



Protect America's Climbing



ECONOMIC IMPACT OF ROCK CLIMBERS IN BISHOP, CALIFORNIA

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EXECUTIVE SUMMARY

- ECU'S Division of Regional Economic Assessment and Modeling (DREAM) conducted an economic impact study of climbers visiting the Bishop/Inyo County climbing region.
- Climbers visiting Bishop/Inyo County spend an estimated **\$15.6 million** dollars annually in Bishop and Inyo County in a typical year.
- Climbers are an important contributor to the Bishop and Inyo County economy, spending an estimated \$155 per person per trip not including lodging. Climbers reported spending around \$83 per person per trip when staying in hotels, \$20 when camping, and \$71 when choosing rental cabins/homes.
- Climber expenditures support **\$5.1 million** in local wages and an estimated 127 total jobs in a typical year.
- Due to COVID-19's impacts on visitation, Bishop and Inyo County lost over **\$10 million** in potential climber expenditures.
- Climbers are aware of Leave No Trace knowledge which helps protect climbing areas from environmental impacts.
- Climbers are well-educated, with 54% holding a bachelor degree and 24% holding advanced degrees.
- Climbers possess high personal incomes, with nearly one in three having incomes over \$75K annually.

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This study was supported by grants from Access Fund and Eastern Kentucky University.

A special thanks goes out to the numerous volunteers from Bishop's local climbing community who spent their time gathering data for this study.

Photos by Ben Ditto / bendittophoto.com

MEET YOUR RESEARCH TEAM



• **Dr. James Maples** is an Associate Professor of Sociology and Director of the Division of Regional Economic Assessment and Modeling (DREAM) at Eastern Kentucky University. His research agenda examines rural economies in transition with a focus on utilizing outdoor recreation as a sustainable base of economic growth.



• **Dr. Michael J. Bradley** is an Associate Professor in the Department of Parks, Recreation, and Hospitality Administration at Arkansas Tech University. He is also the director of Red Dirt Consulting. His professional and academic interests include human dimensions of natural resource and wildlife; beer, wine, and spirits; and recreation and tourism as economic development tools.



• **Mary Boujaoude** is a senior Honors student and sociology major at ECU. Mary's research interests include disability studies, health and economic equity, and social justice. Mary serves as a student lead researcher at DREAM.



• **Mora Rehm** is a junior sociology and statistics major at ECU. As an aspiring Applied Sociologist and AmeriCorps Alumna, her research interests center around social justice, volunteerism, and education policy. Mora serves as a student lead researcher at DREAM.



• **Tim Golden** is a community-driven advocate for sustainable outdoor recreation. The former President of the Bay Area Climber's Coalition and co-founder of the Bishop Climbers Coalition, Tim oversees strategic projects for the Bishop Climbers Coalition and has been crucial to the capacity-building of the organization.

METHODOLOGY

This study examined the economic impact, use patterns, Leave No Trace knowledge, and demographics of climbers visiting Bishop, California to engage in any type of rock climbing.

Study area

For this study, Inyo County, California serves as the study area. The study area encapsulates the site of the event and likely locations where the expenditures related to this event would occur. Inyo encompasses Bishop and its city limits as well as the main corridors participants living outside the study area are most likely to travel while participating the event.

Survey

This study used a two page (front and back) survey with 22 questions examining climber expenditures, use patterns, Leave No Trace (LNT) knowledge as it pertains to climbing impacts, and demographics. The survey instrument is included at the end of the report. Variables are summarized and described throughout the report by topic.

Data Collection

A core team of 20 volunteer researchers with the Bishop Climbers Coalition collected data via in-person surveys of climbers visiting climbing areas throughout the Bishop area. Data were collected from November 1, 2019 through March 15, 2020. As economic impact studies focus on persons visiting the region, data were only collected from persons living outside of

Inyo County. In all, 216 persons responded to the survey. No surveys were excluded for completing less than 1/3 of the survey. In the event a respondent did not answer a particular question or (in a handful of cases) returned the survey before completing it, their responses are included up to the moment they ended the survey.

Presently, our species is experiencing a pandemic that has unpredictably impacted our economy. It is worthwhile noting that data in this study were collected prior to COVID –19 closures in the region and nation which might have otherwise impacted responses. As such these data provide a snapshot prior to the pandemic.

Data Cleaning

For economic variables, additional data cleaning is required to ensure conservative, reliable estimates. These include the following common methodological steps: persons with abnormal stays (operationalized as three standard deviations from the mean, here 25 nights and 21 cases), groups with eight or more persons (five cases), and persons living in the study area (zero cases) were excluded from the economic impact analysis. Note their responses are included in the remainder of the study. Additionally, retail purchases are limited to purchases under \$500 to prevent overestimation and cases above this amount are recoded as missing data. In the present study, three persons' expenditures in recreational retail were recoded as missing data.

CLIMBER VISITATION AND USE PATTERNS

Table One examines climber use patterns for Bishop. The average Bishop climber began climbing around 2009. Respondents indicated spending an average of 12 days bouldering in Bishop and five days sport climbing in Bishop each year. They also spend an average of 114 days visiting climbing gyms in any area. Although not listed in the table for clarity purposes, climber skill rankings averaged around 5.11-5.12s on sport climbing and V3-V6 on bouldering.

Table One also describes climbing interests for persons in this study. For example, around 45% of respondents indicated they engage in traditional (or trad) climbing in any location, while 78% indicated

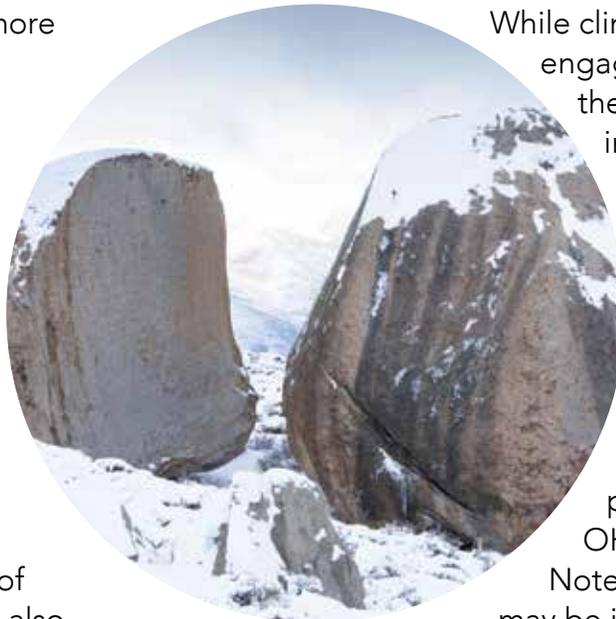
they engage in sport climbing. Nearly all respondents indicated they engage in bouldering, which is one of the major interests in Bishop. Around one in four engaged in alpine climbing, while one in ten used mixed method climbing. Gym climbing also proved popular, with over half of respondents indicating they engage in indoor gym climbing.

Respondents were asked to report the expected number of nights for their stay. The average was nine nights, although this includes seven respondents planning to stay for more than one month. When those cases are recoded as missing data, the average is 5.4 nights. The average group size was 1.8 persons.

Table One: Climber Use Patterns

Variable	N	Min	Max	Mean	SD
Respondent's first year climbing	214	1990	2019	2009.97	6.95
Days spent bouldering outdoors in Bishop yearly	215	0	200	12.14	17.67
Days spent sport climbing outdoors in Bishop yearly	216	0	80	5.725	10.50
Days spent climbing in a gym in any state yearly	209	0	365	114.36	83.40
Engages in Trad climbing, any location	216	0	1	0.45	0.49
Engages in Sport climbing, any location	216	0	1	0.78	0.41
Engages in Bouldering, any location	216	0	1	0.86	0.35
Engages in Alpine climbing, any location	216	0	1	0.25	0.43
Engages in Mixed climbing, any location	216	0	1	0.10	0.30
Engages in Ice climbing, any location	216	0	1	0.07	0.25
Engages in Gym climbing, any location	216	0	1	0.54	0.499
Engages in Toprope only, any location	216	0	1	0.07	0.262
Nights stayed in Bishop for current	213	0	300	9.24	24.10
Group size	215	1	21	1.83	2.10

Climbers often engage in more than climbing while visiting the Bishop area. Table Two summarizes other activities climbers engaged in while visiting Bishop. The most common secondary activity is day hiking (57%) followed by dispersed/primitive camping and paid campground camping (38% and 24% respectively). Skiing is also another common activity when in season. In all, 14% of respondents indicated they also went backcountry skiing or snowboarding while on their current visit, while 13% engaged in downhill skiing.



While climbers regularly engage in other areas, the study's results indicate that climbers were not involved in several other activities. For example, climbers did not indicate engaging in horseback riding, hunting, paddling, or ATV/OHV use in Bishop. Note that this finding may be influenced by the activities available in the area and should not be considered a shared trait of climbers in other areas.

Table Two: In what other outdoor recreation activities will you engage while on your current trip?

Variable	N	Min	Max	Mean	SD
Day hiking	198	0	1	0.57	0.49
Backpacking/overnight hikes	199	0	1	0.11	0.30
Trail running	199	0	1	0.23	0.42
Mountain biking	199	0	1	0.08	0.26
Cycling	198	0	1	0.05	0.20
Horseback Riding	199	0	1	0.02	0.12
Hunting	199	0	1	0.01	0.10
Fishing	198	0	1	0.07	0.25
Backcountry skiing/snowboarding	196	0	1	0.14	0.34
Downhill skiing/snowboarding	199	0	1	0.13	0.33
Paddling/SUP	199	0	1	0.01	0.07
Off-highway vehicle (OHV) use	198	0	1	0.02	0.14
Dispersed/Primitive Camping	199	0	1	0.38	0.48
Paid Campground Camping	198	0	1	0.24	0.43

LEAVE NO TRACE KNOWLEDGE

Leave No Trace (LNT) is a set of seven principles designed to minimize user impacts while in outdoor recreation settings. These include common-sense ideas such as staying on trails, packing out trash they create or find in the area, and not taking natural items (such as rocks) from outdoor settings. Collectively, LNT principles minimize impacts while also allowing future visitors to enjoy areas.

Table Three summarizes the findings of Bishop climbers’ knowledge of LNT principles as well as their participation in efforts to increase LNT principle knowledge. Recent research on climbers has indicated that climbers are aware of LNT principles and put these ideas into action. For this study, climbers were asked to provide their level of agreement for the appropriateness of climbing-specific LNT actions. These include carpooling, using designated trails, minimizing chalk use, not removing rocks as mementos from climbing areas, not making a campfire,

being thoughtful about where crash pads are placed, and not leaving tic marks. The responses are on a five point Likert where very appropriate equals a 5 and very inappropriate equals a 1. Note that the final four items in the below table are negatively coded, meaning that a 1 would indicate the opposite (very appropriate) and a 5 would equal very inappropriate.

Overall, 29% of respondents indicated they have signed the Climber’s Pact. The Climber’s Pact is an effort to teach climbers LNT principles to minimize their impacts. However, only 5% have completed LNT Trainer certification, which is their lowest-level LNT certification. Overall, climbers score well on the LNT items. For example, they indicate knowing that climbers should carpool (mean of 4.83), use designated trails (4.92) and minimize chalk use (4.07). Alternately, they understand the inappropriateness of taking mementoes, creating campfires, crushing vegetation, and leaving tic marks to aid other climbers.

Table Three: Leave No Trace Knowledge of Climber Impacts

Variable	N	Min	Max	Mean	SD
Respondent signed Access Fund Climbers’ Pact	216	0	1	.29	0.45
Respondent certified Leave No Trace Trainer	216	0	1	.05	0.22
Carpooling whenever possible	197	1	5	4.83	0.54
Use of designated trails only	197	1	5	4.92	0.44
Minimizing chalk use	197	1	5	4.07	0.98
Taking small rocks home as mementos	197	1	5	1.50	.81
Making campfire	197	1	5	1.46	.96
Putting gear/crash pad on top of vegetation	197	1	5	1.15	0.51
Leaving tic marks to help climbers not in the group	197	1	5	1.54	.84

VISITATION ESTIMATES

Visitation is an important component of examining economic impact in outdoor recreation. As part of this study, the authors collaborated with the Bishop Area Climbers' Coalition (BACC) to conduct a count of cars in parking lots at Bishop climbing areas. This was combined with data collected by the BACC prior to the study.

There are seven primary parking lots in Bishop, and parking data were collected at each. These include the Happy Boulders, the Upper Sad Boulders, the Lower Sad Boulders, the Buttermilks, and three parking areas in the Owens River Gorge (lower, central, and upper parking areas). BACC members visited each parking area to do a car count throughout 2019 up until March 2020. Note these parking areas are exclusively or almost exclusively used by climbers. These data were compiled in an Excel dataset.

Climbing in Bishop is shaped by the seasons, and visitations fluctuate based on the temperatures. Working closely with climbers from the Bishop area, the researchers

then cleaned the parking data to limit overestimation of visitation across the season and to estimate visitation during the slowest part of the season (May through September) when no data could be collected.

Table Four summarizes the results of this table examining the average number of cars predicted to be in each parking area on a typical day in that month. The researchers estimate approximately 49,433 cars are parked in climbing area parking lots during a typical year.

To figure annual visitation, researchers used an estimate of 1.8 persons per car based on average group size for study respondents (see Table One) and in discussion with local climbers based on their typical carpooling trends. This amounts to 88,890 climber visitors per year to Bishop and Inyo County. Note this estimate is visits, not persons, and that one person can account for more than one visit per year. This estimate also includes local residents which are later removed in modeling economic impacts in the coming tables.

Table Four: Summary of Cars Per Day in Bishop Parking Areas by Month, 2019-2020

Month	Happies	Upper Sads	Lower Sads	Buttermilks	ORG-L	ORG-C	ORG-U
January	70	6	20	90	20	27	20
February	66	6	19	85	19	26	19
March	64	5	18	82	26	34	26
April	23	2	7	29	31	40	31
May	11	1	3	15	23	30	23
June	3	0	1	4	4	5	4
July	3	0	1	3	4	6	4
August	3	0	1	3	3	4	3
September	8	1	2	10	8	11	8
October	18	2	5	23	12	16	12
November	49	4	14	63	18	23	18
December	61	5	17	78	22	28	22

ECONOMIC IMPACT: STUDY AREA SUMMARY

Economic impact study areas are built around the location where the activity being studied (climbing) occurs and the cities and towns where visitors are most apt to spend funds as part of their trip. For this analysis, Inyo County, California is being used as the study area. This study area was constructed as a result of locating and examining economic activities and services available in the region, major roadways, and visitor destination locations based around the event being studied. Inyo County includes the City of Bishop.

Table Five lists descriptive economic indicators for the study area. This study area’s economy includes over \$1 billion

in gross regional product, \$1 billion in personal income, and an estimated 10,441 workers in 188 industries. The study area covers 10,192 square miles and holds an estimated 17,987 residents and 7,757 households.

Table Six provides detail related to the major employment sectors (based on number of employees) within in the study area. The largest employment sectors in this study area are local government positions (which include education), hotels and motels, and restaurants (full and limited service). State government offices and government enterprises round out the top eight categories.

Table Five: Economic Indicator Summary of Study Area

Indicator	Study Area Estimates
Gross Regional Product	\$1,141,601,238
Total Personal Income	\$1,097,447,000
Total Employment	10,441
Number of Industries	188
Land Area (Square Miles)	10,192
Population	17,987
Total Households	7,757

Table Six: Major Employment Summary of Study Area

Employment Type	Jobs Represented	Labor Income
Local government, non-education	1,461	\$123,293,900
Local government, education	554	\$43,512,010
Hotels and motels	476	\$18,687,640
Full-service restaurants	430	\$12, 677,200
Limited-service restaurants	336	\$10,776,140
State government, non-education	326	\$29,511,330
State government, education	258	\$26,856,620
Other local government enterprises	231	\$14,196,260

ECONOMIC IMPACT: VISITOR EXPENDITURES

Table Seven summarizes expenditure patterns inside Inyo County for climbers visiting the Bishop area. This table includes expenditures in lodging, travel, food, and retail. The results are summarized below.

Lodging: This study examined three expenditure types frequently used by climbers: hotel/motels, camping, and rental cabin/homes. On average, we estimated that climbers choosing to stay in hotels spent an average of \$83 per person on their trip, while those camping spent an average of \$21 on their trip. Climbers using rental cabins typically spend around \$71 during their trip.



Travel: Gasoline purchases are another valuable component of climbing visitor purchases. On average, climbers visiting Bishop spent \$52 inside Inyo County during their visit.

Food: Climbers are also frequent visitors to local restaurants as well as getting a quick bite at local gas stations. On average, climbers spent nearly \$7 per

trip on fast food (such as McDonalds or similar local restaurants without wait staff). Climbers spent an average of \$35 at dine in restaurants, which include the use of wait staff. Climbers spent around \$5 per trip on quick food from gas stations.

Retail: Retail is an often overlooked element of climber expenditures. While visiting Bishop, climbers spent an average of almost \$35 per trip on groceries at local grocery and farmer markets. Climbers spent around \$4 on general retail purchases such as visits to general stores. Recreation retail (such as stores selling climbing gear) are an important part of climbing communities, and in Bishop we find that climbers spend around \$17 per trip on climbing gear.

Recall that this study estimates Bishop's climber visitation at 88,890 climber visits per year. Based on interviews with Bishop/Inyo County residents who climb, the researchers estimated that 7.5 percent of these visits are from persons living inside Bishop or Inyo County. This results in an estimated 82,223 climber visits by persons living outside of Bishop and Inyo County. This figure is later used as part of the economic impact estimates.

Based on nights stayed, the researchers also estimate that 90% of visitors (74,000 visits) stay at least one night as a result of their visit. Based on survey responses, the researchers attribute 45% of these to camping use, 45% to hotel/motel use, and 10% to cabin or rental homes. This is also used later in the analysis in estimating economic impacts of climbing.

Table Seven: Economic Expenditure Patterns Inside Inyo County for Visitors to Bishop Climbing Area

Variable	N	Min	Max	Mean	SD
Hotel	41	7.5	210	\$83.54	58.40
Camping	44	2.5	70	\$20.88	14.92
Cabin/Rental	7	3	166	\$71.61	55.17
Gas	184	0	160	\$52.28	37.53
Fast Food	184	0	50	\$6.82	13.03
Dine In	179	0	133	\$35.21	31.81
Convenience Food	182	0	30	\$5.26	7.51
Groceries	179	0	150	\$34.92	35.90
Retail	185	0	50	\$4.66	11.59
Rec Retail	184	0	120	\$16.71	29.54



ECONOMIC IMPACT: FESTIVALS

Bishop is also home to two climbing-related annual events: the Fall Highball Craggin Classic and the Women’s Climbing Festival. The Fall Highball Craggin Classic (often simply called Highball) is a three day climbing event held each year around November. The 2019 Highball had 625 participants and featured climbing films, clinics, presentations, games, crag clean-ups, and more.

Based on the data collected, the research team estimates that participants living outside the study area spent an estimated \$57,543 in Inyo County as a result of participating in the Highball. This estimate comes from mean expenditures of \$76 for single day visits and an additional \$47 for overnight stays and (see Table Three) and visitation figures (500 persons, 400 of which are estimated to have stayed overnight) for participants outside the study area.

The research team had also arranged to study the International Women’s Climbing Festival. The Women’s Climbing Festival (WCF) is a three-day event held annually in Bishop, California. The event, scheduled March 20-22, was cancelled in 2020 due to the COVID-19 outbreak, which resulted in closure policies across the state. As the event could not be held in 2020, the researchers estimate the likely economic expenditures from the event using expenditure data from the Highball. Researchers crafted visitation WCF estimates based on pre-registration and the prior year’s event attendance. Had the event been held, the researchers estimate climbers would have spent an additional \$45,132 in Inyo County as a result.

The total expenditures between the two events equals \$102,675. This amount will be revisited later in the report in estimating the economic impacts of climbers.

Table Eight: Economic Expenditure Patterns from Highball and Estimate Expenditure Patterns for Women’s Climbing Festival

Variable	N	Min	Max	Mean	SD
Hotel	61	\$38.31	67.49	0	300
Camping	61	\$9.66	8.96	0	30
Cabin/Rental	~	~	~	~	~
Gas	97	\$35.40	29.82	0	105
Fast Food	86	\$2.63	5.47	0	20
Dine In	90	\$16.89	17.78	0	60
Convenience Food	90	\$2.44	3.82	0	10
Groceries	82	\$6.83	10.86	0	40
Retail	90	\$0.55	2.20	0	10
Rec Retail	85	\$11.97	18.90	0	75

~ not examined due to limited responses in this category

ECONOMIC IMPACT: TERMINOLOGY

In the coming pages, the research team employs IMPLAN, a leading economic impact estimator, to create economic impact estimates for what climbers contribute to Bishop/Inyo County's economy in a typical year. IMPLAN (or Impacts for Planning) uses input-output modeling to establish economic impact by exploring what happens when climbers spend money in specific sectors (such as food, lodging, and retail). The analysis follows approaches used in prior peer-reviewed research and Forest Service studies.

Several steps have already been taken to ensure the resulting economic impact results are conservative. Recall that cases with disproportionately long stays or large group sizes (greater than eight) have been excluded and instances of unusually high expenditures have been listed as missing data. **This process continues in modelling the resulting expenditures in IMPLAN.** For example, local purchasing percentages are set at 100% which is appropriate for this kind of study. This means that the researchers expect the sales and employment involved in this study are occurring inside Inyo County. Retail purchases are also margined to give a more nuanced perspective on their impact. This prevents overestimating how much of these purchases remain inside the analysis. Additionally, as retail expenditures can be used outside the area where they are purchased, only 1/5 of the average retail and recreation retail expenditures are actually included in the economic impact estimates.

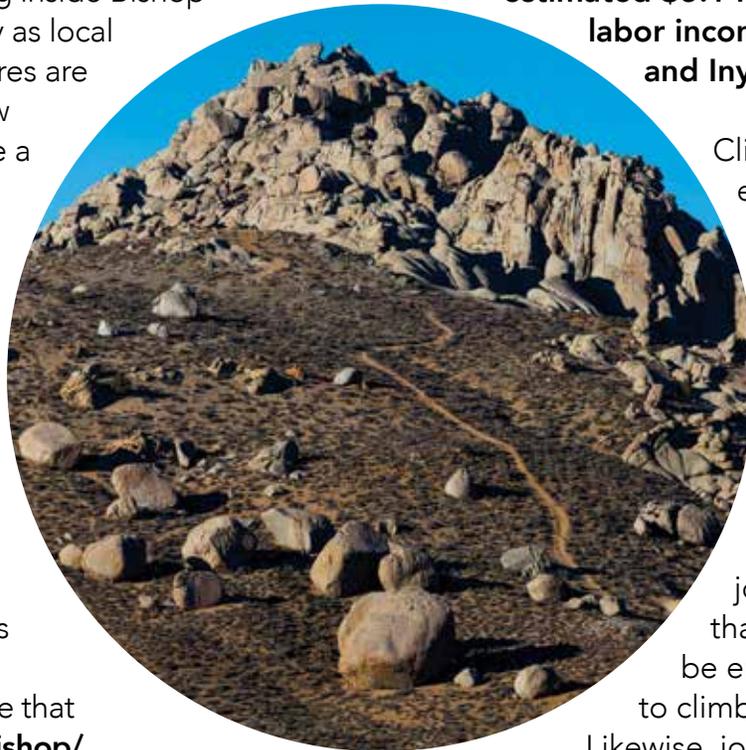
In the following paragraphs, the researchers use three terms to describe economic

impact: *direct effect*, *indirect effect*, and *induced effect*. **Direct effect** is the economic result created by the money spent as a result of visitors being present in the study area. This direct effect can generate further change in the local economy via indirect and induced effects. **Indirect effect** is economic activity created when local businesses purchase goods and services from other local industries as a result of the direct effect. For example, indirect effect could include a local restaurant buying vegetables to create future meals for sale. Finally, **induced effect** is the estimated expenditures by local households and employees as a result of the initial direct impact. For example, a local restaurant employee may choose to spend his/her wages at another local business, creating additional rounds of local economic activity.

These three terms can also be further divided by their *employment impact* in the region, *value added* to the local economy, and *output*. **Labor income impact** is measured by the estimated labor income (for employees and proprietors) created by the economic activity in the region. Labor income impact is a conservative estimate of economic impact and is the approach highlighted in this report. Value added indicates the true economic wealth added to the local economy after subtracting the cost of inputs needed to conduct everyday business. **Value added** includes expenditures in profit, employment compensation, and taxes. Finally, **output** is value added plus total revenues and sales from economic activity.

ECONOMIC IMPACT: ANNUAL ESTIMATES

The below estimates examine climber visits to Bishop/Inyo County by climbers living outside of Bishop and Inyo County and the impacts of their annual expenditures. Again note these results exclude persons who would be living inside Bishop and/or Inyo County as local resident expenditures are not considered new expenditures inside a study area as they already exist inside the economy. Recall mean expenditures for both per visit and festival expenditures are outlined in Tables Seven and Eight.



Based on the results of the study, the researchers estimate that **climbers visiting Bishop/Inyo County to climb spend \$15.6 million dollars annually in Bishop and Inyo County.** This estimate comes from \$4 million in lodging and \$11.5 million in food/gas/retail expenditures during a typical climbing season plus \$102,675 in festival expenditures.

Table Nine highlights what occurs when these funds were spent inside the study area. Focusing on labor income (the most conservative measure of economic impact of the three listed), **climbing generates an estimated \$5.1 million dollars in labor income inside Bishop and Inyo County.**

Climbing expenditures also support jobs in the study area. Note that IMPLAN reports jobs related to economic expenditures in portions of jobs rather than whole jobs. The idea is that few jobs would be entirely dedicated to climbers as clientele.

Likewise, jobs estimated can include a mix of part and full-time jobs, as well as proprietors. With these explanations in mind, the researchers estimate that climbing expenditures support around 127 jobs in Bishop and Inyo County.

Table Nine: Economic Impact Summary

Impact Type	Employment	Labor Income	Value Added	Output
Direct	107.7	\$4,278,402	\$6,169,534	\$9,703,997
Indirect	9.0	\$399,194	\$608,960	\$1,262,783
Induced	10.8	\$456,561	\$1,088,027	\$1,755,737
Total Effect	127.5	\$5,134,156	\$7,866,521	\$12,722,517

Table Ten explores what kinds of jobs are supported as a result of climbers' expenditures in Bishop and Inyo County. Recall again that these jobs represent portions of jobs, not necessarily whole jobs as explained on the previous page.

Climber expenditures in the study area notably support the presence of jobs in full-service jobs (including wait staff and kitchen work), hotels and motels (such

as cleaning, desk staff, and attendants), other accommodations (including campgrounds and rental cabin/houses), grocery stores, fast food restaurants, gas stations, and sporting goods stores.

Climber expenditures also produce taxes at the local, state, and federal level. In all, climbers estimated expenditures supported \$1,058,482 in local/state taxes and \$1,106,578 in Federal taxes.

Table Ten: Labor Income Generated

Employment Sector Type	Jobs Supported	Labor Income in Sector
Full-service restaurants	41.4	\$1,253,735
Hotels and motels	26.0	\$1,047,505
Other accommodations	16.8	\$734,195
Retail-food and beverage stores	11.2	\$492,819
Limited-service restaurants	7.3	\$239,732
Retail-gasoline stores	5.9	\$547,807
Retail-sporting goods	2.0	\$70,760

Table Eleven: Annual Estimated Taxation Generated

Tax Type	State/Local Amount	Federal Amount
Employee Compensation	\$19,738	\$436,893
Proprietor Income	\$0	\$61,839
Tax on Production and Imports	\$809,573	\$156,944
Households	\$210,511	\$418,227
Corporations	\$18,660	\$32,675
Totals	\$1,058,482	\$1,106,578

EXPENDITURE PATTERNS BEYOND STUDY AREA

Table Twelve summarizes expenditure patterns outside of Inyo County but still inside California. These include expenditures travelling to and from Bishop as a result of the trip. Note these expenditures are not modeled as economic impacts in this study as they occur outside the area being studied. Nonetheless, they are an important and relevant example of outdoor recreation expenditures related to climbing.

Lodging: This study finds that lodging for climbers is almost universally located inside Bishop. Climbers rarely reported staying outside of Inyo County as a result of their trip. This means that an important component of climbing expenditures is centered inside Inyo.

Travel: Gasoline is an important part of travelling from regional airports and surrounding regions to Bishop and typically represents the greatest expenditure for

climbers outside the area being studied. In this case, climbers spent an average of \$37 on gasoline as result of travelling to and from Bishop. Note these are also in addition to gasoline expenditures purchased in Inyo County as described in the Table Seven.

Food: Climbers spent fairly small amounts on food while travelling to Bishop. For example, climbers spent (on average) around \$7 on dine-in restaurants and around \$2 on fast food or gas station / convenience store food.

Retail: Retail purchases outside the specific area climbers are travelling are uncommon. In traveling to Bishop, climbers spent negligible amounts on general retail and recreation retail, but do sometimes stop for groceries, spending around \$12 in that category. This again notes that services are likely available inside Bishop or Inyo County in general that effectively suit these needs.

Table Twelve: Economic Expenditure Patterns Outside Inyo County but still in California

Variable	N	Min	Max	Mean	SD
Hotel	179	0	47.5	~\$0	3.56
Camping	183	0	40	\$1.38	5.83
Cabin/Rental	186	0	13	~\$0	1.04
Gas	190	0	500	\$37.17	75.50
Fast Food	187	0	30	\$1.74	5.34
Dine In	188	0	100	\$6.76	19.99
Convenience Food	188	0	30	\$2.09	5.40
Groceries	189	0	260	\$12.05	36.56
Retail	189	0	20	~\$0	1.77
Rec Retail	182	0	75	\$1.16	7.80

ESTIMATED IMPACTS OF COVID-19 ON VISITATION

Beginning in early March 2020, COVID-19 impacted access to public lands and shifted visitation patterns across the nation. COVID-19 and its subsequent pandemic has negatively impacted outdoor recreation economies across the nation by limiting access to outdoor recreation areas. These include policy-enforced public land closures (such as those by the National Park Service), state travel restrictions, city/county restrictions, self-imposed recreation closures on private land, and flight restrictions preventing travel into the United States. Additionally, outdoor recreation users may be adhering to personal decisions to self-quarantine and/or not travel during the pandemic, while others may be forced to stay home while recovering from COVID-19. In short, the impacts of the pandemic on outdoor recreation visitation are unclear and will be the subject of study often over the coming decade.

In the meantime, it is important to note how COVID-19 has impacted what a typical year of visitation would look like for climbing in Bishop and Inyo County. Starting on March 16 public lands inside Bishops climbing community closed due to the pandemic and would not reopen until June 15. Much of this closure occurred as Bishop's climbing season closed, meaning its impact was less extreme than it could have been in a different climate. Returning to the parking and visitor estimates used earlier in this study, the research team argues that this closure result in approximately 23,700 fewer visits, or around a quarter of annual visitation.

As recreation areas across the nation reopened over the summer, evidence

from Bishop's parking counts indicate that climbers were still hesitant to return. Compared to the previous year's data, 2020 data indicate visitation was off approximately 40% for the remainder of the year. This accounted for a reduction of an estimated 33,300 visits from mid June through the end of the year.

When totaled, the researchers estimate that the pandemic resulted in a reduction of approximately 57,000 visits. This decreased visitation by nearly 65% to approximately 32,000.

This change in visitation negatively impacts typical climber expenditures. Based on these pandemic visitation patterns, climbers spent an estimated \$2.6 million less in lodging and \$7.4 million less in daily expenses like gas and restaurant visits. **As a result, Bishop and Inyo County lost over \$10 million dollars in potential climber expenditures in 2020 as a result of the pandemic.**

Even as the pandemic continues to impact the lives and wellbeing of persons across the globe, the nation is experiencing increases in vaccination against COVID-19 and ongoing behaviors such as mask-wearing which will eventually result in a return to more normal visitation patterns. All signs indicate that climbers will return in full force to Bishop and Inyo County as the pandemic subsides. There is also anecdotal evidence across the nation that, due to the pandemic, more Americans than ever before are interested in outdoor recreation. As such, it is very likely climbing visitations to Bishop will increase in the coming years. Future research can help verify this.

A NOTE ABOUT LOCAL RESIDENT EXPENDITURES

Readers have likely noticed that local residents (here, persons living inside Bishop or Inyo County) were not included in this study. Why is this the case? First, let's consider who is being studied: visitors. Visitors represent persons who are new contributors to the economy and do not live in the area being studied. Anytime they enter the area to spend funds, they create expenditures

that were not previously there. Now consider local residents, who are persons already living in the area being studied. Their expenditures, whether it is a mortgage payment, a trip to a retail store, or purchasing gasoline, are already considered to be part of the economy. This means that they would not be new expenditures, and by definition would not be a form of economic impact.



Note that an estimated 7.5% of visits in this study are attributed solely to climbers living in the study area. It is useful to understand these often represent persons who have chosen to relocate specifically to Inyo County to be closer to climbing. Although an understudied phenomenon, anecdotal evidence from other studies from the lead authors (Dr. Maples and Dr. Bradley) collectively suggest that climbers are professionals who can often telecommute or relocate their jobs to other areas with some level of flexibility. These are also persons who are purchasing homes, starting businesses, and paying local, state, and federal taxes as part of being a resident in the area.

Local residents occasionally feel left out of economic impact studies, and the researchers recognize this concern. Note that these persons are creating economic expenditures that are merely categorized in a different way than visitors and economic impact studies are, in no way, attempting to minimize the importance of local resident expenditures.

CLIMBER DEMOGRAPHICS

The final studies in this report describe the demographic variables of climbing visitors to Bishop based on the responses to the study survey. Table Thirteen begins in describing the sex, age, and business owner status, and later tables explore race, education, and personal annual income demographics. It is important to note that these tables represent the persons responding to the survey and should not be extrapolated as being representative of all Bishop area climbers. In the case of sex and being a business owner,

the variables are dichotomously coded, which means a one equals the presence of the trait being studied a zero equals the absence. The mean results can be interpreted as percentages.

On average, 32% of respondents identified as being female. The average respondent age was 30. Note that persons under the age of 18 did not qualify to participate in this study. In all, 14% of respondents indicate they are business owners.

Table Thirteen: Climber Demographics

Variable	N	Min	Max	Mean	SD
Respondent Sex (1=Female, 0=Male)	193	0	1	0.32	0.468
Respondent age	196	20	63	30.28	6.487
Respondent is a business owner	190	0	1	0.14	0.350



Table Fourteen examines race among respondents. The majority (approximately 70%) of climbers surveyed identify as White. However, significant diversity exists in the racial and ethnic profile of climbers surveyed. For example, climbers identifying as Asian make up more than one-fifth (approximately 22%) of those surveyed. This notable portion of the population may be due to increased diversity in the Bishop, California region overall. In addition, climbers identifying as Native Hawaiian/Pacific Islander, Hispanic/Latino, and Middle Eastern/North African constitute more than ten percent (approximately 11%) of this climbing area’s visitor demographics.

Table Fifteen examines educational attainment among respondents. The majority of climbers surveyed reported having obtained a Bachelor’s degree (approximately 54%), which is on par with the educational attainment of climbers as a

whole. In addition, more than fifteen percent (approximately 16%) of climbers surveyed reported having obtained a Master’s degree, which could be reflective of increased leisure time associated with greater educational attainment. Surprisingly, none of the climbers surveyed reported having less than a high school diploma or GED. This could be attributed to the time, energy, and expenses associated with climbing.

Table Sixteen examines personal annual income among respondents. Approximately one-fifth of climbers surveyed reported an annual income greater than \$99,000 before taxes. Income was otherwise generally even across all brackets, with the greatest (approximately 28%) number reporting between \$40,000-\$74,999 in annual income. This is consistent with respondents’ education levels: people with college degrees typically earn annual incomes within this range.

Table Fourteen: Respondent Racial Background

Race Category	Percentage
American Indian/Native Alaskan	1.01
Asian	21.72
Black/African American	1.01
Native Hawaiian/Pacific Islander	3.03
Hispanic/Latino	6.06
Middle Eastern/North African	2.02
White	70.02
Another race not listed	2.53

Table Fifteen: Respondent Educational Attainment

Education Category	Percentage
Less than a high school degree or GED	0.00
High school degree/GED, no college	4.02
Some college, no degree	13.07
Completed Associate or technical degree	4.02
Completed Bachelor's degree	54.27
Completed Master's degree	15.58
Completed Doctorate or terminal academic degree	9.05

Table Sixteen: Respondent Personal Annual Income

Variable	Percentage
\$0-\$19,999	14.07
\$20,000-\$29,999	12.06
\$30,000-\$39,999	10.05
\$40,000-\$49,999	13.07
\$50,000-\$74,999	14.57
\$75,000-\$99,999	9.05
Greater than \$99,999	19.60

BISHOP REGION CLIMBING ECONOMIC CONTRIBUTION SURVEY

Thank you for agreeing to take this anonymous survey. In collaboration with the Bishop Area Climbers Coalition and Access Fund, Dr. James Maples and Dr. Michael Bradley are conducting a study examining your expenditures and experiences in the Bishop region. We value your participation.

First, we would like to know about you as a climber.

- 1 In approximately what year did you first go climbing? _____
- 2 In a typical year, how many days do you spend *bouldering* outdoors in Bishop? _____ days
- 3 In a typical year, how many days do you spend sport climbing outdoors in Bishop? _____ days
- 4 In a typical year, how many days do you spend climbing in a gym in any state? _____ days
- 5 Which of the following describe your main climbing interests? Check all that apply.
 Trad climbing Sport climbing Bouldering Alpine climbing Mixed Climbing
 Ice climbing Gym climbing Toprope only Other _____
- 6 Which of the following categories best describes your climbing skill level in sport climbing?
 I don't sport climb Toprope up to 5.8 5.9 5.10s
 5.11s 5.12s 5.13s 5.14s and above
- 7 Next, which of the following categories best describes your climbing skill level in bouldering?
 I don't boulder VB-V2 V3-V6 V7-V10 V11 and above
- 8 Have you signed the Access Fund Climbers' Pact? Yes No I'm not sure.
 Prefer not to respond
- 9 Are you a certified Leave No Trace trainer? Yes No I'm not sure. Prefer not to respond

Next, please tell us more about your current trip to the Bishop region.

- 10 What is your home zip code? (If you are not a US resident, list your home country) _____
- 11 How many nights do you plan on staying in the Bishop region on this trip? _____ nights
- 12 Excluding yourself, how many others are you paying for on this trip? _____ people

Now, please tell us about your planned expenditures while in the Bishop Region.

- 13 Please list your expenditures for the entire duration of your current trip to the Bishop Region. This includes all the money you have spent thus far as well as the money you *plan to spend* before your trip ends.

	Money spent in within 35 miles of Bishop	Money spent outside Bishop but still in CA
Overnight lodging in campgrounds	\$	\$
Overnight lodging in hotels/motels/lodges	\$	\$
Overnight lodging in rental cabins/Air B&Bs	\$	\$
Gasoline purchases	\$	\$
Food and drink at fast-food restaurants	\$	\$
Food and drink at dine-in restaurants/bars	\$	\$
Food and drink at gas stations	\$	\$
Food and drink at grocery stores	\$	\$
Non-food retail purchases (like K Mart)	\$	\$
Climbing gear and similar sport purchases	\$	\$

Please turn to the next (and last) page.

Next, we would like to know more about your minimal impact knowledge.

- 14 For this section, let's pretend you are on a typical climbing trip at Bishop in an area without bathrooms or established camping. With this in mind, please read each statement below and tell us if the statement is appropriate behavior for climbing in Bishop.

	Very inappropriate	Somewhat inappropriate	Neither appropriate nor inappropriate	Somewhat appropriate	Very appropriate
Carpooling to the climbing area whenever possible.					
Using only designated trails in and around climbing areas.					
Minimizing the amount of chalk I use.					
Taking small rocks home with me as mementos.					
Making a campfire at the climbing area to cook or keep warm.					
Putting my crash pad and/or gear on top of surrounding vegetation.					
Leaving tic marks to help climbers that are not in my group.					

- 15 In what other outdoor recreation activities will you engage while on your current trip? Check all that apply.
- | | | |
|--|--|--|
| <input type="checkbox"/> Day hiking | <input type="checkbox"/> Hunting | <input type="checkbox"/> Dispersed/primitive camping |
| <input type="checkbox"/> Backpacking/overnight hikes | <input type="checkbox"/> Fishing | <input type="checkbox"/> Paid campground camping |
| <input type="checkbox"/> Trail running | <input type="checkbox"/> Backcountry skiing/snowboarding | Others (write in below) |
| <input type="checkbox"/> Mountain biking | <input type="checkbox"/> Downhill skiing/snowboarding | _____ |
| <input type="checkbox"/> Cycling | <input type="checkbox"/> Paddling/SUP use | _____ |
| <input type="checkbox"/> Horseback riding | <input type="checkbox"/> OHV use | |

Finally, we'd like to know more about you and your household.

- 16 What is your sex? Female Male Another sex Do Not Record
- 17 What is your age? _____ Do Not Record
- 18 Which of the following best describes your race and/or ethnic background? (Check all that apply)
- American Indian Asian Black/African American Native Hawaiian/Pacific Islander
- Hispanic/Latino Middle Eastern/North African White Another race not listed Do not record
- 19 Which category best describes your *current* highest educational level completed?
- Less than high school degree or GED High school degree/ GED, no college
- Some college, no degree Completed Associate or technical degree Completed Bachelor's degree
- Completed Master's degree Completed Doctorate or terminal academic degree Do not record
- 20 Which category best describes your *personal* annual income before taxes?
- \$0-\$19,999 \$20,000-\$29,999 \$30,000-\$39,999 \$40,000-\$49,999 \$50,000-\$74,999
- \$75,000-\$99,999 Greater than \$99,999 Do not record
- 21 Do you own your own business? Yes No I'm not sure. Prefer not to respond
- 22 Would you like to join the BACC email list? If so, please fill out the following information.
Note your information will be kept separate from your responses.
Email: _____@_____.

Thank you for participating in this survey. Please return your completed survey to the data collector.

CONTACT INFORMATION FOR FUTURE STUDIES

EKU's Division of Regional Economic Assessment and Modeling (DREAM) offers highly valuable but affordably-priced services in your region, including:

Economic impact studies

Feasibility studies

Visitor experience studies

Marketing studies

Needs assessments

Recreation studies

Tourism studies

Cost-benefit analyses

Place-attachment studies

Motivation studies

Please contact DREAM Director, Dr. James Maples, with questions and ideas at james.maples@eku.edu

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