

Problem Chosen

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2025
MCM/ICM
Summary

Team Control Number

2505974

Title

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Here is bold text

$$\begin{aligned}a &= b + c \\ &= d + e\end{aligned}$$

Key Words: KeyWord1; KeyWord2

Contents

1 Introduction

1.1 Problem Background

Juneau, one of the most captivating tourist destinations in the United States, attracts visitors from around the world with its unique charm and natural beauty. Though only accessible by air and sea, the city's allure remains irresistible to travelers. However, while tourism brings significant economic benefits, it also presents risks due to the fragile environmental resources and the potential for irreversible degradation. With a population of just under 30,000 residents, Juneau is already grappling with the strain of millions of tourists each year. To mitigate these impacts, immediate measures are needed to ensure sustainable tourism and enhance both the safety and well-being of the local community.

Therefore, it is crucial to assess the true impact of tourism on the city. By adopting a science-based and rational approach, we can foster economic growth while preserving Juneau's biodiversity and ecological integrity. Policymakers and the tourist council will benefit from reliable methods to measure how best to manage visitor numbers and allocate public funds to support community programs.

In this paper, we will focus on key factors that influence sustainable tourism, examining their impact on key indicators. Additionally, based on our findings, we will provide long-term, generalized management recommendations that can be applied to other destinations facing overtourism challenges.



Figure 1: Dawn View of Juneau

1.2 Restatement of the Problem

Juneau is a famous tourism cities with many complexities and risks. Through in-depth analysis and research on the factors of the problem, combined with the specific constraints given, the restate of the objectives can be expressed as follows:

1. Objective1:

Develop a comprehensive model to evaluate and optimize tourism management strategies. This model will consider variables such as visitor caps, revenue allocation, environmental preservation, and community well-being. Additionally, it

will include a sensitivity analysis to prioritize factors most critical to sustainable tourism.

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0721072107210721

if $a > 0$, $b > 0$, then $a + b > 0$.

$\lim_{n \rightarrow \infty} x_n = x$.

(2) if $a > 0$, $b > 0$, then

$$a + b > 0.$$

we have a cure matrix:

$$A_{m \times n} = \begin{bmatrix} a_{11} & a_{12} & \cdots & a_{1n} \\ a_{21} & a_{22} & \cdots & a_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ a_{m1} & a_{m2} & \cdots & a_{mn} \end{bmatrix} = [a_{ij}]$$

1.3 Our work

1.

2 Assumptions

1.

3 Notation

Important notations used in this paper are listed in the table ??.

4 Problem 1



Figure 2: 114514

Table 1: Notations

Symbols	Description
I	Total tourism revenue of Juneau every year
V	The total number of tourists every year
s	Per capita spending by tourists
r	tax rate related to tourism
B	Additional revenue of tourism
E	Environmental status, as indicated by glacier area
μ	Environmental damage per dollar spent by tourists
δ	Self-healing coefficient of the environment
g	Environmental governance effect per dollar used by government
k	Proportion of additional revenue invested in glacier protection
G	Economic gain
a	Jobs created per tourist
S	Resident Satisfaction

Symbol	Description
I	Total tourism revenue of Juneau every year
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k	Proportion of additional revenue invested in glacier protection
G	economic gain
A	Economic income of local residents

Table 2: Symbol Descriptions

5 Problem 2

6 Problem 3

7 Results

8 Model Evaluation

8.1 Strengths

diangun

8.2 Weaknesses

1.

References

[1] Steven J. Leon. Linear Algebra with Applications. China Machine Press, 51 (2019).

Appendices

Here are simulation programmes we used in our model as follow.

(1) hello.cpp

```
1  #include <iostream>
2  int main() {
3      std::cout << "Hello, world!\n";
4      return 0;
5  }
```