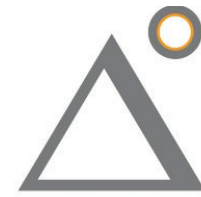


Clean Air, Cool Places Assessment: Existing Community Resources and Future Needs

Climate Smart Missoula, Montana, Fall 2016



CLIMATE SMART
MISSOULA

In this report we summarize efforts to better understand and share information about local places where Missoula-area residents and visitors can go during periods of excessive heat or wildfire smoke. Emergency preparedness for extreme events requires that we have crucial locations identified, and that communication and outreach efforts are in place so community members can access the necessary resources in an effective and timely manner. We also outline our work with community members on efforts around “sheltering in place”, an important alternative response in addition to public gathering spaces, and highlight the various creative educational materials we developed.

This effort was part of Year 1 of our *Summer Smart* program, funded by a 2016 matching grant, the Bloomberg Award for Partners for Places - a project of the Funders’ Network for Smart Growth and Livable Communities. We are grateful for this support.

Community partners include the City of Missoula, Missoula City-County Health Department, University of Montana School of Public and Community Health Sciences, NeighborWorks Montana, Missoula Aging Services, American Lung Association, and others who assisted by hosting air quality monitors.

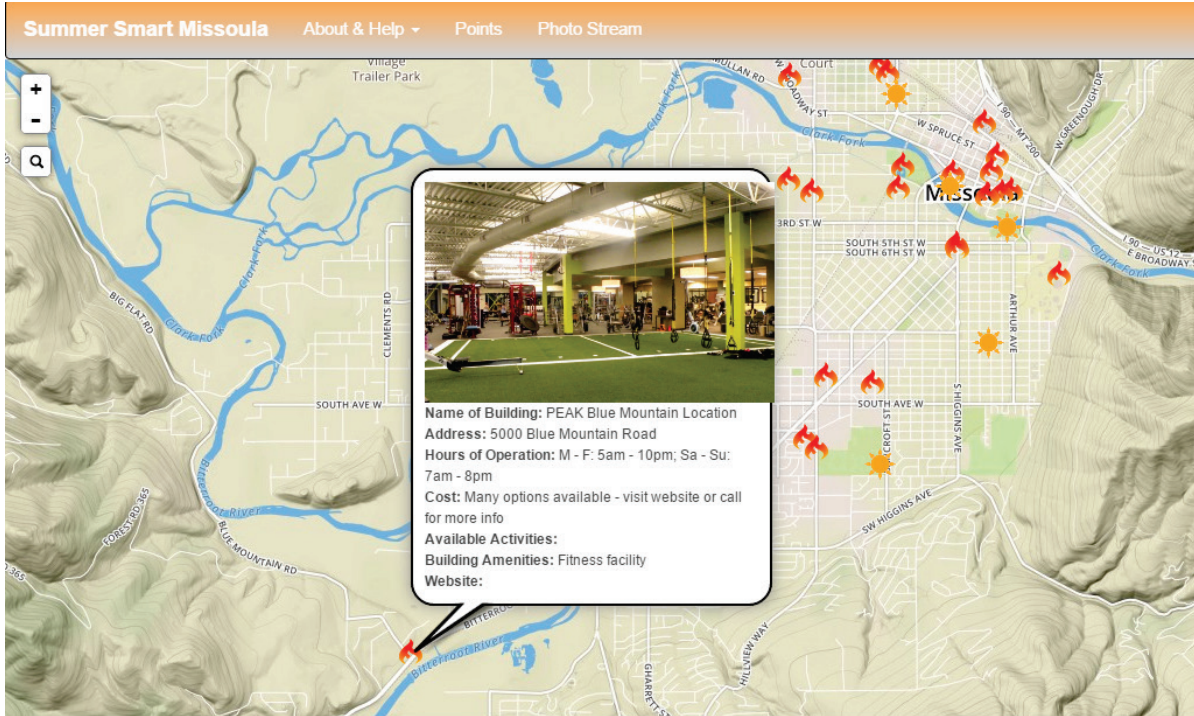
In this Assessment we discuss:

- Mapping Community Assets
- Indoor Air Quality
- Identified Community Gaps
- Sheltering in Place
- Outreach and Communication
- Future Priorities

Mapping Community Assets

Missoulians, especially the most vulnerable, need places to go when the smoke rolls in or the heat gets unbearable. For many, staying home and turning up the air conditioning is simply not an option. Health professionals understand that even short respites from unhealthy air can benefit both mental and physical health. In the absence of a city-designated cooling or clean air center(s), Climate Smart Missoula led this effort to create a community resource comprising identified locations that could serve as a respite from smoke, heat, or both.

We developed a “Clean Air, Cool Places” interactive “WikiMap”, identifying 33 public and private locations throughout the Missoula area, designated on the map as either outdoor/heat respite (7 locations) or indoor/smoke respite (26 locations). For each site, we compiled information including hours, cost, and available activities. We sought feedback on the map from sites we identified and from community partners, and we encouraged community members to contribute additional locations and details through the interactive functions of the WikiMap. Recognizing that this resource is a work in progress, we shared the map on our website and social media, and encouraged community partners to do the same and contribute to the site with any new or updated information. Briefly, Wikimapping is an inexpensive platform and public engagement tool that allows features to be mapped for display and visitors to the website to add new sites, information and comments. See <http://wikimapping.com>.



A screen capture of the map is shown here, including an example of the pop-up informational bubble that appears when a user clicks on a location. The map can be found linked via <http://www.missoulaclimate.org/clean-air-cool-places.html>.

A complete list of map locations and details, also linked from our [Summer Smart](#) website, is included at the end of this report.

Understanding Indoor Air Quality

Based on conversations with community members and partners including the Missoula County Health Department and the University of Montana School of Public and Community Health Sciences (SPCHS), we recognized the need to better understand indoor air quality in places identified on the WikiMap as smoke respite locations in order to provide appropriate guidance for spending time indoors. For example, if we suggest that individuals who are sensitive to smoke can feel safe going inside and exercising during smoke events, we need to ensure that recommendation is a healthy one, consistent with actual indoor air quality.

In partnership with SPCHS faculty and staff, we designed a pilot indoor air quality monitoring study. We visited a number of sites where individuals or groups frequent during summer months, and from these inquiries chose seven sites. We set up DustTrak air monitoring devices at these locations: the Missoula Public Library, the Missoula Children's Museum, the Missoula Senior Center, Currents Aquatic Center, Hellgate High School, The Women's Club Health and Fitness Center, and the University of Montana SPCHS lab. The DustTrak monitors continuously measured ambient particulate matter (PM 2.5) levels at one-minute intervals. We collected these data weekly for six consecutive weeks during late summer, the time of year when our region typically experiences the greatest wildfire smoke impacts.



Climate Smart's Abby with a DustTrak monitor

Although the summer of 2016 did not bring as intense wildfire smoke as we have experienced in some recent years, we did have several smoke events. During these periods, we did see a slight increase in indoor PM 2.5 levels. For example, during Week 4, when outdoor air quality was in the “moderate” range for four consecutive 24-hour periods, all seven monitoring sites recorded higher average indoor PM 2.5 concentrations. These results suggest that many of our community’s indoor spaces may not have adequate ability to ensure clean air in the event of prolonged, severe smoky conditions outside. However, given the mild smoke conditions, the results are inconclusive. We simply do not know how severe the outdoor conditions need to be to affect the indoor air at levels in the ranges that could impact human health. We plan to run this study again in 2017 and will expand to additional sites if more monitoring units are available.

Identified Community Gaps

In the process of developing the *Clean Air, Cool Places* map and information, we found that many of the places identified are limited in their ability to meet the community’s needs. The majority of indoor spaces identified are “pay to play”; even low-cost entry fees may be a barrier to many in our community. While many spaces are open to the public, quite a few are membership-only, which further limits access for low-income residents.

The Missoula Public Library is a crucial community asset currently, as one of only a few free, public indoor spaces. However, the library facilities are frequently at capacity for their size and staffing. Library hours are also limited; three days a week it is open only 10am - 6pm, and on Sundays only 1 pm - 5pm.

It is also clear that these indoor locations are not evenly distributed across the map and transportation to the sites may be limiting for some community members.

Sheltering in Place

Our community needs more than just public spaces to access. There is an ongoing need to improve residences of all kinds so that individuals and families can “shelter in place”. For many, the healthiest option, physically and mentally, may be to ensure home indoor air is healthy and cool (using a HEPA room air filtration unit and/or a HVAC system). We recognize that encouraging an A/C unit for every residence is less than ideal—such units are expensive to run and ultimately challenge our effort to reduce our community’s carbon footprint. Although in decades to come A/C may become more necessary, in the short-term there are other creative strategies we can better deploy. All these efforts require a collaborative and long-term commitment.

For the vulnerable and those with limited means, community efforts need to help provide:

- HEPA single room air filtration units
- Air conditioning or HVAC systems where appropriate
- Fans (and the ability to operate them when and where most beneficial)
- Weatherization ideas and assistance to implement
- Shade, both trees and fabricated.

Those with sufficient means need ready access to:

- Recommendations to purchase HEPA single room air filtration units
- Recommendations for energy efficient and high-quality HVAC systems
- Education on best practices so A/C is used minimally
- Information on improving building envelopes and weatherization
- Encouragement to install appropriate shade, both trees and fabricated.

Additional Outreach and Communication

Climate Smart Missoula has employed considerable resources, time, and effort to create products that assist the community in understanding the health implications of exposure to wildfire smoke and heat, and are targeted toward specific vulnerable populations. Our [website](#) is the go-to place to access this information. Our videos, infographics, slide shows, and fact sheets are all designed to be accessible and shareable. Clearly the community is best served if we understand not just where to go to escape challenging conditions, but when, why and who.

We now have and will continue to update the *Clean Air, Cool Places* map and various resources available via the Climate Smart Missoula website. A media and outreach plan is necessary to ensure community members know about and have the ability to access this information. The specifics of the outreach plan will be updated every year, likely in late spring. Information will be shared via the City of Missoula outreach avenues, Public Service Announcements, earned media, social media, presentations, events, and through partners' networks or programs. Importantly, the City-County Health Department plans to use or share our mapping tool and other information as part of their Climate Action Plan,, which will encourage its use and relevance. To be most effective, the timing of this outreach needs to coincide with relatively unpredictable and episodic events; having systems in place to share information quickly is crucial.

Future Priorities for Clean Air, Cool Places

We hope our *Clean Air, Cool Places* map will be a go-to resource for anyone in our community looking to escape the heat or smoke. Climate Smart Missoula will continue to work with community partners to improve and share this map and effort widely. We look forward to additional outreach opportunities so Missoula area residents are aware of this map and willing to help improve and share it.

As our community experiences more extreme heat and intense wildfire smoke in summers to come, we will need to help existing spaces better respond to these events. The public library, as well as many of the other spaces identified on the *Clean Air, Cool Places* map, will need additional financial resources, and potentially programming support, in order to expand their hours, subsidize entry fees, or offer special activities in the case of extreme heat or prolonged wildfire smoke events. We are encouraged that Missoula voters recently passed a bond to fund construction of a new public library. This will help address the capacity challenges faced by our current library.

Given the lack of knowledge about indoor air quality and the results of our study, we hope to expand indoor air monitoring in future summers, and we intend to help building owners and operators access information about air filtration options and retrofits. Additionally, as not every individual can or will utilize community spaces and sheltering in place can be an appropriate option, we will continue to work with partners on efforts to ensure home indoor air is healthy.

A truly comprehensive assessment needs to evaluate the geographic spacing of indoor respite locations and better understand the best ways to reach various populations. We look forward to working with partners, especially local government, to bring the need for summer shelter into emergency and disaster and health preparedness planning. This is clearly a first step along a resilient community path.

Clean Air, Cool Places – Where to go in Missoula

Outdoor

Franklin Splash Park

2100 S 10th St. W
Hours: 11am - 9pm
Cost: free

Bonner Splash Park

1600 Ronald Ave.
Hours: 11am - 9pm
Cost: free

Westside Splash Park

1100 Sherwood St.
Hours: 11am - 9pm
Cost: free

Marilyn Splash Park

Linda Vista Blvd & Raymond Ct
Hours: 11am - 9pm
Cost: free

Splash Montana

3001 Bancroft Ave (Playfair Park)
Hours: 11:30am - 7:30pm M-F, 11am - 6pm Sat & Sun
(weather permitting)
Cost: Varies depending on age
Website: <http://www.ci.missoula.mt.us/169/Splash-Montana>

Dragon Hollow Playground Sprinkler

Adjacent to the carousel in Caras Park
Hours: Dawn to dusk
Cost: Free

Clark Fork River

Remember to take care of our river! Check out tips to "keep cool and be cool to the river":
<http://clarkfork.org/hot-river-tips/>

Indoor

Missoula Public Library

301 E Main St.
Hours: M - W: 10 - 9; Th - Sa: 10 - 6; Su: 1 - 5pm
Cost: Free
Website: <http://www.missoulapubliclibrary.org/>

SpectrUM

218 E Front St
Hours: We - F: 11 - 6; Sa: 10 - 5; Su - Tu: Closed
Cost: \$4.00; 3 y.o. and under: Free
Website: <http://spectrum.umontana.edu/>

Missoula Butterfly House and Insectarium

218 E Front St.
Hours: W - F: 11 - 5; Sa: 10 - 5; Su - Tu: Closed
Cost: \$4.00; 3 y.o. and under: Free
Website: <http://www.missoulabutterflyhouse.org/>

Missoula Art Museum

335 N Pattee St.
Hours: Tu - Sa: 10 - 5
Cost: Free
Website: <http://www.missoulaartmuseum.org/>

Children's Museum

225 W. Front St
Hours: Tues - Sat 10 am - 5pm
Cost: \$5/person, under 1 free
Website: <https://www.childrensmuseummissoula.org/>

Montana Natural History Center

120 Hickory St. #A
Hours: M - F: 9 - 5; Sa: 12 - 4; Su: Closed
Cost: Adults: \$3; Children: \$1; 4 y.o and under: Free
Website: <http://www.montanaturalist.org/>

Roxy Theater

718 S Higgins
Hours: Varies w/ Showtimes
Cost: Adults: \$8; Seniors/Students \$7; Youth \$5
Website: <http://www.theroxytheater.org/>

Zootown Arts Community Center (ZACC)

235 North 1st St. West
Hours: M - W, F - Sa: 11 - 6; Th: 11 - 8; Su: Closed
Cost: Free (some classes have fees)
Website: <http://www.zootownarts.org/>

The Clay Studio of Missoula

1106 Hawthorne St.
Hours: M - F: 10 - 5; Sa - Su: Closed
Cost: Varies per class
Website: <http://www.theclaystudioofmissoula.org/>

Missoula Family YMCA

3000 S Russell St.
Hours: M - F 5am - 10pm; Sa 7am - 8pm; Su 8 - 6
Cost: Various memberships available
Website: <http://ymcamissoula.org/membership/>

Currents Aquatics Center

600 Cregg Lane
Hours: M - F: 10 - 8; Sa: 11 - 7; Su: 11 - 6
Cost: Adults: \$6.25; Seniors and Students: \$4.50;
Youth (7 - 12): \$4; PreK (2 - 6): \$3
Website:
<http://www.ci.missoula.mt.us/165/Currents-Aquatic-Center>

Grizzly Pool

32 Campus Dr.
Hours: <http://www.umt.edu/crec/Pool/schedule.php>
Cost: Public: \$4.25; UM Affiliation: \$3.75 Website:
<http://www.umt.edu/crec/Pool/default.php>

Title Boxing Club

1200 W Kent Ave
Website: <http://missoula.titleboxingclub.com/>

Women's Club Health and Fitness Center

2105 Bow St.
Hours: M - F: 5:30am - 10pm; Sa - Su: 8am - 8pm
Cost: \$13/week
Website: <http://www.thewomensclub.com/Home>

Historical Museum at Fort Missoula

3400 Captain Rawn Way
Hours: M - Sa: 10 - 5; Su: 12 - 5
Cost: Missoula County Residents: Free; Adults: \$4;
Seniors: \$3; Students: \$2
<http://www.fortmissoulamuseum.org/index.php>

MASC Studio

1200 Shakespeare St.
Hours: M - Th 12 - 8; F 12-7; Sa Closed; Su 10 - 7
Cost: Varies w/ membership
Website: <http://mokshaaerialstudio.com/>

Missoula Community Theatre (MCT)

200 N Adams St.
Hours: M - F: 9 - 5
Cost: Varies w/ performance
Website: <http://mctinc.org/>

Southgate Mall .

2901 Brooks St.
Hours: M - Sa: 10 - 9; Su: 10 - 6
Cost: Free
Website: <http://shopsouthgate.com/>

The Peak Fitness Center - Downtown

150 E Spruce St.
Hours: M - F: 5am - 10pm; Sa - Su: 7am - 8pm
Cost: Various memberships available
Website:
http://peakmissoula.com/facilities/downtown_missoula

The PEAK Fitness Center - Blue Mountain

5000 Blue Mountain Road
Hours: M - F: 5am - 10pm; Sa - Su: 7am - 8pm
Cost: Various memberships available
Website: <http://www.peakmissoula.com/>

The Source Fitness Center

255 S Russell St.
Hours: M - F: 5am - 11pm; Sa - Su: 6am - 10pm
Cost: Call or visit for options and pricing
Website: <http://thesourcmissoula.com/>

Monkey Bar Gym

1900 W Broadway St.
Hours: M - Th: 6am - 6pm; F: 6am - 1pm; Sa: 8 - 9am; Su:
Closed
Website: <http://monkeybargymmissoula.com/>

Missoula Senior Center

705 S Higgins

Hours: M - F: varies. Sa - Su: Closed.

Cost: Varies with activity/membership

Website: <http://www.themissoulaseniorcenter.org/>

City Life Community Center

1515 Fairview Ave

Hours: Fri: Paintball 4-9pm, After dark (teen programming) 9-midnight. See website for more.

Cost: varies

Website: http://yfcmt.com/city_life/

The Hub Family Entertainment Center

5055 Expressway

Hours: Mon-Thurs 11AM - 9PM, Fri - Sat 11AM - 11PM, Sunday 12 - 6PM

Cost: varies depending on activity

Website:

[http://www.thehubmissoula.com/Walk In and General Information](http://www.thehubmissoula.com/Walk_In_and_General_Information)

Westside Lanes & Fun Center

1615 Wyoming St.

Hours: M - Su: 9am - 2am

Cost: \$4 per game, per person

Website: <http://missoulabowling.com/>