

Examples of how Michigan tourism businesses and destinations might use the Historical Weather Tool:

SCENARIO 1: The general manager of a ski resort in the north central region of the Upper Peninsula might wish to review the daily recorded *minimum temperature*, *solid precipitation*, and *snow depth* data for the days between December 20 and January 5 during the years 1990 through 2002. This data could be obtained by clicking "Marquette" on the map and selecting "range of days for multiple years." The output could help the general manager get a clearer understanding of the longitudinal snow quantity and snowmaking conditions that existed during those crucial days.

SCENARIO 2: The owner of a canoe livery located just outside of Grand Rapids might be interested in reviewing the *maximum temperature* and *heat index* data recorded during the summer months of the year 2001. This data could be obtained by clicking "Greenville" on the map and selecting "range of days in a year." The output would give the owner access to daily weather data that she could compare to her sales data for that same period. Being able to compare the weather conditions to her sales performance could help her make daily staffing decisions for upcoming seasons, depending on local forecasted weather conditions.

SCENARIO 3: A destination marketing organization in southeastern Michigan may be trying to determine which weekend to schedule an upcoming outdoors springtime festival, based on past weather conditions. The executive director is interested in reviewing the *precipitation* and *maximum temperature* data recorded during the months of April and May of the past twenty years. He could do so by clicking "Pontiac" on the map and selecting "range of days for multiple years." An analysis of the output might help him to determine which weekends are more likely to be sunny and warm, based on past conditions.

SCENARIO 4: A golf course superintendent in south central Michigan is planning to fertilize the grass on his course. He worries that there might be a rain shower on the day he decides to apply the fertilizer that could wash away thousands of dollars worth of fertilizer. Having accurate historical *precipitation* data from the past ten years could help him prevent this loss, by knowing when it has been most likely to rain in the past. The superintendent could access this data by clicking "Greenville" on the map and selecting "year to year comparison." The output could be used to help him determine which day is best for fertilizing.

SCENARIO 5: The park manager of the Sleeping Bear Dunes National Lakeshore in northwestern Michigan wants to predict how many people might visit the park during the Independence Day holiday (including July 3rd, 4th and 5th) this year, in order to prepare daily staffing decisions. The manager reviews the historical weather data during those days in the years 1985 through 2002 by clicking "Maple City" on the

map and selecting "range of days for multiple years." Based on a comparison of daily visitor counts and historical weather data, including *minimum temperature, maximum temperature, precipitation, heat index, and wind chill*, the manager should be able to predict an estimated number of visitors for those three days. He could then use this information to determine how many park staff employees should be scheduled to work during the upcoming Independence Day holiday period.

SCENARIO 6: The potential investors in an outdoor waterpark in the Lansing area want to know the anticipated duration of the operating season that they might expect for their new business. Knowing the daily *minimum temperature* and *precipitation* for the summer months in past years could help them establish the seasonal operating days of their waterpark. To access this information, they could click the nearest weather station on the map, "Greenville," and select "range of days for multiple years." An analysis of the output could also help them to forecast their potential profit.

SCENARIO 7: The International Bridge Authority in Sault Ste. Marie may be interested in comparing daily recorded vehicle counts to historical *solid precipitation* (i.e. - snow, sleet, ice) during the years of 2001 and 2002 to see if there is a correlation between those two variables during those years. This weather data required to make this assessment could be accessed by clicking "Sault Ste. Marie" on the map and selecting "year to year comparison."

SCENARIO 8: A married couple owning a snowmobile rental business in the western Upper Peninsula wants to learn as much as possible about the weather conditions that existed on January 1, 1998, their best sales day ever. They can access this data by clicking "Ironwood" on the map, selecting "single day," and requesting *maximum temperature, minimum temperature, precipitation, solid precipitation, snow depth, heat index, and wind chill* for that day.

SCENARIO 9: The owner of a restaurant with both a large outdoor deck and an indoor seating area, located near the Lake Michigan shore and next door to the city marina, wants to forecast how many customers she may anticipate serving during the summer. She thinks that one part of the picture is being able to correlate certain weather conditions with her past sales data. She is especially interested in obtaining daily *wind chill* data between June and August for the past ten years, since her target customers are boaters who take this weather condition into account when they make plans for boating. She can access this data by clicking "Hart" on the map and selecting "range of days for multiple years." Using this output, the restaurant owner can forecast how many customers might visit each day and, hence, can determine how many entree ingredients should be on hand for those days.

SCENARIO 10: The owner of a charter ice-fishing business in Michigan's thumb is noticing a change in the duration of his operating season and wants to review the daily *minimum temperatures* recorded during the winter months of the past forty years. To do so he could click "Bad Axe" on the map and select "range of days for multiple years." Knowing that sustained cold temperatures are required for proper ice formation in the Saginaw Bay, he will be able to use this data to review likely ice quality and its impact on his business during those years.

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