creek #2. The creek departs the channel west of the roadway and overtops to the north. Transportation is looking at ways to accommodate these flows for future flood events. No progress to date.</p>
Update Floodplain maps, regulations and education/ outreach	Boulder County Transportation	High	Goal 1,2,3, 4	Flood	In Progress	<p>2018 – Designed improvements</p> <p>2019 – Applying for funding to perform project; FEMA “identified for further review”</p> <p>2020- Complete FEMA pre-award requirements; finalize design; complete procurement process.</p>
Floodplain program evaluation and improvement	Boulder County Transportation	High	Goal 1,2,3, 4	Flood	In Progress	<p><u>2017</u> -- Local map adoption of 150 miles of revised mapping and code text update. Extensive outreach conducted.</p> <p><u>2018</u> -- Local map adoption of 70 miles of revised mapping. Extensive outreach conducted.</p> <p><u>2019</u> – Local map adoption of 230 miles of revised mapping to align with Preliminary FEMA maps.</p>

						2020 action – Continued county wide FEMA map revision process, continued outreach and education around mapping, regulations, and resiliency.
Public Warning Plan Annex for EOP	Boulder OEM	High	Goal 1,4	All Hazards	IN Progress	<p>2018: The Public Warning annex was included in the 2017 Emergency Operations Plan Update in November.</p> <p>2019-2020: Public Alert and Warning Plan is in version 1 draft form and shall be adopted by April 2020. The plan was created because BOEM received authorization to become an Integrated Public Alert and Warning System site in 2019. This allows the EOC to launch wireless emergency alerts, NOAA radio and Emergency Alert System alerts and warnings.</p>
Continue involvement in Climate Adaptation Planning Process	Boulder OEM / BOCC	Medium	Goal 1,4	All-Hazards	In Progress	<p>No work completed in 2018 but discussions did create an initiative to integrate climate change into the Hazard Mitigation Plan Update scheduled for February 2019.</p> <p>2019-2020: Continuing to integrate climate into the 2021 plan update. Workshops have been held in November and December 2019 to scope the content and how to integrate this issue in the HMP.</p>
Community Hazards Education and Preparedness Plan	Boulder OEM	Medium	Goal 1,3,4	All Hazards	In Progress	<p>2018: Performed 7 Better Together Community Programs. Conducted Boulder Preparedness Fair in Longmont.</p> <p>2019- Completed 3 Better together programs. Distributed door warning hangers for flood and fire for use in non-English speaking environments.</p>
Landslide Early Warning Capability	Boulder OEM	High	Goal 1	Debris Flows	In Progress	<p>2018: Working on developing test sites for potential technology solutions.</p> <p>2019: Developed thresholds for public alert and warning for landslides. Incorporated the threshold levels into the Severe Weather Plan.</p>
Flood Control District in non-UDFCD covered areas	Boulder County / BOEM	High	Goal 1,2,4	Flood	No Longer Relevant	In 2017 this determined to be unfeasible at this time.

Integration of Land Use and Mitigation Plans	Boulder OEM and Boulder County Land Use	Medium	Goal 1,2,3, 4	Flood, Wildfire, Landslides	In Progress	No action taken to date. 2019: No Action and in 2020 OEM and Land Use Director shall determine if this is still a relevant mitigation action.
Install Generators at Critical County Facilities	Boulder County Admin Services	High	Goal 2	All Hazards	Completed	Facilities installed 4 generators using HMPG funding at the following critical facility locations. <ol style="list-style-type: none"> 1. Longhorn Road District 2. Nederland Road District 3. Fairgrounds Exhibit Building 4. Fairgrounds Clover Building
Strategic Continuity, Response, and Recovery Plan	Boulder County Departments and Offices	High	Goal 1,2,3, 4	All Hazards	Completed	Emergency Operations Plan is revised, and the Recovery Plan is completed. Now department level plans are being worked on. Continuity of Operations Plans are completed and also being refreshed and updated.
BOCO Strong Regional Resiliency Plan	BOCO Strong	Medium	Goal 1,2,3, 4	All Hazards	Completed.	Resiliency strategies and plans were completed in 2017.
Update Floodplain program including maps, text and outreach	Boulder County Transportation	High	Goal 1,2,3, 4	Flood	In Progress	Local map adoption of 150 miles of revised mapping in 2017. Additional 70 miles of draft mapping currently being reviewed. Local code text update in 2016 and 2017. Conducting extensive outreach for text and map updates 2019: Local map adoption of 230 miles of revised mapping in 2019.