Central Park 2024 - Tableau Dashboard Reports

🔢Dashboard 1: Temperature Trends

Purpose: Visualize daily maximum (TMAX), minimum (TMIN), and average wet bulb temperature (AWBT) over time.

Key Insights:

- Track seasonal temperature variations.
- Identify heatwaves and cold spells.

Visual Type: Multi-line chart (dual-axis for TMAX and TMIN, separate for AWBT)

Metrics Used:

- TMAX (Max Temp)
- TMIN (Min Temp)
- AWBT (Avg Wet Bulb Temp)

Interactivity:

- Filter by month/season.
- Tooltip with exact values and date.

🆙Dashboard 2: Precipitation vs Snowfall

Purpose: Compare rainfall (PRCP) and snowfall (SNOW) throughout the year.

Key Insights:

- Track wet and snowy days.
- Identify transition periods from rain to snow.

Visual Type: Grouped bar chart

Metrics Used:

- PRCP (Precipitation)
- SNOW (Snowfall)

Interactivity:

- Filter by season/month.
- Tooltip for individual bar totals.

🚫Dashboard 3: Wind Rose Chart

Purpose: Visualize wind direction and speed distribution.

Key Insights:

- Understand dominant wind directions.
- Explore average wind speeds from 2-sec (WSF2) and 5-sec (WSF5) intervals.

Visual Type: Polar (Radar) Chart

Metrics Used:

- WDF2, WDF5 (Wind Direction)
- WSF2, WSF5 (Wind Speed)

Interactivity:

- Filter by date/month.

🔹 Dashboard 4: Humidity Trends

Purpose: Explore daily humidity patterns: max (RHMX), min (RHMN), and average (RHAV).

Key Insights:

- Highlight days with extreme humidity.
- Show seasonal variation.

Visual Type: Multi-line chart

Metrics Used:

- RHMX (Max Humidity)
- RHMN (Min Humidity)
- RHAV (Avg Humidity)

Dashboard 5: Discomfort Index Analysis

Purpose: Calculate and visualize discomfort index combining heat and humidity.

Key Insights:

- Identify high-risk heat stress days.

• Useful for public health alerts.

Formula Used:

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Discomfort Index = (TMAX / 10) + (0.33 * RHMX) - 0.70
```

Visual Type: Line chart with threshold reference line

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1 Dashboard 6: Snowfall vs Snow Depth

Purpose: Show relationship between new snowfall and snow accumulation (depth).

Key Insights:

• Visualize how snow builds over time.
• Identify heavy snowstorm periods.

Visual Type: Dual-axis bar/line chart

Metrics Used:

• SNOW (Snowfall)
• SNWD (Snow Depth)

🔸 Dashboard 7: Weather Type Frequency (WT01-WT08)

Purpose: Count occurrences of special weather types (fog, thunder, hail, etc.)

Key Insights:

• Frequency of extreme or unique weather events.

Visual Type: Horizontal bar chart

Metrics Used:

• WT01 to WT08 flags (0/1 values)

🚭Dashboard 8: Seasonal Heatmap or Calendar View

Purpose: Show temperature or precipitation per day on a calendar-style layout.

Key Insights:

- Visual patterns across months.
- Quickly identify heatwaves, wet spells.

Visual Type: Heatmap or calendar grid

Metrics Used:

- TMAX / PRCP with color gradient

🔄 Dashboard 9: Temperature vs Precipitation Correlation

Purpose: Scatter plot comparing TMAX with PRCP.

Key Insights:

- Identify correlation between heat and rain.
- Spot days with high temp & high rainfall.

Visual Type: Scatter Plot

Metrics Used:

- TMAX, PRCP (both corrected to proper units)

Interactivity:

- Highlight thunderstorms or snow days

🆚 Dashboard 10: Weather Summary KPIs

Purpose: High-level summary for decision-makers.

Key Insights:

- Instant overview of year's weather performance.

KPI Cards:

- Avg Temperature
- Total Precipitation
- Max Wind Gust
- Number of Snow Days

Visual Type: Text-based KPI tiles

Bonus:

- Icons for visuals (🔢 1 🆙
- Filters by month/season/year

End of Report