

Climograph

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Project home: <https://github.com/StevenBlack/climographs>

Introduction

The motivation for this repository is, given a location, create its climograph.

See: <https://en.wikipedia.org/wiki/Climograph>.

This Wolfram community forum question was very helpful: <https://community.wolfram.com/-groups/-/m/t/1599725>

In[200]:=

```
climograph[city_] := (  
  startDate = {1980, 1, 1};  
  endDate = {2022, 12, 31};  
  
  tempByMonth =  
    WeatherData[city, "MeanTemperature", {startDate, endDate, "Month"}];  
  tempGroupByMonth =  
    GroupBy[tempByMonth["DatePath"], DateValue[First[#], "MonthNameShort"] &];  
  tempMinMaxMean = {Min[Map[Last, #]], Max[Map[Last, #]], Mean[Map[Last, #]]} & /@  
    tempGroupByMonth;  
  
  ptemp = BoxWhiskerChart[  
    tempMinMaxMean,  
    Joined → True,  
    Frame → {{True, True}, {None, True}},  
    PlotTheme → "Detailed",  
    PlotRange → {-20, 30}  
  ];  
  
  precipByMonth = DeleteMissing[  
    WeatherData[city, "TotalPrecipitation", {startDate, endDate, "Month"}]];  
  precipGroupByMonth = GroupBy[  
    precipByMonth["DatePath"], DateValue[First[#], "MonthNameShort"] &];  
  precipMeanByMonth = Mean[Map[Last, #]] & /@ precipGroupByMonth;  
  precipMinMaxMean =  
    {Min[Map[Last, #]], Max[Map[Last, #]], Mean[Map[Last, #]]} & /@  
    precipGroupByMonth;  
  pprecip2 = BoxWhiskerChart[  
    precipMinMaxMean,  
    ChartLabels → Automatic,
```

```

Joined → True,
Frame → {{True, True}, {True, None}},
PlotTheme → "Detailed",
PlotRange → {0, 50}
];

Return[GraphicsColumn[
  {TextCell[city["Name"], "Subsection"],
   TextCell[
    ToString[startDate[[1]]] <> " - " <> ToString[endDate[[1]]], "Text"],
   GraphicsColumn[
    {ptemp, pprecip2},
    Frame → True,
    FrameStyle → LightGray,
    Background → White
   ]
  },
  Frame → True,
  FrameStyle → Gray,
  Background → LightYellow
]
];

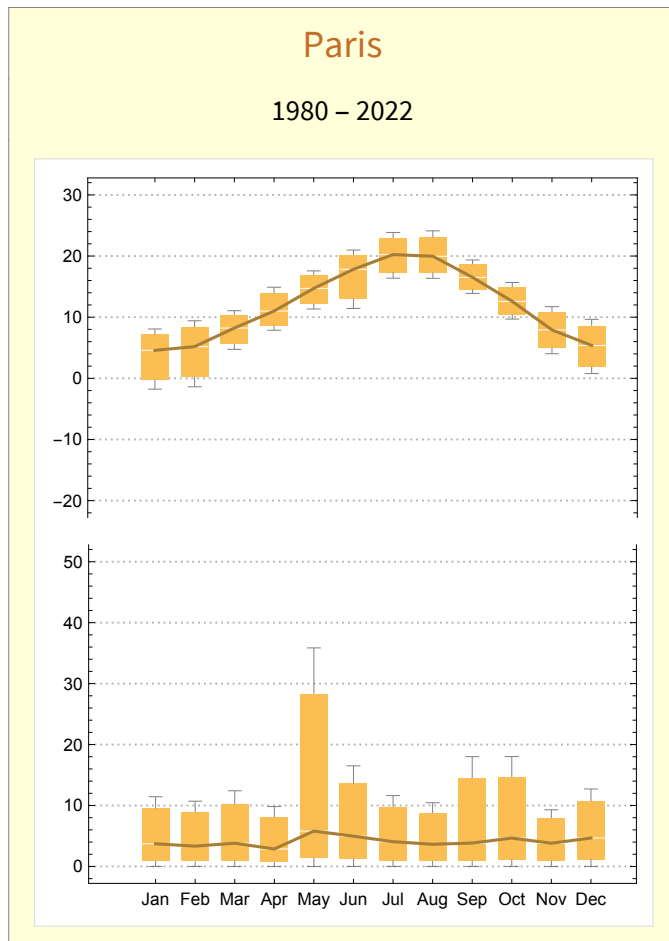
```

Examples

In[201]:=

```
climograph[Paris CITY]
```

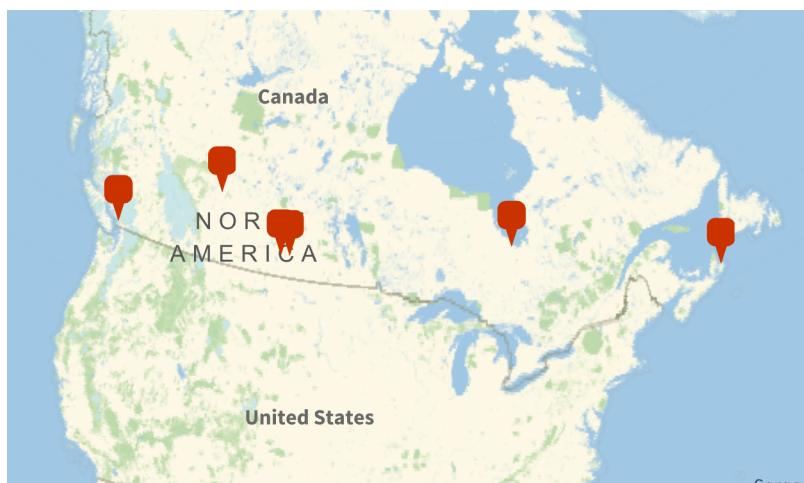
Out[201]=



In[202]:=

```
cities = { Vancouver CITY , Edmonton CITY ,
Moose Jaw CITY , Regina CITY , Moosonee CITY , Sydney CITY };
GeoGraphics[GeoMarker[cities]]
```

Out[203]=



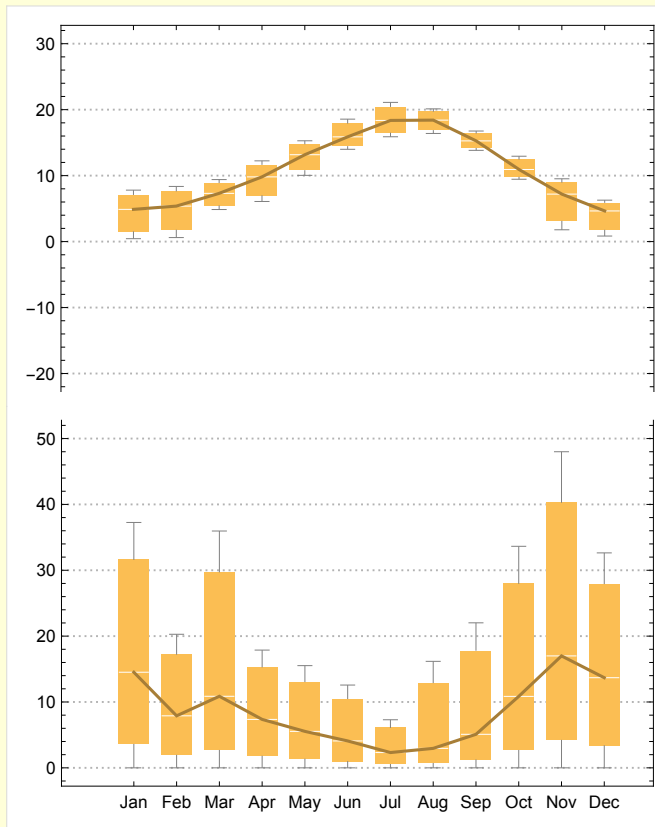
In[204]:=

```
GraphicsColumn[Map[climograph, cities]]
```

Out[204]=

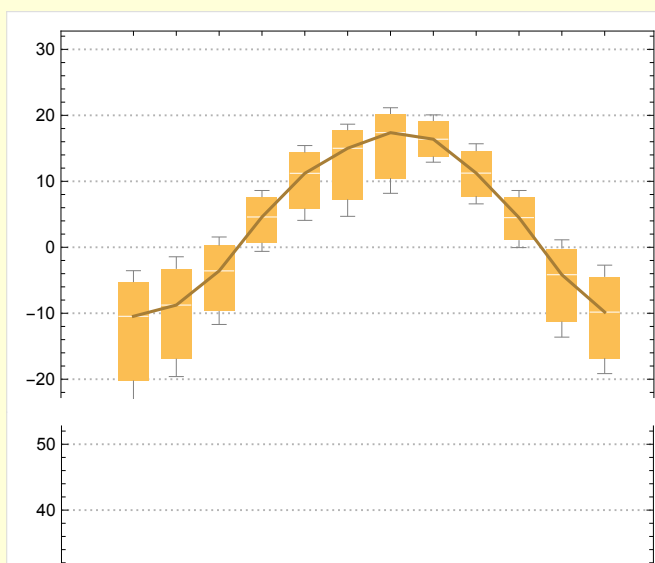
Vancouver

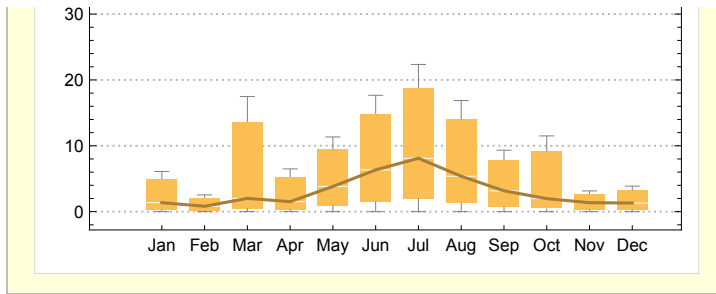
1980 – 2022



Edmonton

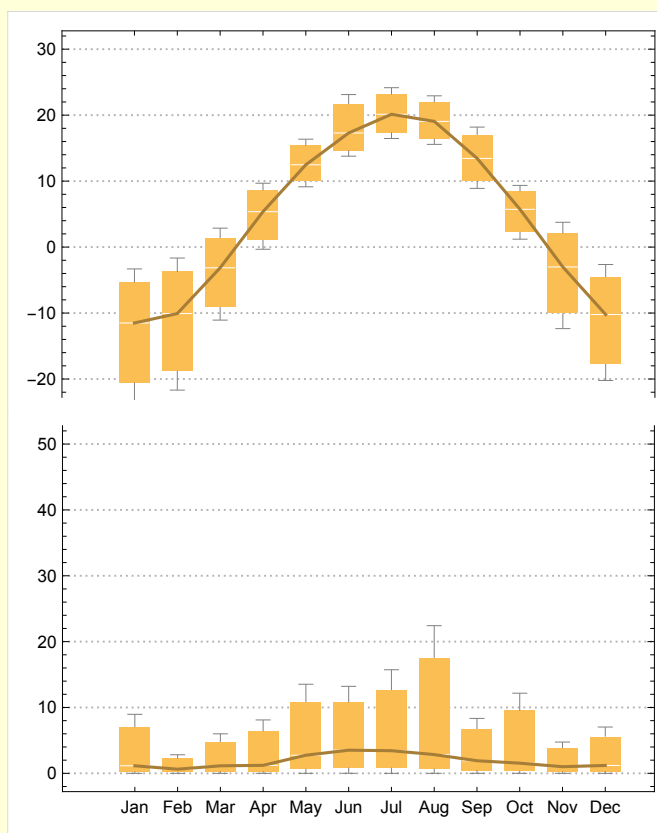
1980 – 2022





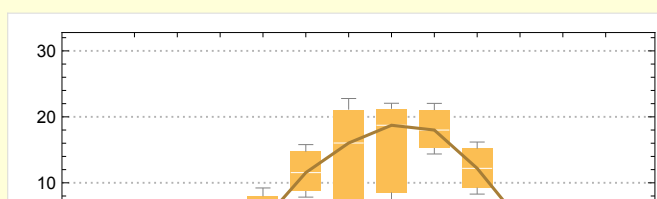
Moose Jaw

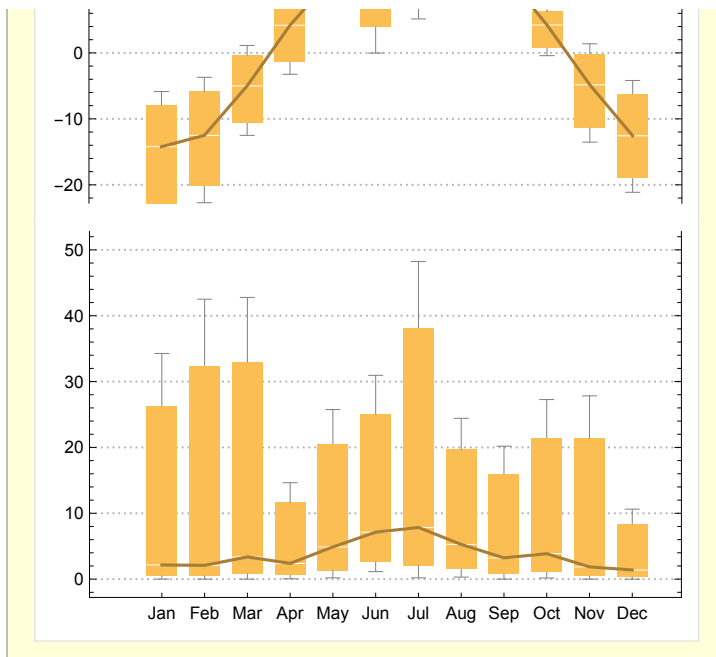
1980 – 2022



Regina

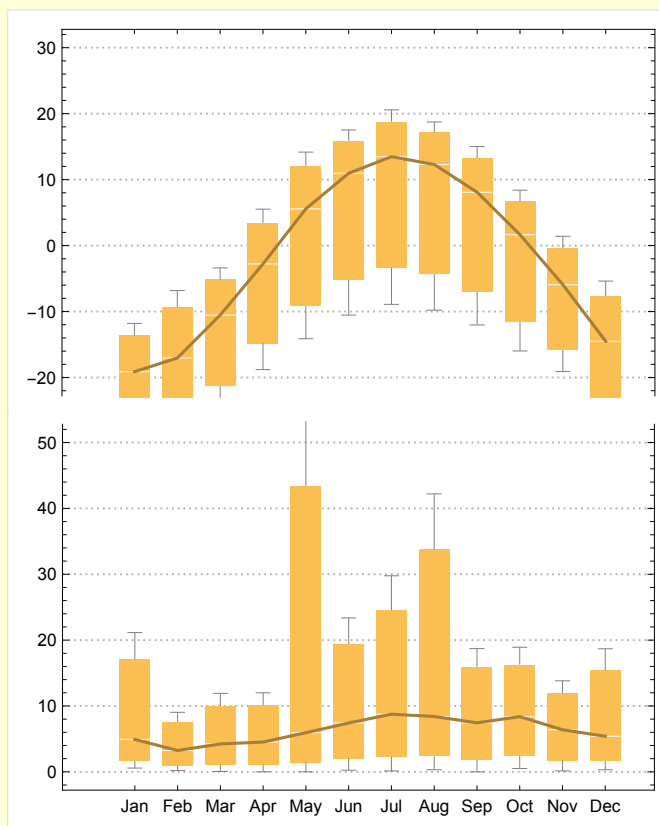
1980 – 2022





Moosonee

1980 – 2022



Sydney

1980 – 2022

