

weatherpy

March 7, 2019

1 WeatherPy

Analysis 1. As we're approaching the March equinox, you can see the max temperatures roughly around the equator line because the earth is close to being vertical to the sun. 2. For cloudiness we see a rows of cities with 0, 20, 40, 70, and 90 percent cloudiness. Further investigation would need to be done to determine if this is a weather phenomenon, or caused by the way cloudiness is reported.

3. The majority of cities have a humidity higher than 40% this could be because most cities are built close to water.

```
In [1]: # Dependencies and Setup
import matplotlib.pyplot as plt
import pandas as pd
import numpy as np
import requests
import time
import json
from datetime import datetime

# Import API key
from config import api_key

# Incorporated citipy to determine city based on latitude and longitude
from citipy import citipy

# Output File (CSV)
#output_data_file = "output_data/cities.csv"

# Range of latitudes and longitudes
lat_range = (-90, 90)
lng_range = (-180, 180)

In [2]: # List for holding lat_lngs and cities
lat_lngs = []
cities = []
idk_lat = []
idk_lng = []
```

```

# Create a set of random lat and lng combinations
lats = np.random.uniform(low=-90.000, high=90.000, size=1500)
lngs = np.random.uniform(low=-180.000, high=180.000, size=1500)
lat_lngs = zip(lats, lngs)

# Identify nearest city for each lat, lng combination
for lat_lng in lat_lngs:
    city = citipy.nearest_city(lat_lng[0], lat_lng[1]).city_name

    # If the city is unique, then add it to a our cities list
    if city not in cities:
        cities.append(city)
        idk_lat.append(lat_lng[0])
        idk_lng.append(lat_lng[1])

# Print the city count to confirm sufficient count
len(cities)

coords = pd.DataFrame(
    {'lats': idk_lat,
     'lngs': idk_lng,
     'City': cities
    })

```

```
In [3]: cities_name = coords["City"]
```

2 Weather stuff

```
In [4]: def weather_info(city):
```

```

    base_url = "http://api.openweathermap.org/data/2.5/weather?"
    q = city
    params = {

        'APPID': api_key,
        'q': q,
        'units': 'imperial',
    }

    try:
        out_json = requests.get(url= base_url, params=params).json()
        cloud = out_json['clouds']['all']
        country = out_json['sys']['country']
        date = out_json['dt']

```

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humidity = out_json['main']['humidity']
temp = out_json['main']['temp_max']
wind = out_json['wind']['speed']

return {
    'City': q,
    'Cloudiness': cloud,
    'Country': country,
    'Date': str(date),
    'Humidity': humidity,
    'Max Temp': temp,
    'Wind Speed': wind
}
except (KeyError, IndexError):
    print(f"    {city} not found. Skipping...")
    return {
        'City': q,
        'Cloudiness': np.nan,
        'Country': np.nan,
        'Date': np.nan,
        'Humidity': np.nan,
        'Max Temp': np.nan,
        'Wind Speed': np.nan
    }

```

```

In [5]: d = 1
        set_count = 0
        city_weather = []
        city_name = 0
        print(f"-----")
        for cities in range(len(cities_name)):
            set_count += 1
            weather = weather_info(cities_name[cities])
            city_weather.append(weather)

        try:
            print(f"Processing Record {set_count} of Set {d}:{cities_name[cities]}")
            if set_count == 50:
                d += 1
                set_count = 0
                city_name += 1
                print(f"-----")
        except (KeyError, IndexError):
            print(f"PANIC")
        print(f"-----")
        city_weather
        df = pd.DataFrame(city_weather)
        df.set_index('City')

```

```
df2 = pd.merge(df, coords, how="left", on=["City", "City"])
```

```
-----  
Processing Record 1 of Set 1:albany  
    zhanatas not found. Skipping...  
Processing Record 2 of Set 1:zhanatas  
Processing Record 3 of Set 1:cidreira  
Processing Record 4 of Set 1:kapaa  
Processing Record 5 of Set 1:piranhas  
Processing Record 6 of Set 1:santa fe  
Processing Record 7 of Set 1:hobart  
Processing Record 8 of Set 1:lorengau  
Processing Record 9 of Set 1:bredasdorp  
Processing Record 10 of Set 1:qaanaaq  
Processing Record 11 of Set 1:ushuaia  
Processing Record 12 of Set 1:hilo  
Processing Record 13 of Set 1:mayo  
Processing Record 14 of Set 1:punta arenas  
Processing Record 15 of Set 1:dubbo  
Processing Record 16 of Set 1:bilibino  
Processing Record 17 of Set 1:uige  
Processing Record 18 of Set 1:las palmas  
Processing Record 19 of Set 1:mataura  
Processing Record 20 of Set 1:severo-kurilsk  
Processing Record 21 of Set 1:elizabeth city  
Processing Record 22 of Set 1:bathsheba  
Processing Record 23 of Set 1:luderitz  
Processing Record 24 of Set 1:hermanus  
Processing Record 25 of Set 1:itarema  
Processing Record 26 of Set 1:maltahohe  
Processing Record 27 of Set 1:tasiilaq  
Processing Record 28 of Set 1:busselton  
Processing Record 29 of Set 1:tuktoyaktuk  
Processing Record 30 of Set 1:ostrovnoy  
Processing Record 31 of Set 1:guerrero negro  
Processing Record 32 of Set 1:mar del plata  
Processing Record 33 of Set 1:pisco  
Processing Record 34 of Set 1:port alfred  
Processing Record 35 of Set 1:avera  
Processing Record 36 of Set 1:havre-saint-pierre  
Processing Record 37 of Set 1:college  
Processing Record 38 of Set 1:ambunti  
Processing Record 39 of Set 1:geraldton  
Processing Record 40 of Set 1:shaunavon  
    barentsburg not found. Skipping...  
Processing Record 41 of Set 1:barentsburg  
    marcona not found. Skipping...  
Processing Record 42 of Set 1:marcona
```

Processing Record 43 of Set 1:new norfolk
 Processing Record 44 of Set 1:brownsville
 Processing Record 45 of Set 1:hirara
 kadykchan not found. Skipping...
 Processing Record 46 of Set 1:kadykchan
 taolanaro not found. Skipping...
 Processing Record 47 of Set 1:taolanaro
 Processing Record 48 of Set 1:mahebourg
 Processing Record 49 of Set 1:bethel
 Processing Record 50 of Set 1:east london

 Processing Record 1 of Set 2:kodiak
 Processing Record 2 of Set 2:vadnagar
 Processing Record 3 of Set 2:rikitea
 jurado not found. Skipping...
 Processing Record 4 of Set 2:jurado
 Processing Record 5 of Set 2:port hedland
 Processing Record 6 of Set 2:tuatapere
 illoqqortoormiut not found. Skipping...
 Processing Record 7 of Set 2:illoqqortoormiut
 Processing Record 8 of Set 2:den helder
 Processing Record 9 of Set 2:torbay
 turkistan not found. Skipping...
 Processing Record 10 of Set 2:turkistan
 Processing Record 11 of Set 2:puerto ayora
 tabiauea not found. Skipping...
 Processing Record 12 of Set 2:tabiauea
 Processing Record 13 of Set 2:hukuntsi
 Processing Record 14 of Set 2:san carlos
 nizhneyansk not found. Skipping...
 Processing Record 15 of Set 2:nizhneyansk
 Processing Record 16 of Set 2:burnie
 Processing Record 17 of Set 2:trinidad
 Processing Record 18 of Set 2:meulaboh
 Processing Record 19 of Set 2:fukuma
 Processing Record 20 of Set 2:cape town
 Processing Record 21 of Set 2:aleksandrov gay
 Processing Record 22 of Set 2:georgetown
 Processing Record 23 of Set 2:butaritari
 Processing Record 24 of Set 2:ecoporanga
 Processing Record 25 of Set 2:atuona
 Processing Record 26 of Set 2:boyuibe
 Processing Record 27 of Set 2:palmer
 Processing Record 28 of Set 2:bambous virieux
 Processing Record 29 of Set 2:srednekolymsk
 Processing Record 30 of Set 2:inhambane
 Processing Record 31 of Set 2:carnarvon
 Processing Record 32 of Set 2:santa cruz

Processing Record 33 of Set 2:bukama
 Processing Record 34 of Set 2:yarmouth
 Processing Record 35 of Set 2:umaria
 Processing Record 36 of Set 2:cherskiy
 Processing Record 37 of Set 2:chuy
 Processing Record 38 of Set 2:sitka
 Processing Record 39 of Set 2:matara
 Processing Record 40 of Set 2:karauli
 Processing Record 41 of Set 2:boo
 Processing Record 42 of Set 2:catuday
 Processing Record 43 of Set 2:luau
 Processing Record 44 of Set 2:port elizabeth
 Processing Record 45 of Set 2:lavrentiya
 Processing Record 46 of Set 2:sao joao da barra
 Processing Record 47 of Set 2:yellowknife
 Processing Record 48 of Set 2:barrow
 Processing Record 49 of Set 2:askarovo
 Processing Record 50 of Set 2:pangoa

 Processing Record 1 of Set 3:kruisfontein
 Processing Record 2 of Set 3:ketchikan
 Processing Record 3 of Set 3:berlevag
 samusu not found. Skipping...
 Processing Record 4 of Set 3:samusu
 Processing Record 5 of Set 3:namioka
 Processing Record 6 of Set 3:kawalu
 umzimvubu not found. Skipping...
 Processing Record 7 of Set 3:umzimvubu
 Processing Record 8 of Set 3:portland
 Processing Record 9 of Set 3:nikolskoye
 Processing Record 10 of Set 3:tabou
 Processing Record 11 of Set 3:caravelas
 Processing Record 12 of Set 3:hornepayne
 Processing Record 13 of Set 3:morant bay
 Processing Record 14 of Set 3:vallenar
 Processing Record 15 of Set 3:san carlos de bariloche
 Processing Record 16 of Set 3:kumluca
 Processing Record 17 of Set 3:nabire
 Processing Record 18 of Set 3:westport
 Processing Record 19 of Set 3:vaini
 amderma not found. Skipping...
 Processing Record 20 of Set 3:amderma
 Processing Record 21 of Set 3:faanui
 Processing Record 22 of Set 3:naze
 Processing Record 23 of Set 3:port macquarie
 Processing Record 24 of Set 3:murmashi
 Processing Record 25 of Set 3:saint-philippe
 Processing Record 26 of Set 3:thompson

Processing Record 27 of Set 3:ancud
Processing Record 28 of Set 3:alofi
Processing Record 29 of Set 3:nizwa
Processing Record 30 of Set 3:latung
Processing Record 31 of Set 3:lompoc
Processing Record 32 of Set 3:priekule
Processing Record 33 of Set 3:wangou
Processing Record 34 of Set 3:lagoa
Processing Record 35 of Set 3:tiksi
Processing Record 36 of Set 3:boyolangu
Processing Record 37 of Set 3:hami
Processing Record 38 of Set 3:kondinskoye
Processing Record 39 of Set 3:nizhnyaya omka
Processing Record 40 of Set 3:praia da vitoria
Processing Record 41 of Set 3:abnub
Processing Record 42 of Set 3:milas
Processing Record 43 of Set 3:port hardy
Processing Record 44 of Set 3:danshui
Processing Record 45 of Set 3:kungurtug
Processing Record 46 of Set 3:corinto
Processing Record 47 of Set 3:ribeira grande
 mys shmidta not found. Skipping...
Processing Record 48 of Set 3:mys shmidta
Processing Record 49 of Set 3:upernavik
Processing Record 50 of Set 3:longyearbyen

 sentyabrskiy not found. Skipping...
Processing Record 1 of Set 4:sentyabrskiy
Processing Record 2 of Set 4:robertson
Processing Record 3 of Set 4:buarcos
 belushya guba not found. Skipping...
Processing Record 4 of Set 4:belushya guba
 louisbourg not found. Skipping...
Processing Record 5 of Set 4:louisbourg
Processing Record 6 of Set 4:airai
Processing Record 7 of Set 4:bowen
Processing Record 8 of Set 4:rocha
Processing Record 9 of Set 4:sokolo
Processing Record 10 of Set 4:khatanga
Processing Record 11 of Set 4:codrington
 bengkulu not found. Skipping...
Processing Record 12 of Set 4:bengkulu
Processing Record 13 of Set 4:kahului
Processing Record 14 of Set 4:san quintin
Processing Record 15 of Set 4:turinsk
Processing Record 16 of Set 4:lima
Processing Record 17 of Set 4:tonstad
Processing Record 18 of Set 4:pangody

Processing Record 19 of Set 4:jamestown
 Processing Record 20 of Set 4:omigawa
 Processing Record 21 of Set 4:manta
 palasa not found. Skipping...
 Processing Record 22 of Set 4:palasa
 Processing Record 23 of Set 4:dikson
 Processing Record 24 of Set 4:provideniya
 korla not found. Skipping...
 Processing Record 25 of Set 4:korla
 Processing Record 26 of Set 4:beira
 Processing Record 27 of Set 4:puerto leguizamo
 Processing Record 28 of Set 4:boda
 Processing Record 29 of Set 4:varna
 Processing Record 30 of Set 4:swan hill
 Processing Record 31 of Set 4:ati
 Processing Record 32 of Set 4:avarua
 Processing Record 33 of Set 4:sao filipe
 Processing Record 34 of Set 4:narsaq
 Processing Record 35 of Set 4:boende
 Processing Record 36 of Set 4:buraydah
 Processing Record 37 of Set 4:jinchang
 Processing Record 38 of Set 4:saint-augustin
 cheuskiny not found. Skipping...
 Processing Record 39 of Set 4:cheuskiny
 Processing Record 40 of Set 4:lebu
 Processing Record 41 of Set 4:palora
 palabuhanratu not found. Skipping...
 Processing Record 42 of Set 4:palabuhanratu
 mocambique not found. Skipping...
 Processing Record 43 of Set 4:mocambique
 Processing Record 44 of Set 4:norman wells
 Processing Record 45 of Set 4:victoria
 Processing Record 46 of Set 4:atar
 krasnoselkup not found. Skipping...
 Processing Record 47 of Set 4:krasnoselkup
 Processing Record 48 of Set 4:novyy nekouz
 Processing Record 49 of Set 4:tateyama
 Processing Record 50 of Set 4:san matias

 Processing Record 1 of Set 5:kanniyakumari
 Processing Record 2 of Set 5:shebunino
 temaraia not found. Skipping...
 Processing Record 3 of Set 5:temaraia
 Processing Record 4 of Set 5:pevek
 Processing Record 5 of Set 5:hovd
 Processing Record 6 of Set 5:haradok
 Processing Record 7 of Set 5:puro
 Processing Record 8 of Set 5:los llanos de aridane

Processing Record 9 of Set 5:russell
Processing Record 10 of Set 5:rio claro
Processing Record 11 of Set 5:santiago del estero
Processing Record 12 of Set 5:yumen
Processing Record 13 of Set 5:liverpool
Processing Record 14 of Set 5:oktyabrskoye
Processing Record 15 of Set 5:baykit
Processing Record 16 of Set 5:cabo san lucas
Processing Record 17 of Set 5:ahipara
Processing Record 18 of Set 5:chokurdakh
Processing Record 19 of Set 5:vawkavysk
Processing Record 20 of Set 5:saldanha
Processing Record 21 of Set 5:baltasi
Processing Record 22 of Set 5:emerald

vaitupu not found. Skipping...

Processing Record 23 of Set 5:vaitupu
Processing Record 24 of Set 5:ayan
Processing Record 25 of Set 5:lugovoy
Processing Record 26 of Set 5:odienne
Processing Record 27 of Set 5:porto nacional
Processing Record 28 of Set 5:castro
Processing Record 29 of Set 5:jasper
Processing Record 30 of Set 5:batagay-alyta
Processing Record 31 of Set 5:brae
Processing Record 32 of Set 5:ilheus
Processing Record 33 of Set 5:margate
Processing Record 34 of Set 5:taft
Processing Record 35 of Set 5:cheremshan
Processing Record 36 of Set 5:sham churasi
Processing Record 37 of Set 5:rawson
Processing Record 38 of Set 5:chimore
Processing Record 39 of Set 5:adre
Processing Record 40 of Set 5:pacific grove
Processing Record 41 of Set 5:dingle
Processing Record 42 of Set 5:papetoai
Processing Record 43 of Set 5:dalvik
Processing Record 44 of Set 5:calama
Processing Record 45 of Set 5:henties bay
Processing Record 46 of Set 5:kaitangata
Processing Record 47 of Set 5:ucluelet
Processing Record 48 of Set 5:lafia
Processing Record 49 of Set 5:huntersville
Processing Record 50 of Set 5:sabha

Processing Record 1 of Set 6:baghmara
Processing Record 2 of Set 6:neustadt
meyungs not found. Skipping...
Processing Record 3 of Set 6:meyungs

Processing Record 4 of Set 6:saint george
Processing Record 5 of Set 6:hithadhoo
Processing Record 6 of Set 6:derbent
Processing Record 7 of Set 6:vila velha
Processing Record 8 of Set 6:buchanan
Processing Record 9 of Set 6:sangar
Processing Record 10 of Set 6:camacha
Processing Record 11 of Set 6:yulara
Processing Record 12 of Set 6:karpathos
Processing Record 13 of Set 6:sarangani
Processing Record 14 of Set 6:bela
Processing Record 15 of Set 6:pleasanton
Processing Record 16 of Set 6:wagar
Processing Record 17 of Set 6:salalah
Processing Record 18 of Set 6:vila franca do campo
Processing Record 19 of Set 6:ilulissat
Processing Record 20 of Set 6:hazorasp
Processing Record 21 of Set 6:gat
Processing Record 22 of Set 6:ponta do sol
 olafsvik not found. Skipping...
Processing Record 23 of Set 6:olafsvik
Processing Record 24 of Set 6:kudahuvadhoo
Processing Record 25 of Set 6:kiama
Processing Record 26 of Set 6:saint-pierre
Processing Record 27 of Set 6:beringovskiy
Processing Record 28 of Set 6:petropavlovsk-kamchatskiy
Processing Record 29 of Set 6:pathein
Processing Record 30 of Set 6:carballo
Processing Record 31 of Set 6:tiarei
Processing Record 32 of Set 6:aklavik
Processing Record 33 of Set 6:bagdarin
Processing Record 34 of Set 6:saint-georges
Processing Record 35 of Set 6:heihe
Processing Record 36 of Set 6:mount isa
Processing Record 37 of Set 6:santiago
 domoni not found. Skipping...
Processing Record 38 of Set 6:domoni
Processing Record 39 of Set 6:alekseyevsk
Processing Record 40 of Set 6:saskylakh
 cumaribo not found. Skipping...
Processing Record 41 of Set 6:cumaribo
Processing Record 42 of Set 6:hammerfest
Processing Record 43 of Set 6:dali
Processing Record 44 of Set 6:tonekabon
Processing Record 45 of Set 6:piopio
 tsihombe not found. Skipping...
Processing Record 46 of Set 6:tsihombe
Processing Record 47 of Set 6:talara

Processing Record 48 of Set 6:cervo
 Processing Record 49 of Set 6:trairi
 Processing Record 50 of Set 6:wucheng

 Processing Record 1 of Set 7:seoul
 Processing Record 2 of Set 7:axim
 Processing Record 3 of Set 7:muli
 Processing Record 4 of Set 7:kedrovyy
 Processing Record 5 of Set 7:caucaia
 Processing Record 6 of Set 7:kenai
 Processing Record 7 of Set 7:takoradi
 Processing Record 8 of Set 7:lucapa
 Processing Record 9 of Set 7:jacareacanga
 Processing Record 10 of Set 7:egvekinot
 Processing Record 11 of Set 7:san jose
 Processing Record 12 of Set 7:san onofre
 Processing Record 13 of Set 7:birao
 Processing Record 14 of Set 7:iqaluit
 yuzhno-yeniseyskiy not found. Skipping...
 Processing Record 15 of Set 7:yuzhno-yeniseyskiy
 Processing Record 16 of Set 7:hutang
 Processing Record 17 of Set 7:badiraguato
 Processing Record 18 of Set 7:marystown
 macaboboni not found. Skipping...
 Processing Record 19 of Set 7:macaboboni
 Processing Record 20 of Set 7:kampong chhnang
 Processing Record 21 of Set 7:opuwo
 Processing Record 22 of Set 7:zlobin
 Processing Record 23 of Set 7:warrington
 Processing Record 24 of Set 7:bluff
 attawapiskat not found. Skipping...
 Processing Record 25 of Set 7:attawapiskat
 Processing Record 26 of Set 7:katobu
 Processing Record 27 of Set 7:basco
 Processing Record 28 of Set 7:mezen
 Processing Record 29 of Set 7:havoysund
 Processing Record 30 of Set 7:thabazimbi
 Processing Record 31 of Set 7:bestobe
 Processing Record 32 of Set 7:berekum
 Processing Record 33 of Set 7:hasaki
 Processing Record 34 of Set 7:yepoon
 Processing Record 35 of Set 7:demir hisar
 qui nhon not found. Skipping...
 Processing Record 36 of Set 7:qui nhon
 Processing Record 37 of Set 7:port blair
 Processing Record 38 of Set 7:arraial do cabo
 Processing Record 39 of Set 7:tarko-sale
 Processing Record 40 of Set 7:ulladulla

Processing Record 41 of Set 7:richards bay
Processing Record 42 of Set 7:zaragoza
Processing Record 43 of Set 7:dukat
Processing Record 44 of Set 7:nicoya
Processing Record 45 of Set 7:huilong
Processing Record 46 of Set 7:yar-sale
Processing Record 47 of Set 7:bokhan
Processing Record 48 of Set 7:maumere
Processing Record 49 of Set 7:aliganj
Processing Record 50 of Set 7:ankenj

Processing Record 1 of Set 8:chicama
Processing Record 2 of Set 8:gimli
Processing Record 3 of Set 8:nouakchott
Processing Record 4 of Set 8:pahrump
Processing Record 5 of Set 8:fairbanks
Processing Record 6 of Set 8:krasnaya gora
Processing Record 7 of Set 8:neiafu
Processing Record 8 of Set 8:zhangjiakou
Processing Record 9 of Set 8:taltal
Processing Record 10 of Set 8:namatanai
Processing Record 11 of Set 8:hambantota
Processing Record 12 of Set 8:suluq
Processing Record 13 of Set 8:kavieng
Processing Record 14 of Set 8:ambilobe
Processing Record 15 of Set 8:tomatlan
Processing Record 16 of Set 8:port lincoln
Processing Record 17 of Set 8:hun
Processing Record 18 of Set 8:luwuk
Processing Record 19 of Set 8:bundibugyo
Processing Record 20 of Set 8:karratha
Processing Record 21 of Set 8:riachao do jacuipe
Processing Record 22 of Set 8:whitehorse
Processing Record 23 of Set 8:dalianwan
 barroualie not found. Skipping...
Processing Record 24 of Set 8:barroualie
Processing Record 25 of Set 8:joshimath
 samalaeulu not found. Skipping...
Processing Record 26 of Set 8:samalaeulu
Processing Record 27 of Set 8:hamilton
Processing Record 28 of Set 8:sorata
Processing Record 29 of Set 8:rincon
Processing Record 30 of Set 8:flinders
Processing Record 31 of Set 8:nome
Processing Record 32 of Set 8:morehead
Processing Record 33 of Set 8:fortuna
Processing Record 34 of Set 8:broken hill
Processing Record 35 of Set 8:ossora

Processing Record 36 of Set 8:kaeo
Processing Record 37 of Set 8:greenville
Processing Record 38 of Set 8:waipawa
Processing Record 39 of Set 8:canandaigua
Processing Record 40 of Set 8:husavik
Processing Record 41 of Set 8:san luis
Processing Record 42 of Set 8:quatre cocos
Processing Record 43 of Set 8:maracacume
Processing Record 44 of Set 8:lasa
Processing Record 45 of Set 8:clyde river
Processing Record 46 of Set 8:ulety
Processing Record 47 of Set 8:bustamante
Processing Record 48 of Set 8:leningradskiy
Processing Record 49 of Set 8:los alamos
Processing Record 50 of Set 8:pemba

Processing Record 1 of Set 9:port augusta
Processing Record 2 of Set 9:komsomolskiy
Processing Record 3 of Set 9:saint anthony
Processing Record 4 of Set 9:kushima
Processing Record 5 of Set 9:ako
Processing Record 6 of Set 9:goba
Processing Record 7 of Set 9:robertsport
 rungata not found. Skipping...
Processing Record 8 of Set 9:rungata
Processing Record 9 of Set 9:rochester
Processing Record 10 of Set 9:zaraza
Processing Record 11 of Set 9:jalu
Processing Record 12 of Set 9:leninskiy
Processing Record 13 of Set 9:biak
Processing Record 14 of Set 9:klaksvik
Processing Record 15 of Set 9:helena
Processing Record 16 of Set 9:umm lajj
Processing Record 17 of Set 9:san patricio
Processing Record 18 of Set 9:touros
Processing Record 19 of Set 9:belaya gora
Processing Record 20 of Set 9:esperance
Processing Record 21 of Set 9:sao joao del rei
Processing Record 22 of Set 9:xining
Processing Record 23 of Set 9:hualmay
Processing Record 24 of Set 9:peniche
Processing Record 25 of Set 9:alta floresta
Processing Record 26 of Set 9:langsa
Processing Record 27 of Set 9:port-gentil
Processing Record 28 of Set 9:port keats
Processing Record 29 of Set 9:norfolk
Processing Record 30 of Set 9:uptar
 grand river south east not found. Skipping...

Processing Record 31 of Set 9:grand river south east
 Processing Record 32 of Set 9:manokwari
 Processing Record 33 of Set 9:novovarshavka
 Processing Record 34 of Set 9:manbij
 Processing Record 35 of Set 9:portel
 Processing Record 36 of Set 9:smithers
 Processing Record 37 of Set 9:edgewater
 Processing Record 38 of Set 9:namibe
 Processing Record 39 of Set 9:jiuquan
 paytug not found. Skipping...
 Processing Record 40 of Set 9:paytug
 Processing Record 41 of Set 9:kieta
 Processing Record 42 of Set 9:ust-nera
 Processing Record 43 of Set 9:hulan ergi
 Processing Record 44 of Set 9:deputatskiy
 lhuntshi not found. Skipping...
 Processing Record 45 of Set 9:lhuntshi
 Processing Record 46 of Set 9:lingao
 Processing Record 47 of Set 9:monrovia
 Processing Record 48 of Set 9:iquique
 Processing Record 49 of Set 9:tutoia
 Processing Record 50 of Set 9:contamana

 ferai not found. Skipping...
 Processing Record 1 of Set 10:ferai
 tidore not found. Skipping...
 Processing Record 2 of Set 10:tidore
 Processing Record 3 of Set 10:cururupu
 Processing Record 4 of Set 10:dillon
 Processing Record 5 of Set 10:krutinka
 Processing Record 6 of Set 10:vardo
 Processing Record 7 of Set 10:mecca
 Processing Record 8 of Set 10:kokopo
 Processing Record 9 of Set 10:tessalit
 Processing Record 10 of Set 10:zharkovskiy
 Processing Record 11 of Set 10:ginir
 Processing Record 12 of Set 10:teguise
 Processing Record 13 of Set 10:baoying
 Processing Record 14 of Set 10:zhigansk
 Processing Record 15 of Set 10:kurilsk
 Processing Record 16 of Set 10:lodwar
 Processing Record 17 of Set 10:xai-xai
 Processing Record 18 of Set 10:ballina
 Processing Record 19 of Set 10:west wendover
 ngukurr not found. Skipping...
 Processing Record 20 of Set 10:ngukurr
 Processing Record 21 of Set 10:ambulu
 Processing Record 22 of Set 10:baiao

Processing Record 23 of Set 10:talnakh
Processing Record 24 of Set 10:itupeva
Processing Record 25 of Set 10:nikolsk
Processing Record 26 of Set 10:fomboni
Processing Record 27 of Set 10:tocopilla
Processing Record 28 of Set 10:bom jesus
Processing Record 29 of Set 10:thiers
Processing Record 30 of Set 10:tahe
Processing Record 31 of Set 10:glace bay
Processing Record 32 of Set 10:erenhot
Processing Record 33 of Set 10:constitucion
Processing Record 34 of Set 10:gazimurskiy zavod
Processing Record 35 of Set 10:nanning
Processing Record 36 of Set 10:varhaug
Processing Record 37 of Set 10:paamiut

lolua not found. Skipping...

Processing Record 38 of Set 10:lolua
Processing Record 39 of Set 10:banjarmasin
Processing Record 40 of Set 10:sayhat
Processing Record 41 of Set 10:khuzhir
Processing Record 42 of Set 10:toppenish
Processing Record 43 of Set 10:gubkinskiy
Processing Record 44 of Set 10:kaoma
Processing Record 45 of Set 10:price
Processing Record 46 of Set 10:the valley
Processing Record 47 of Set 10:cayenne
Processing Record 48 of Set 10:grootfontein
Processing Record 49 of Set 10:awjilah
Processing Record 50 of Set 10:roald

rawannawi not found. Skipping...

Processing Record 1 of Set 11:rawannawi
Processing Record 2 of Set 11:te anau
Processing Record 3 of Set 11:acobamba
sembe not found. Skipping...
Processing Record 4 of Set 11:sembe
Processing Record 5 of Set 11:oktyabrskiy
Processing Record 6 of Set 11:katsuura
tawzar not found. Skipping...
Processing Record 7 of Set 11:tawzar
Processing Record 8 of Set 11:baie-comeau
Processing Record 9 of Set 11:makakilo city
Processing Record 10 of Set 11:coahuayana
Processing Record 11 of Set 11:slidell

la uribe not found. Skipping...

Processing Record 12 of Set 11:la uribe
Processing Record 13 of Set 11:maoming
Processing Record 14 of Set 11:itaituba

Processing Record 15 of Set 11:presidente medici
 Processing Record 16 of Set 11:makaha
 Processing Record 17 of Set 11:minna
 Processing Record 18 of Set 11:angoram
 Processing Record 19 of Set 11:chivay
 Processing Record 20 of Set 11:areosa
 Processing Record 21 of Set 11:christchurch
 Processing Record 22 of Set 11:north bend
 Processing Record 23 of Set 11:tomakomai
 Processing Record 24 of Set 11:tiznit
 Processing Record 25 of Set 11:karaidel
 Processing Record 26 of Set 11:isla mujeres
 Processing Record 27 of Set 11:qasigiannguit
 Processing Record 28 of Set 11:shimoda
 Processing Record 29 of Set 11:shirokiy
 Processing Record 30 of Set 11:kalangala
 Processing Record 31 of Set 11:siox lookout
 Processing Record 32 of Set 11:maniitsoq
 Processing Record 33 of Set 11:marrakesh
 mentok not found. Skipping...
 Processing Record 34 of Set 11:mentok
 Processing Record 35 of Set 11:viedma
 Processing Record 36 of Set 11:mount gambier
 Processing Record 37 of Set 11:novoutkinsk
 Processing Record 38 of Set 11:loiza
 ksenyevka not found. Skipping...
 Processing Record 39 of Set 11:ksenyevka
 Processing Record 40 of Set 11:zeewolde
 hunza not found. Skipping...
 Processing Record 41 of Set 11:hunza
 Processing Record 42 of Set 11:vilhena
 Processing Record 43 of Set 11:kargat
 Processing Record 44 of Set 11:artigas
 Processing Record 45 of Set 11:racale
 Processing Record 46 of Set 11:vestmannaeyjar
 Processing Record 47 of Set 11:sobolevo
 Processing Record 48 of Set 11:aden
 warqla not found. Skipping...
 Processing Record 49 of Set 11:warqla
 Processing Record 50 of Set 11:omboue

 Processing Record 1 of Set 12:carandai
 Processing Record 2 of Set 12:sungaipenuh
 asau not found. Skipping...
 Processing Record 3 of Set 12:asau
 Processing Record 4 of Set 12:anadyr
 Processing Record 5 of Set 12:jurmala
 Processing Record 6 of Set 12:sabzevar

Processing Record 7 of Set 12:acapulco
Processing Record 8 of Set 12:beyneu
 maykain not found. Skipping...
Processing Record 9 of Set 12:maykain
 yellamanchili not found. Skipping...
Processing Record 10 of Set 12:yellamanchili
Processing Record 11 of Set 12:dunedin
Processing Record 12 of Set 12:san policarpo
Processing Record 13 of Set 12:kyabram
Processing Record 14 of Set 12:aksu
Processing Record 15 of Set 12:miri
Processing Record 16 of Set 12:yaring
Processing Record 17 of Set 12:isangel
 tumanny not found. Skipping...
Processing Record 18 of Set 12:tumanny
Processing Record 19 of Set 12:coihaique
Processing Record 20 of Set 12:hay river
Processing Record 21 of Set 12:camara de lobos
Processing Record 22 of Set 12:grindavik
Processing Record 23 of Set 12:turka
Processing Record 24 of Set 12:denpasar
Processing Record 25 of Set 12:kulhudhuffushi
Processing Record 26 of Set 12:soller
Processing Record 27 of Set 12:mata
Processing Record 28 of Set 12:markivka
Processing Record 29 of Set 12:kiruna
Processing Record 30 of Set 12:mabaruma
Processing Record 31 of Set 12:isparta
Processing Record 32 of Set 12:mahibadhoo
Processing Record 33 of Set 12:ixtapa
Processing Record 34 of Set 12:essex
Processing Record 35 of Set 12:amuntai
Processing Record 36 of Set 12:luleburgaz
Processing Record 37 of Set 12:lata
Processing Record 38 of Set 12:mocuba
Processing Record 39 of Set 12:shache
Processing Record 40 of Set 12:san cristobal
Processing Record 41 of Set 12:laguna
Processing Record 42 of Set 12:fort nelson
Processing Record 43 of Set 12:mukdahan
Processing Record 44 of Set 12:koutsouras
Processing Record 45 of Set 12:ipu
Processing Record 46 of Set 12:iberia
Processing Record 47 of Set 12:tura
Processing Record 48 of Set 12:trofors

```
In [6]: df2.dropna()
```

```
Out [6]:
```

	City	Cloudiness	Country	Date	Humidity	Max Temp	\
0	albany	75.0	US	1551980013	41.0	28.00	
2	cidreira	36.0	BR	1551980256	98.0	80.85	
3	kapaa	75.0	US	1551979804	64.0	71.60	
4	piranhas	44.0	BR	1551980256	69.0	86.39	
5	santa fe	68.0	AR	1551980186	55.0	95.00	
6	hobart	75.0	AU	1551980115	44.0	60.80	
7	lorenzau	64.0	PG	1551980257	100.0	82.20	
8	bredasdorp	88.0	ZA	1551979872	87.0	60.80	
9	qaanaaq	0.0	GL	1551980258	75.0	-4.07	
10	ushuaia	90.0	AR	1551979800	86.0	39.20	
11	hilo	75.0	US	1551980251	64.0	73.99	
12	mayo	75.0	CA	1551978000	74.0	-22.01	
13	punta arenas	40.0	CL	1551979999	50.0	51.80	
14	dubbo	0.0	AU	1551978000	72.0	62.60	
15	bilibino	68.0	RU	1551980259	77.0	-1.82	
16	uige	32.0	AO	1551980259	63.0	77.25	
17	las palmas	75.0	PE	1551978000	290.0	62.60	
18	mataura	64.0	NZ	1551980133	84.0	45.80	
19	severo-kurilsk	32.0	RU	1551980260	100.0	24.92	
20	elizabeth city	1.0	US	1551980151	41.0	46.40	
21	bathsheba	75.0	BB	1551978000	78.0	78.80	
22	luderitz	0.0	NA	1551980261	67.0	65.01	
23	hermanus	88.0	ZA	1551979872	96.0	59.00	
24	itarema	76.0	BR	1551980261	100.0	79.59	
25	maltahohe	0.0	NA	1551980262	14.0	84.77	
26	tasiilaq	40.0	GL	1551977400	48.0	17.60	
27	busselton	80.0	AU	1551980115	62.0	66.99	
28	tuktoyaktuk	90.0	CA	1551978000	92.0	14.00	
29	ostrovnoy	0.0	RU	1551980263	84.0	11.78	
30	guerrero negro	92.0	MX	1551980263	74.0	63.98	
..	
568	coihaique	20.0	CL	1551978000	46.0	57.20	
569	hay river	20.0	CA	1551978000	71.0	8.60	
570	camara de lobos	20.0	PT	1551980290	68.0	64.40	
571	grindavik	20.0	IS	1551980356	69.0	37.00	
572	turka	8.0	UA	1551980017	54.0	55.00	
573	denpasar	92.0	ID	1551980159	100.0	70.05	
574	kulhudhuffushi	88.0	MV	1551980400	100.0	82.43	
575	soller	40.0	DE	1551980392	61.0	51.01	
576	mata	75.0	CU	1551977460	53.0	77.00	
577	markivka	24.0	UA	1551980401	76.0	16.55	
578	kiruna	64.0	SE	1551979200	78.0	10.40	
579	mabaruma	64.0	GY	1551980402	70.0	83.91	
580	isparta	0.0	TR	1551979200	31.0	46.40	
581	mahibadhoo	20.0	MV	1551980403	100.0	83.33	

582	ixtapa	5.0	MX	1551980107	61.0	79.00
583	essex	75.0	US	1551980156	34.0	39.20
584	amuntai	64.0	ID	1551980403	95.0	73.20
585	luleburgaz	0.0	TR	1551979200	50.0	50.00
586	lata	0.0	IN	1551980404	92.0	30.09
587	mocuba	80.0	MZ	1551980404	97.0	72.17
588	shache	12.0	CN	1551980360	41.0	39.00
589	san cristobal	75.0	EC	1551979891	49.0	71.60
590	laguna	40.0	MX	1551977280	31.0	77.00
591	fort nelson	20.0	CA	1551978000	77.0	1.40
592	mukdahan	80.0	TH	1551980406	63.0	80.72
593	koutsouras	0.0	GR	1551980006	82.0	57.99
594	ipu	20.0	BR	1551980253	78.0	79.95
595	iberia	0.0	PE	1551980407	57.0	91.20
596	tura	0.0	IN	1551980407	68.0	56.60
597	trofors	40.0	NO	1551979200	63.0	28.40

	Wind Speed	lats	lngs
0	4.70	-81.754008	103.181055
2	3.71	-36.416926	-45.136258
3	20.80	35.194529	-171.869513
4	7.07	-16.473241	-51.517760
5	4.00	-31.458415	-60.516949
6	14.99	-59.365376	146.181445
7	6.17	15.308257	150.982859
8	5.82	-69.143618	22.770147
9	3.60	82.682387	-83.150988
10	23.04	-80.655821	-40.498924
11	8.05	2.109527	-152.599194
12	3.38	63.959788	-137.602640
13	29.97	-68.785804	-112.303602
14	13.87	-30.347609	145.192820
15	2.37	72.233608	166.872228
16	3.60	-6.616383	15.299885
17	3.36	29.187794	-14.981253
18	3.94	-48.326148	-152.712848
19	11.77	35.528303	167.738040
20	5.17	34.524214	-72.388075
21	19.46	13.546060	-54.125976
22	23.51	-31.643301	6.672428
23	1.01	-55.296432	6.434667
24	5.50	5.370259	-35.709164
25	12.88	-24.526120	16.405243
26	4.70	65.962845	-41.022436
27	12.66	-75.790022	85.311004
28	9.17	69.890456	-130.078520
29	19.48	69.512358	39.096546
30	4.83	26.111263	-116.572775

```

..      ...      ...      ...
568      9.17 -48.002335 -75.353937
569      3.36  60.246940 -115.406010
570      5.82  32.304537 -16.973492
571      6.93  52.082970 -25.682607
572     11.01  53.540659 108.078100
573      3.04 -12.542549 115.014751
574      1.70   7.313361  63.260043
575     11.41  40.042574   2.765320
576     14.99  20.861514 111.920240
577      8.86  49.126373  39.512164
578      4.05  66.235630  19.492264
579      7.74   7.926637 -60.512223
580      6.93  38.090238  30.615173
581      3.38   4.205901  63.467942
582      6.93   1.738382 -108.885998
583     11.41  42.298127 -82.776726
584      1.59 -2.309621 114.629777
585      1.12  41.500719  27.538446
586      2.71 -8.406792 168.865066
587      1.81 -18.069555  38.576661
588      1.99  37.720296  80.265195
589      9.17  -7.645123 -91.413738
590      3.49 -33.843641 -41.818903
591      8.05  59.359771 -125.842941
592      1.25  16.706336 104.529262
593      1.01  34.769098  25.931043
594      3.94  -4.401748 -40.955545
595      3.04 -10.412469 -70.540899
596      4.38  66.262251 105.055780
597      2.24  65.328345  14.220332

```

```
[541 rows x 9 columns]
```

```

In [7]: today = datetime.now()
        today = today.strftime("%Y-%m-%d %H:%M")

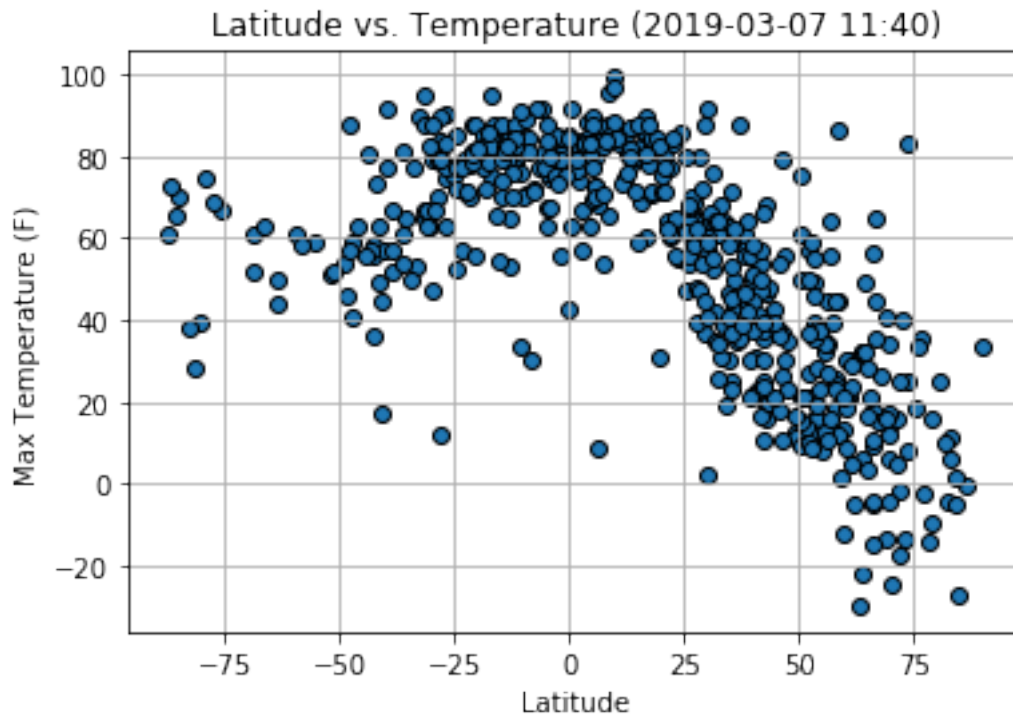
```

3 Latitude vs. Temperature Plot

```

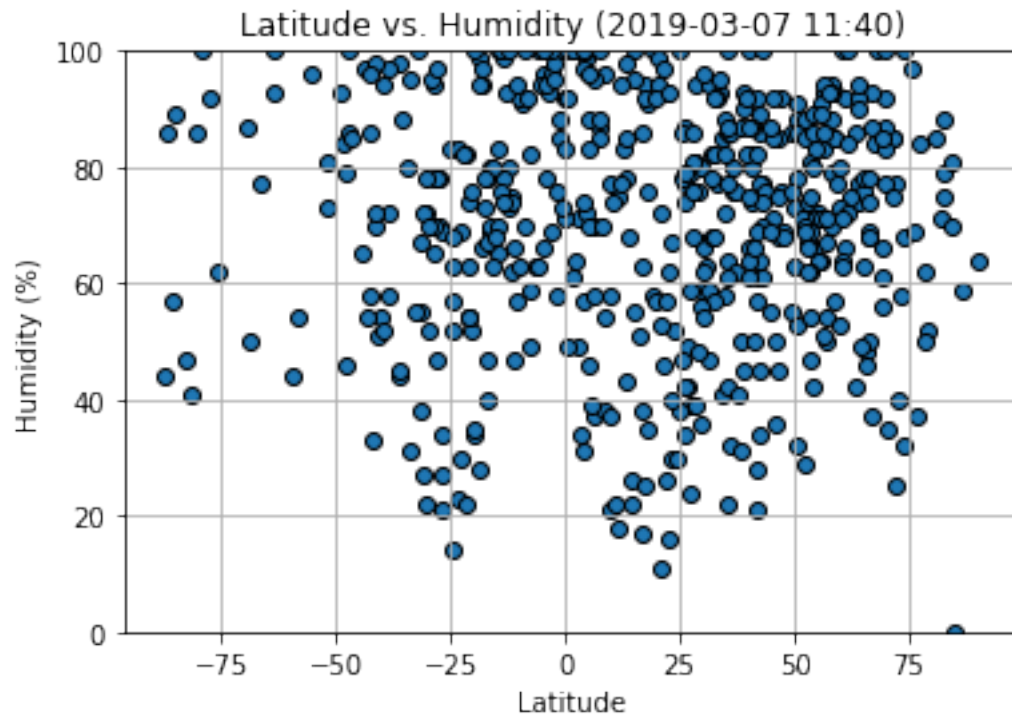
In [18]: plt.scatter(x=df2['lats'], y=df2['Max Temp'], edgecolor='black')
         plt.title(f"Latitude vs. Temperature ({today})")
         plt.xlabel("Latitude")
         plt.ylabel("Max Temperature (F)")
         plt.grid(True)
         plt.savefig("lat_temp.png")
         plt.show()

```



4 Latitude vs. Humidity Plot

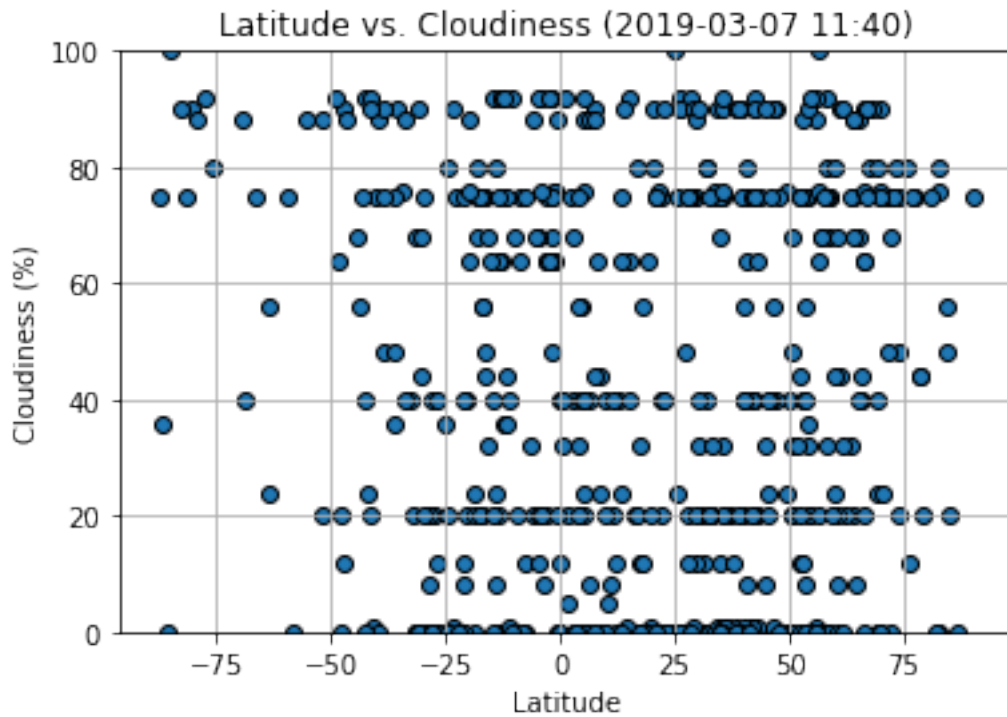
```
In [15]: plt.scatter(x=df2['lats'], y=df2['Humidity'], edgecolor='black')
plt.ylim(0,100)
plt.title(f"Latitude vs. Humidity ({today})")
plt.xlabel("Latitude")
plt.ylabel("Humidity (%)")
plt.grid(True)
plt.savefig("lat_humidity.png")
plt.show()
```



```
In [ ]: DataFrame.std()
```

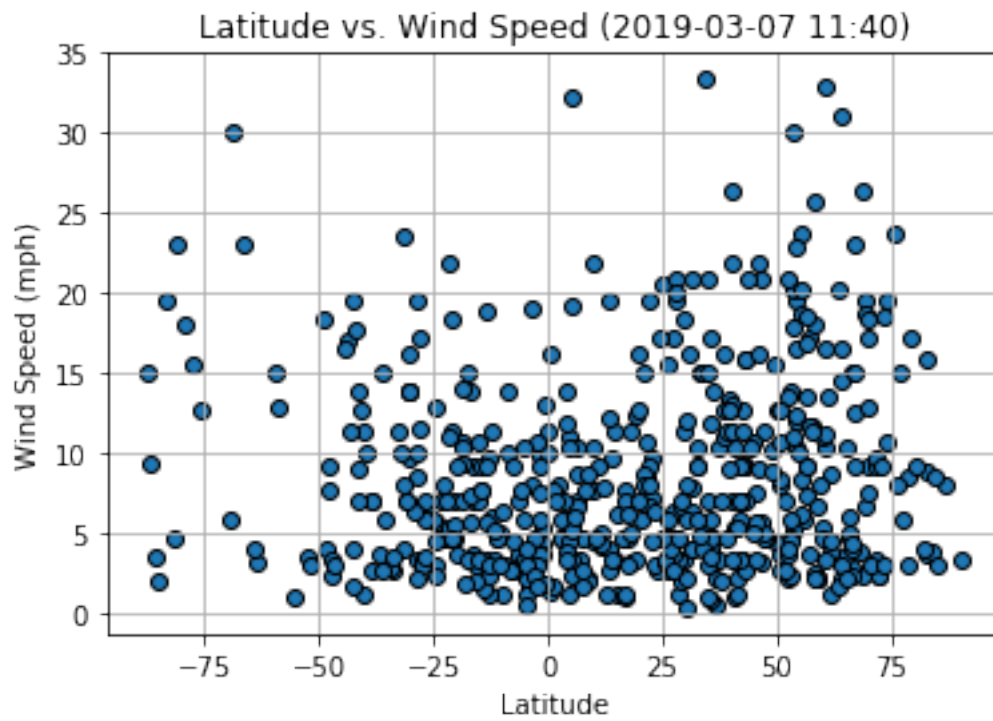
5 Latitude vs. Cloudiness Plot

```
In [16]: plt.scatter(x=df2['lats'], y=df2['Cloudiness'], edgecolor='black')
plt.title(f"Latitude vs. Cloudiness ({today})")
plt.ylim(0,100)
plt.xlabel("Latitude")
plt.ylabel("Cloudiness (%)")
plt.grid(True)
plt.savefig("lat_cloudiness.png")
plt.show()
```



6 Latitude vs. Wind Speed Plot

```
In [17]: plt.scatter(x=df2['lats'], y=df2['Wind Speed'], edgecolor='black')
plt.title(f"Latitude vs. Wind Speed ({today})")
plt.xlabel("Latitude")
plt.ylabel("Wind Speed (mph)")
plt.grid(True)
plt.savefig("lat_windspeed.png")
plt.show()
```



```
In [12]: df2.to_csv(r'output_file.csv')
```