Supplementary Information for *Wildfire imagery reduces risk information-seeking among homeowners as property wildfire risk increases*

**Supplementary Table 1.** Descriptive statistics and balance across treatments for property owners who received postcards in the field experiment.

|                           | Overall (n = 5,785) | Flames (n = 2,893) | Status Quo (n = 2,892) |
|---------------------------|---------------------|--------------------|------------------------|
| Risk score                | 443 (127)           | 443 (126)          | 444 (127)              |
| Property size (acres)     | 0.26 (0.36)         | 0.26 (0.30)        | 0.26 (0.40)            |
| Property value ($k)       | 488 (201)           | 486 (178)          | 490 (221)              |
| Year built                | 1968 (33)           | 1967 (33)*         | 1969 (32)*             |
| Multiple properties<sup>a</sup> | 454 (7.8%)         | 220 (7.6%)         | 234 (8.1%)             |
| Part-time resident<sup>b</sup> | 953 (16%)          | 505 (17%)*         | 448 (15%)*             |

*Note: Mean (SD); number (%). Property value is in thousands of US dollars. <sup>a</sup>Owner has more than one property in the city. <sup>b</sup>Owner’s mailing address is outside of the city. Differences between the Flames and Status Quo groups were tested using Wilcoxon rank sum and Pearson’s Chi-squared tests. *p < 0.05
**Supplementary Table 2.** Online experiment participant responses to the two photos used in the field experiment (Figure 1).

| Measure                                      | Status Quo (n = 111) | Flames (n = 109) | Statistic |
|----------------------------------------------|----------------------|------------------|-----------|
| **Emotional Responses (The photo makes me feel...)** |                      |                  |           |
| Worried                                      | 5.3 (3)              | 8 (2)            | -7.4***   |
| Anxious                                      | 4.6 (3)              | 7 (2)            | -7***     |
| Fearful                                      | 4.9 (3)              | 7 (2)            | -5.8***   |
| Calm                                         | 3.6 (3)              | 2 (2)            | 5.5***    |
| Peaceful                                     | 3.6 (3)              | 1 (2)            | 6.5***    |
| Safe                                         | 3.6 (3)              | 1 (2)            | 7.3***    |
| **Risk Assessments**                         |                      |                  |           |
| Chance of fire (%)                           | 45 (30)              | 50 (30)          | -1.2      |
| Chance of fire damage (%)                    | 60 (20)              | 60 (30)          | -0.7      |
| How risky is living here                     | 6.2 (2)              | 7 (2)            | -2.6*     |
| **Behavioral Intentions**                    |                      |                  |           |
| Receive more information                     | 4.4 (0.8)            | 5 (0.8)          | -0.8      |
| Visit personalized website                  | 3.7 (0.6)            | 4 (0.5)          | -0.2      |
| **Personal Preferences**                     |                      |                  |           |
| Like the photo                               | 7.6 (2)              | 5 (3)            | 8.4***    |
| Photo is personally relevant                 | 5.6 (3)              | 4 (3)            | 4.3***    |

*Note:* Columns 2-3 show Mean (SD). Statistics are from two-sided t-tests. Measures of emotion and personal reactions were rated on a Likert scale from ‘Not at all’ (0) to ‘The most possible’ (10). Responses to ‘Chance of...’ questions were rated from ‘No chance’ (0%) to ‘For sure’ (100%); ‘How risky is living here’ was rated from 0 = ‘Not risky at all’ to 10 = ‘Extremely risky’. Behavioral intentions were rated on a 5-point Likert scale from ‘Extremely unlikely’ (1) to ‘Extremely likely’ (5). P-values are adjusted for multiple comparisons using the Benjamini-Hochberg method: * p < 0.05; *** p <0.001
Supplementary Table 3. Online experiment participant responses to the four photos (Supplementary Figure 1).

|                      | Flames B1 (n = 109) | Flames B2 (n = 111) | Status Quo A1 (n = 111) | Status Quo A2 (n = 109) | F_{(3,432)} |
|----------------------|---------------------|---------------------|-------------------------|-------------------------|-------------|
| Emotional Responses (The photo makes me feel...) |                     |                     |                         |                         |             |
| Worried              | 6.9 (2)             | 7.0 (2)             | 4.6 (3)                 | 4.5 (3)                 | 35.5***     |
| Anxious              | 6.8 (2)             | 6.9 (2)             | 4.9 (3)                 | 4.4 (3)                 | 30.3***     |
| Fearful              | 7.6 (2)             | 7.6 (2)             | 5.3 (3)                 | 4.8 (3)                 | 45.1***     |
| Calm                 | 1.8 (2)             | 1.4 (2)             | 3.6 (3)                 | 4.3 (3)                 | 37.2***     |
| Peaceful             | 1.5 (2)             | 1.0 (2)             | 3.6 (3)                 | 4.3 (3)                 | 48.0***     |
| Safe                 | 1.4 (2)             | 1.2 (2)             | 3.6 (3)                 | 4.0 (3)                 | 46.8***     |
| Risk Assessments     |                     |                     |                         |                         |             |
| Chance of fire (%)   | 49 (30)             | 50 (30)             | 45 (30)                 | 46 (30)                 | 0.864       |
| Chance of fire damage (%) | 62 (30)          | 61 (20)             | 60 (20)                 | 60 (20)                 | 0.233       |
| How risky is living here | 7.0 (2)         | 7.3 (2)             | 6.2 (2)                 | 6.0 (2)                 | 9.05***     |
| Behavioral Intentions |                     |                     |                         |                         |             |
| Receive more information | 4.5 (0.8)       | 4.6 (0.7)           | 4.4 (0.8)               | 4.4 (0.8)               | 1.86        |
| Visit personalized website | 3.7 (0.5)     | 3.8 (0.5)           | 3.7 (0.6)               | 3.7 (0.6)               | 1.14        |
| Personal Preferences  |                     |                     |                         |                         |             |
| Like the photo       | 4.6 (3)             | 3.4 (3)             | 7.6 (2)                 | 7.4 (2)                 | 71.9***     |
| Photo is personally relevant | 3.9 (3)        | 4.0 (3)             | 5.6 (3)                 | 5.3 (3)                 | 10.4***     |

Note: Columns 2-5 show Mean (SD) responses to each measure. F-statistics are from one-way ANOVAs with a minimum n = 432 (some measures had missing observations). Measures of emotion and personal reactions were rated on a Likert scale from ‘Not at all’ (0) to ‘The most possible’ (10). Responses to ‘Chance of...’ questions were rated from ‘No chance’ (0%) to ‘For sure’ (100%); ‘How risky is living here’ was rated from 0 = ‘Not risky at all’ to 10 = ‘Extremely risky’. Behavioral intentions were rated on a 5-point Likert scale from ‘Extremely unlikely’ (1) to ‘Extremely likely’ (5). * p < 0.05; *** p <0.001
Supplementary Table 4. Descriptive statistics of homeowners who visited their risk webpages in the field experiment, overall and by treatment group.

|                     | Overall n = 1,116 | Flames n = 545 | Status Quo n = 571 |
|---------------------|-------------------|----------------|---------------------|
| Risk score          | 475 (111)         | 466 (114)      | 483 (109)           |
| Property size (acres) | 0.27 (0.30)     | 0.26 (0.22)    | 0.28 (0.37)         |
| Property value ($k) | 496 (171)         | 498 (182)      | 495 (160)           |
| Year built          | 1971 (30)         | 1969 (31)      | 1972 (29)           |
| Multiple properties<sup>a</sup> | 81 (7.3%)     | 40 (7.3%)       | 41 (7.2%)           |
| Part-time resident<sup>b</sup> | 105 (9.4%)   | 51 (9.4%)       | 54 (9.5%)           |
| Visited proportion<sup>c</sup> | 19.3%         | 18.8%          | 19.7%               |

Note: Mean (SD); number (%). Property value is in thousands of US dollars. <sup>a</sup>Owner has more than one property in the city. <sup>b</sup>Owner’s mailing address is outside of the city. <sup>c</sup>Calculated from number of homeowners in each sample (Overall = 5785; Flames = 2893; Status Quo = 2892).
Supplementary Figure 1. Four photos used in the online experiment.

Note: Participants in were randomly assigned to see one of these four photos. Two photos (top) appeared in media outlets describing wildfire. Two photos (bottom) have been used in wildfire communications to homeowners from local fire departments. The two photos on the left (B1 & A1) were also used in the wildfire practitioner survey and field experiment with homeowners. Photo credits: Mark Thiessen (top left), Darrell Spangler (top right), Darren Campbell (bottom left). Contact corresponding author to view the A2 photo.

Stock photo: “Mountain landscape: Colorado wilderness backcountry road”
The photo shows the sun setting over a mountain landscape with evergreen trees and a dirt road winding into the forest.
Supplementary Figure 2. Screenshot of the top portion of a property-specific wildfire risk webpage. The property shown is Ashland Fire and Rescue.

Every home in Ashland is within an area where wildfire poses a significant risk to residents, also called the Wildfire Hazard Zone. There are actions that you can take around your property to quickly and effectively reduce wildfire risk. To help you understand your wildfire risk, in 2018 Ashland Fire & Rescue conducted a curbside Wildfire Risk Assessment of every home in Ashland, including yours:

455 SISKIYOU BLVD
ASHLAND, OR

Each home was scored based on the following themes:
- Background Risk, influenced by the surrounding landscape outside of your control
- Fire Resistant Construction of your home
- Defensible Space provided by managing the vegetation and landscaping within 100 feet of your property
- Access for you and first responders to enter and exit your property

Below, we describe the factors that influence your curbside Wildfire Risk Assessment score, and show you where your home's score falls in each category. We also provide solutions on how to reduce your risk. If you have completed work around your property, click below to join the Ashland community in tracking the wildfire risk reduction taking place throughout the city. Together, we can reduce Ashland's risk to wildfire.

Reassess My Home

Note: Ashland Fire & Rescue staff conducted this assessment from the curb and did not enter your property to gather this information. Photos are for general information only and do not show your specific property. These risk ratings are not used to determine if your property will be defended during a wildfire. The City of Ashland is not responsible for how you choose to share your home wildfire risk data.

Wildfire Risk Assessment Summary

Each category in the wildfire risk assessment has the potential to compromise a structure during a wildfire or limit first responders ability to provide assistance. Your property's wildfire risk rating, at the time that the curbside Wildfire Risk Assessment was completed in 2018, is identified below. This score may underestimate your risk due to factors we could not assess from the street. View the breakdown of your wildfire risk score in the categories below.

Your property score is 285 (lower is better).

Note: Scrolling down, the visitor would see the breakdown of their property’s risk factors, including background risk, construction, defensible space, and emergency access. Map data ©2020 Google.
Supplementary Figure 3. Backside of a postcard mailed to homeowners.

In 2018 we conducted a curbside assessment of the wildfire risk to your Ashland property.

YOUR PROPERTY RISK IS VERY HIGH

LOW - EXTREME

Your score: 700

To view the risks for your property, visit:
www.fireadaptedashland.org/myhome

Your personal access code: 11111

This website also provides specific information on how to reduce wildfire risk on your property. You will be asked to enter the personal access code shown above to view your risk information.

If you have trouble accessing your webpage, email: wildfire@ashland.or.us

Ashland Fire & Rescue
455 Siskiyou Blvd
Ashland, OR 97520

Jan Johnson
1234 Main St.
Ashland, OR 97520

Note: The property risk rating, risk score, personal access code, and addressee were tailored to the recipient homeowner.
Supplementary Figure 4. Differences in responses to the four photos in the online experiment.

Note: Results are from Tukey’s HSD tests. X-axis shows differences in responses from Likert scales. Y-axis shows pairwise comparisons between four photos (Supplementary Figure 1), which include two photos used across the three studies (A1 = status quo; B1 = flames) and two similar photos used in wildfire communications (A2 = status quo-other) and mainstream media (B2 = flames-other).
Supplementary Figure 5. Actual visitation of homeowners to their wildfire risk webpages by parcel-level wildfire risk (x-axis) and the photo on the postcard they received (fill color).
Supplementary Methods

1. Practitioner Survey
2. Online Experiment Survey
1. **Practitioner Survey**

Please take a moment to study the two photos below.

1. Which photo is more effective at engaging homeowners to learn more about their wildfire risk?
   - Photo A (flames)
   - Photo B (landscape)
   - No difference
   1.a. Why? ___________________________

2. Which photo would you choose to use in your outreach communications to homeowners about wildfire risk? For example, on a postcard informing homeowners about their properties’ wildfire risk.
   - Photo A (flames)
   - Photo B (landscape)
   - No difference
   2.a. Why? ___________________________

3. In your experience, is there agreement between wildfire practitioners about whether photos of flames (i.e. worst-case scenario) engage or repel homeowners when communicating about wildfire risk?
   - Yes, most think flames engage homeowners
   - Yes, most think flames repel homeowners
   - No, there is not agreement about the effect of photos of flames on homeowner engagement
   - Most practitioners do not think photos matter in communicating with homeowners
2. Online Experiment Survey

*Imagine you own a home in an area that is at risk from wildfire. There have been 10 large wildfires in the area in the last 100 years.*

*You receive a postcard in the mail from the local fire department. On one side, you are informed that your property is HIGH RISK for wildfire. On the other side, you see the image below.*

![PHOTO*](image)

To what extent does this photo make you feel…

|                  | None | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------------------|------|---|---|---|---|---|---|---|---|---|
| Worried          | 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Calm             | 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Anxious          | 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Fearful          | 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Peaceful         | 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Safe             | 0    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

* participant randomly assigned to view one of four photos
Imagine you own a home in an area that is at risk from wildfire. There have been 10 large wildfires in the area in the last 100 years.

You receive a postcard in the mail from the local fire department. On one side, you are informed that your property is HIGH RISK for wildfire. On the other side, you see the image below.
What do you think is the chance that a wildfire will occur in this area this year?

| No chance | For sure |
|-----------|----------|
| 0%    | 10%   | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |

If there is a wildfire in this area, what do you think is the chance that it would damage your home?

| No chance | For sure |
|-----------|----------|
| 0%    | 10%   | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |

How risky do you consider living in a place like this?

| Not risky at all | Extremely risky |
|------------------|-----------------|
| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |
Imagine you own a home in an area that is at risk from wildfire. There have been 10 large wildfires in the area in the last 100 years.

You receive a postcard in the mail from the local fire department. On one side, you are informed that your property is HIGH RISK for wildfire. On the other side, you see the image below.

PHOTO

After receiving this postcard, I would be interested in receiving more information about wildfire in my local community.

If the local fire department created a website that shows wildfire risk information specific to your property, how likely are you to visit this website?
Imagine you own a home in an area that is at risk from wildfire. There have been 10 large wildfires in the area in the last 100 years.

You receive a postcard in the mail from the local fire department. On one side, you are informed that your property is HIGH RISK for wildfire. On the other side, you see the image below.

**PHOTO**

How much do you like this photo?

| Not at all | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|------------|---|---|---|---|---|---|---|---|---|---|----|

How personally relevant is this photo?

| Not at all | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|------------|---|---|---|---|---|---|---|---|---|---|----|