

Data Analysis Exam - Fall 2020

Data Instructions

Perform a data analysis using any methods that you think are appropriate for these data. You may not need to include all variables in your analysis, but your primary goal should be to explain patterns in the total burned area for fires in the Montesinho natural park. There are a variety of approaches that may be appropriate, and you are free to use more than one single method. Your submission should be a well-organized written report in which you specify what meaningful questions can be addressed from the data, explain why the methods you use are appropriate, and interpret the results of your analyses in the context of the application with appropriate descriptions of uncertainty. Your goal should be to use your broad knowledge of applied statistical methods to glean as much knowledge as you can from these data. Analyses that are statistically sound but provide only a superficial investigation of the data will not be sufficient for a passing grade.

Organization of Report

Submissions are limited to 7 single-spaced pages including all tables and figures, but excluding cover page, references, and appendices. Use 1 inch margins on paper size of 8.5 inches by 11 inches and a font size of 11 or 12 pts. All pages should be numbered. Submission should include the following clearly labeled sections.

0. **Cover Page:** Fill out and *separately* submit a signed cover page according to the included instructions.
1. **Title:** Please provide a meaningful title for your report.
2. **Executive Summary** (like an abstract): One paragraph that describes the problem, how it was addressed, results, and conclusions.
3. **Introduction:**
 - a. What are the questions?
 - b. What are the hypotheses?
 - c. What type of statistical analyses is used and why is it appropriate?
4. **Exploratory Data Analysis:** Describe the data in tables and graphs.
5. **Statistical Analyses:** These should be described to someone who is a quantitatively savvy scientist, not to your statistics professor. You need to justify the approach used and justify final models using the data.
 - a. Put computer outputs in an appendix
 - b. State hypothesis/hypotheses
 - c. Describe why the particular method was used
 - d. Provide test statistic and p-value (or confidence interval). Draw and interpret statistical inference.
 - e. Interpret results in plain language.
6. **Conclusions:**
 - a. Summarize results
 - b. Discuss limitations of the study
 - c. Discuss future studies
7. **References:** Cite relevant resources and include a bibliography.
8. **Appendix:** Include annotated computer code.

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Statistics Data Analysis Report

REPORT COVER PAGE

PLEASE READ BEFORE SUBMITTING YOUR REPORT.

DO NOT include your name or redID on ANY page of your report.

Number every report page, i.e., Page 1 of 10, page 2 of 10, etc.

Reports will NOT be graded without your signature on a separate cover page. Unsigned reports will be disqualified. Reports will be disqualified if the completed cover page is not submitted by the due date. Both reports and cover pages MUST be submitted through Blackboard by the deadline. No other form of submission will be accepted. Both the written report and cover page are due no later than **Tuesday, AUGUST 25, at 11:00am**. Exams may be submitted any day before the deadline, but not after the deadline. Plan ahead to submit your report by the deadline.

COMPLETE EACH LINE BELOW BEFORE YOU SUBMIT YOUR REPORT. You need to turn in the following filled page in addition to your report as a **separate** assignment on Blackboard.

STATISTICS MASTERS COMPREHENSIVE EXAM

DATA ANALYSIS REPORT

FALL 2020

I declare, under the penalty of perjury, that this report and data analysis was completed by me,
with no additional advice or help from any other person.

EXAM CODE# _____

DATE: _____

PRINT LAST NAME, first name _____

RedID# _____

SIGNATURE
