**Visualization Project Part 3: A Plan for Evaluation**

**Target Question:** The target question we want to answer is: "How effectively do our visualizations convey the relationships between weather variables and summit success rates on Mount Rainier?"

**Participants:** We would recruit climbers, expedition leaders, and data analysts who are familiar with mountaineering and interested in understanding the impact of weather on climbing success.

**Measures:**

1. **Insight Depth:** We would assess the depth of insights gained from the visualizations by asking participants to identify patterns, trends, and correlations between weather variables and summit success rates. This measure would help us understand how effectively the visualizations facilitate understanding of the data.
2. **Use Cases:** Participants would be asked to identify specific scenarios or decision-making contexts in which the visualizations would be useful. This measure would help us evaluate the practical utility of the visualizations in real-world climbing scenarios.
3. **Accuracy:** We would compare participants' interpretations of the visualizations with expert analyses to evaluate the accuracy of their insights. This measure would help us assess the reliability of the visualizations in conveying meaningful information about weather-climbing relationships.

**Approach:** We would conduct a semi-structured usability study, combining elements of a journaling study and a formal experiment.

**Instantiation:**

1. **Participant Training:** Participants would receive brief training on the purpose of the visualizations and the key weather variables relevant to climbing success.
2. **Task Scenarios:** Participants would be presented with specific climbing scenarios (e.g., planning an ascent on a particular route, considering weather conditions for a specific time period) and asked to explore the visualizations to answer related questions.
3. **Journaling:** Participants would be asked to keep a journal of their observations, insights, and any difficulties encountered while interacting with the visualizations.
4. **Think-Aloud Protocol:** Participants would be encouraged to verbalize their thought processes while interpreting the visualizations, providing insights into their understanding and decision-making.
5. **Post-Task Interview:** After completing the tasks, participants would engage in a debriefing interview to discuss their overall impressions of the visualizations, any challenges faced, and suggestions for improvement.

**Success Criteria:** In addition to assessing the effectiveness of the visualizations, success will be measured by:

1. **Comprehensibility:** The majority of participants can interpret the visualizations accurately.
2. **Actionability:** Insights from the visualizations offer practical guidance for climbing decisions.
3. **Engagement:** Participants show active interest and exploration of the visualizations.
4. **Utility:** Visualizations are perceived as valuable tools for ongoing climbing planning and decision-making.