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2185 lines (2184 sloc) 421 KB

# WeatherPy

## Note

- Instructions have been included for each segment. You do not have to follow them exactly, but they are included to help you think through the steps.

```
In [2]: # Dependencies and Setup
import matplotlib.pyplot as plt
import pandas as pd
import numpy as np
import requests
import time

# Import API key
from config import weather_key

# Incorporated citipy to determine city based on Latitude and Longitude
# Installed citipy by - !pip install citipy
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)
```

## Generate Cities List

```
In [3]: # List for holding Lat_Lngs and cities
lat_lngs = []
cities = []

# 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 our cities list
    if city not in cities:
        cities.append(city)

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

Out[3]: 631

The above code was provided in the template. It generates a list of cities.

## Perform API Calls

- Perform a weather check on each city using a series of successive API calls.
- Include a print log of each city as it's being processed (with the city number and city name).

```
In [4]: # Save config information.
url = "http://api.openweathermap.org/data/2.5/weather?"

#Select units of Farenheit
units = "imperial"

# Build partial query URL
query_url = f"{url}appid={weather_key}&units={units}&q="
```

```
In [5]: city_name = [] # response['name']
lng=[] # response['coord.lon']
lat=[] # response['coord.lat']
time_zone = [] # response['timezone']
temp=[] # response['main.temp']
humidity=[] # response['main.humidity']
cloudiness=[] # response['clouds.all']
wind_speed=[] # response['wind.speed']

print(f"Beginning Data Retrieval \n-----")
for city in cities:
    try:
        response = requests.get(query_url + city).json()
        city_name.append(response['name'])
        lng.append(response['coord']['lon'])
        lat.append(response['coord']['lat'])
        time_zone.append(response['timezone'])
        temp.append(response['main']['temp'])
        humidity.append(response['main']['humidity'])
        cloudiness.append(response['clouds']['all'])
        wind_speed.append(response['wind']['speed'])
        print(f"Processing Record {cities.index(city)} | {city}")
    except KeyError:
        print('Key Error')
    except ConnectionError:
        print('ConnectionError')
    time.sleep(1)
```

```
Beginning Data Retrieval
-----
Processing Record 0 | chokurdakh
Key Error
Processing Record 2 | castro
Processing Record 3 | codrington
Processing Record 4 | inhambane
Processing Record 5 | qaanaaq
Key Error
Processing Record 7 | altay
Processing Record 8 | chenzhou
Processing Record 9 | dikson
Processing Record 10 | rikitea
Processing Record 11 | acapulco
Processing Record 12 | mar del plata
Processing Record 13 | lata
Processing Record 14 | boma
Key Error
Processing Record 16 | abu samrah
Processing Record 17 | jamestown
Processing Record 18 | bluff
Processing Record 19 | bansang
Processing Record 20 | hilo
Processing Record 21 | sao miguel do araguaia
Processing Record 22 | conselheiro pena
Processing Record 23 | butaritari
Processing Record 24 | hohhot
Processing Record 25 | pisco
Processing Record 26 | chicama
Processing Record 27 | laguna
Processing Record 28 | taikang
Processing Record 29 | kapaa
Processing Record 30 | vaini
Processing Record 31 | hobart
Processing Record 32 | whitehorse
Processing Record 33 | azle
Processing Record 34 | ushuaia
Processing Record 35 | mataura
Processing Record 36 | albany
Processing Record 37 | kodiak
Processing Record 38 | mosquera
Processing Record 39 | hasaki
Processing Record 40 | turukhansk
Processing Record 41 | punta arenas
Processing Record 42 | cape town
Processing Record 43 | puerto ayora
Processing Record 44 | iqaluit
Processing Record 45 | taldan
Processing Record 46 | arraial do cabo
Processing Record 47 | campo verde
Processing Record 48 | chapais
```

```
Processing Record 49 | moyale
Processing Record 50 | komsomolskiy
Processing Record 51 | namwala
Processing Record 52 | pevek
Processing Record 53 | valle de allende
Processing Record 54 | vagur
Processing Record 55 | ostrovnoy
Processing Record 56 | hermanus
Processing Record 57 | boralday
Processing Record 58 | barrow
Processing Record 59 | uray
Key Error
Processing Record 61 | yumen
Processing Record 62 | yellowknife
Processing Record 63 | mazamari
Processing Record 64 | nikolskoye
Processing Record 65 | sivaki
Processing Record 66 | maxhutte-haidhof
Processing Record 67 | ham
Processing Record 68 | lompoc
Processing Record 69 | east london
Processing Record 70 | madang
Key Error
Processing Record 72 | daru
Processing Record 73 | smithers
Processing Record 74 | srednekolymsk
Processing Record 75 | mbandaka
Processing Record 76 | tixsi
Processing Record 77 | turayf
Processing Record 78 | adrar
Processing Record 79 | valera
Processing Record 80 | ribeira grande
Processing Record 81 | tuktoyaktuk
Processing Record 82 | tasiilaq
Key Error
Processing Record 84 | westport
Processing Record 85 | thompson
Processing Record 86 | prieska
Processing Record 87 | talnakh
Processing Record 88 | kutum
Processing Record 89 | georgetown
Processing Record 90 | esperance
Key Error
Processing Record 92 | cockburn town
Processing Record 93 | kedrovyy
Processing Record 94 | nanortalik
Processing Record 95 | ola
Processing Record 96 | marystown
Processing Record 97 | muros
Processing Record 98 | lichuan
Processing Record 99 | norrkoping
Processing Record 100 | bredasdorp
Processing Record 101 | suez
Processing Record 102 | marawi
Processing Record 103 | tautira
Processing Record 104 | onega
Processing Record 105 | waddan
Processing Record 106 | college
Processing Record 107 | illulissat
Processing Record 108 | saint-philippe
Processing Record 109 | vostok
Processing Record 110 | collierville
Processing Record 111 | karpathos
Key Error
Processing Record 113 | boa vista
Processing Record 114 | ruteng
Processing Record 115 | kinablangan
Processing Record 116 | victoria
Processing Record 117 | pinhao
Processing Record 118 | morondava
Key Error
Processing Record 120 | fethiye
Processing Record 121 | norman wells
Processing Record 122 | goundam
Processing Record 123 | saldanha
Processing Record 124 | formosa
Processing Record 125 | kurilsk
Processing Record 126 | faanui
Processing Record 127 | ketchikan
```

```
Processing Record 128 | busselton
Processing Record 129 | rio gallegos
Processing Record 130 | port alfred
Processing Record 131 | shimanovsk
Processing Record 132 | parkes
Processing Record 133 | new norfolk
Processing Record 134 | sioux lookout
Processing Record 135 | turan
Key Error
Processing Record 137 | bratsk
Key Error
Key Error
Processing Record 140 | nome
Processing Record 141 | hithadhoo
Processing Record 142 | wanning
Processing Record 143 | zhigansk
Processing Record 144 | port lincoln
Processing Record 145 | avarua
Processing Record 146 | manzanillo
Processing Record 147 | atuona
Processing Record 148 | dangriga
Processing Record 149 | baliton
Processing Record 150 | cherskiy
Key Error
Processing Record 152 | dongfeng
Processing Record 153 | taltal
Processing Record 154 | luderitz
Processing Record 155 | tezu
Processing Record 156 | boende
Key Error
Processing Record 158 | yaring
Key Error
Key Error
Processing Record 161 | porto novo
Processing Record 162 | rorvik
Processing Record 163 | tanete
Processing Record 164 | ilek
Processing Record 165 | bathsheba
Processing Record 166 | zabol
Processing Record 167 | mahebourg
Processing Record 168 | port elizabeth
Processing Record 169 | nyzhni sirohozy
Processing Record 170 | mount gambier
Key Error
Processing Record 172 | sungaipenuh
Processing Record 173 | severo-kurilsk
Processing Record 174 | lebu
Processing Record 175 | mao
Processing Record 176 | portland
Processing Record 177 | klaksvik
Key Error
Processing Record 179 | torbay
Key Error
Processing Record 181 | homer
Processing Record 182 | sarangani
Processing Record 183 | bambous virieux
Processing Record 184 | buchanan
Processing Record 185 | nizwa
Processing Record 186 | kintampo
Processing Record 187 | aberdeen
Processing Record 188 | rocha
Processing Record 189 | airai
Processing Record 190 | belaya gora
Processing Record 191 | praia da vitoria
Processing Record 192 | vila velha
Processing Record 193 | polunochnoye
Processing Record 194 | alyangula
Processing Record 195 | comodoro rivadavia
Processing Record 196 | kavieng
Processing Record 197 | ponta do sol
Processing Record 198 | broome
Processing Record 199 | kindersley
Processing Record 200 | keetmanshoop
Processing Record 201 | souillac
Processing Record 202 | longyearbyen
Key Error
Processing Record 204 | puerto el triunfo
Processing Record 205 | clyde river
Processing Record 206 | deputatskiv
```

```
Processing Record 207 | kaitangata
Processing Record 208 | sorland
Processing Record 209 | maceio
Processing Record 210 | matay
Processing Record 211 | nikolayevsk-na-amure
Processing Record 212 | erdemli
Processing Record 213 | leh
Processing Record 214 | bull savanna
Processing Record 215 | kamenka
Key Error
Processing Record 217 | yulara
Processing Record 218 | khatanga
Processing Record 219 | luanda
Processing Record 220 | bauchi
Processing Record 221 | finnsnes
Processing Record 222 | sogne
Key Error
Processing Record 224 | katsuura
Key Error
Processing Record 226 | tessalit
Processing Record 227 | shimoda
Processing Record 228 | ukiah
Key Error
Key Error
Key Error
Processing Record 232 | peace river
Processing Record 233 | sundsvall
Processing Record 234 | kudahuvadhoo
Processing Record 235 | viedma
Key Error
Processing Record 237 | isabela
Processing Record 238 | santander
Key Error
Processing Record 240 | jacareacanga
Processing Record 241 | mehamn
Processing Record 242 | abashiri
Processing Record 243 | kjellerup
Processing Record 244 | shitanjing
Processing Record 245 | beringovskiy
Processing Record 246 | cidreira
Processing Record 247 | el calvario
Key Error
Processing Record 249 | porto walter
Processing Record 250 | trincomalee
Processing Record 251 | nha trang
Key Error
Processing Record 253 | north bend
Processing Record 254 | saskylakh
Processing Record 255 | lavrentiya
Key Error
Processing Record 257 | touros
Processing Record 258 | lingao
Processing Record 259 | alofi
Processing Record 260 | saint john
Processing Record 261 | nieuw amsterdam
Key Error
Processing Record 263 | koppa
Processing Record 264 | makakilo city
Key Error
Processing Record 266 | port macquarie
Processing Record 267 | krasnaya gora
Processing Record 268 | illapel
Processing Record 269 | roma
Processing Record 270 | monrovia
Processing Record 271 | petropavlovsk-kamchatskiy
Processing Record 272 | padang
Processing Record 273 | kenai
Processing Record 274 | izhma
Processing Record 275 | fairbanks
Processing Record 276 | imperial beach
Processing Record 277 | luyang
Processing Record 278 | aykhal
Processing Record 279 | dingle
Processing Record 280 | sandwich
Key Error
Processing Record 282 | coihaique
Processing Record 283 | alibag
Processing Record 284 | conceicao do araguaia
Processing Record 285 | huihanqia
```

```
processing Record 285 | uuaque
Processing Record 286 | mahon
Processing Record 287 | sherbakul
Processing Record 288 | mareeba
Processing Record 289 | verkhnyaya inta
Processing Record 290 | san patricio
Processing Record 291 | alice springs
Processing Record 292 | ranong
Processing Record 293 | saint george
Processing Record 294 | itarema
Key Error
Processing Record 296 | carlisle
Key Error
Processing Record 298 | mpanda
Processing Record 299 | necochea
Processing Record 300 | estevan
Key Error
Processing Record 302 | saint-joseph
Processing Record 303 | aklavik
Processing Record 304 | savonlinna
Key Error
Processing Record 306 | waipawa
Processing Record 307 | ures
Processing Record 308 | kodinsk
Processing Record 309 | la ronge
Processing Record 310 | rumes
Processing Record 311 | quesnel
Processing Record 312 | geraldton
Processing Record 313 | denpasar
Processing Record 314 | takhatgarh
Processing Record 315 | sibolga
Processing Record 316 | terrace bay
Processing Record 317 | celestun
Processing Record 318 | manado
Processing Record 319 | launceston
Processing Record 320 | constitucion
Processing Record 321 | isangel
Processing Record 322 | cabo san lucas
Processing Record 323 | jasper
Processing Record 324 | tilichiki
Processing Record 325 | sitka
Processing Record 326 | upernavik
Processing Record 327 | carnarvon
Processing Record 328 | qianan
Processing Record 329 | anadyr
Processing Record 330 | cururupu
Processing Record 331 | sao filipe
Processing Record 332 | arani
Key Error
Processing Record 334 | louis trichardt
Key Error
Processing Record 336 | bethel
Processing Record 337 | sinnamary
Processing Record 338 | caconda
Processing Record 339 | pierre
Processing Record 340 | lorengau
Processing Record 341 | angoche
Key Error
Processing Record 343 | cayenne
Processing Record 344 | nishihara
Processing Record 345 | faya
Key Error
Processing Record 347 | santa maria
Processing Record 348 | salalah
Processing Record 349 | vestmannaeyjar
Processing Record 350 | huarmey
Processing Record 351 | pachino
Processing Record 352 | ndungu
Processing Record 353 | provideniya
Processing Record 354 | meulaboh
Processing Record 355 | abhar
Processing Record 356 | luwero
Processing Record 357 | san cristobal
Processing Record 358 | sangmelima
Key Error
Processing Record 360 | ashqelon
Processing Record 361 | romanovskaya
Processing Record 362 | makarov
Key Error
Processing Record 364 | westmannaeyjar
```

```
Processing Record 364 | vestmanna
Processing Record 365 | aguimes
Processing Record 366 | menongue
Key Error
Processing Record 368 | paamiut
Key Error
Processing Record 370 | imeni babushkina
Processing Record 371 | grindavik
Processing Record 372 | strezhevoy
Key Error
Processing Record 374 | borgar
Processing Record 375 | kiunga
Processing Record 376 | gari
Processing Record 377 | quatre cocos
Processing Record 378 | amarwara
Processing Record 379 | buckeye
Processing Record 380 | mbanza-ngungu
Processing Record 381 | haines junction
Processing Record 382 | rockland
Processing Record 383 | sampit
Processing Record 384 | qandala
Processing Record 385 | okhotsk
Processing Record 386 | kedougou
Processing Record 387 | kitimat
Processing Record 388 | pemberton
Processing Record 389 | gizo
Processing Record 390 | la seyne-sur-mer
Processing Record 391 | chuy
Processing Record 392 | batagay
Processing Record 393 | gopalpur
Processing Record 394 | orangemund
Processing Record 395 | hlinsko
Processing Record 396 | dhana
Processing Record 397 | los andes
Processing Record 398 | tuatapere
Processing Record 399 | terrace
Processing Record 400 | alaca
Processing Record 401 | vao
Key Error
Processing Record 403 | tual
Processing Record 404 | kargat
Processing Record 405 | east hemet
Processing Record 406 | luena
Processing Record 407 | mineros
Processing Record 408 | port blair
Processing Record 409 | richards bay
Processing Record 410 | kulhudhuffushi
Processing Record 411 | sao joao da barra
Processing Record 412 | puerto suarez
Processing Record 413 | guayaramerin
Processing Record 414 | gatton
Processing Record 415 | half moon bay
Processing Record 416 | karla
Processing Record 417 | warrington
Processing Record 418 | itaituba
Processing Record 419 | rio grande
Processing Record 420 | labuhan
Processing Record 421 | eureka
Processing Record 422 | tura
Processing Record 423 | mandera
Processing Record 424 | dauphin
Processing Record 425 | wattegama
Processing Record 426 | broken hill
Processing Record 427 | columbus
Processing Record 428 | mount isa
Processing Record 429 | santo andre
Processing Record 430 | aswan
Processing Record 431 | coruripe
Processing Record 432 | szczecin
Key Error
Processing Record 434 | ylivieska
Processing Record 435 | poum
Processing Record 436 | marzuq
Key Error
Processing Record 438 | jalu
Key Error
Processing Record 440 | sangar
Processing Record 441 | biltine
Processing Record 442 | careiro da varzea
```

```
Processing Record 443 | aldan
Processing Record 444 | caravelas
Processing Record 445 | peniche
Processing Record 446 | worland
Processing Record 447 | opovo
Processing Record 448 | truth or consequences
Processing Record 449 | guerrero negro
Processing Record 450 | suntar
Processing Record 451 | requena
Processing Record 452 | ayorou
Processing Record 453 | harstad
Processing Record 454 | trairi
Processing Record 455 | sept-iles
Key Error
Processing Record 457 | tortoli
Processing Record 458 | santa cruz
Processing Record 459 | rincon
Processing Record 460 | zalantun
Processing Record 461 | tecuanapa
Processing Record 462 | pangnirtung
Processing Record 463 | copiapo
Processing Record 464 | zambezi
Processing Record 465 | thomasville
Processing Record 466 | batagay-alyta
Processing Record 467 | beyneu
Processing Record 468 | belaya kholunitsa
Processing Record 469 | waterloo
Processing Record 470 | ternate
Processing Record 471 | ust-omchug
Key Error
Processing Record 473 | byron bay
Processing Record 474 | riyadh
Processing Record 475 | margate
Processing Record 476 | kruisfontein
Key Error
Processing Record 478 | taoudenni
Processing Record 479 | honiara
Key Error
Key Error
Processing Record 482 | hochst
Processing Record 483 | cassilandia
Processing Record 484 | palma di montechiaro
Processing Record 485 | orlik
Key Error
Processing Record 487 | volchansk
Processing Record 488 | gigmoto
Processing Record 489 | tahe
Processing Record 490 | mombaca
Processing Record 491 | brainerd
Processing Record 492 | mantua
Processing Record 493 | savantvadi
Processing Record 494 | el campo
Processing Record 495 | saint-pierre
Key Error
Processing Record 497 | dryden
Processing Record 498 | sabha
Processing Record 499 | martapura
Processing Record 500 | kalas
Processing Record 501 | seredka
Processing Record 502 | khandyga
Processing Record 503 | roald
Processing Record 504 | muisne
Processing Record 505 | lyndon
Processing Record 506 | grand gaube
Key Error
Processing Record 508 | fare
Processing Record 509 | birnin kebbi
Key Error
Processing Record 511 | ambilobe
Processing Record 512 | cumana
Processing Record 513 | kasempa
Processing Record 514 | beloha
Processing Record 515 | asyut
Processing Record 516 | puerto escondido
Processing Record 517 | donji vakuf
Processing Record 518 | raduzhnyy
Processing Record 519 | leoben
Processing Record 520 | mokama
Processing Record 521 | key west
```

```
Processing Record 522 | new london
Processing Record 523 | utiel
Processing Record 524 | williams lake
Processing Record 525 | dali
Key Error
Key Error
Processing Record 528 | media luna
Processing Record 529 | mariental
Processing Record 530 | amalapuram
Processing Record 531 | sisimiut
Processing Record 532 | alta floresta
Processing Record 533 | los llanos de aridane
Processing Record 534 | vangaindrano
Processing Record 535 | najran
Processing Record 536 | samana
Processing Record 537 | sembakung
Key Error
Processing Record 539 | payo
Processing Record 540 | merrill
Processing Record 541 | bainbridge
Processing Record 542 | chumikan
Processing Record 543 | thunder bay
Processing Record 544 | boulder
Processing Record 545 | namibe
Processing Record 546 | oktyabrskoye
Processing Record 547 | muhos
Processing Record 548 | evensk
Processing Record 549 | hovd
Processing Record 550 | lagoa
Processing Record 551 | somerset
Processing Record 552 | champaign
Key Error
Processing Record 554 | buraydah
Processing Record 555 | luangwa
Processing Record 556 | baracoa
Processing Record 557 | alice
Processing Record 558 | estelle
Processing Record 559 | hobyo
Processing Record 560 | hamilton
Processing Record 561 | ngunguru
Processing Record 562 | torbat-e jam
Processing Record 563 | tres arroyos
Processing Record 564 | hiriur
Key Error
Key Error
Processing Record 567 | hinton
Processing Record 568 | veraval
Processing Record 569 | buin
Processing Record 570 | kavaratti
Processing Record 571 | buala
Processing Record 572 | omsukchan
Processing Record 573 | umba
Processing Record 574 | male
Processing Record 575 | vila
Processing Record 576 | yendi
Processing Record 577 | flinders
Processing Record 578 | cerrito
Processing Record 579 | mangrol
Processing Record 580 | pangkalanbuun
Processing Record 581 | anced
Processing Record 582 | rio alejandro
Processing Record 583 | saint-francois
Processing Record 584 | chichihualco
Processing Record 585 | fortuna
Key Error
Processing Record 587 | mattru
Processing Record 588 | anloga
Processing Record 589 | northam
Processing Record 590 | hof
Processing Record 591 | saint-michel-des-saints
Processing Record 592 | baillif
Processing Record 593 | cam ranh
Processing Record 594 | klyuchi
Processing Record 595 | lasa
Processing Record 596 | alekseyevsk
Processing Record 597 | mount pleasant
Processing Record 598 | maun
Processing Record 599 | tazmalt
Processing Record 600 | juru
```

```

Processing Record 601 | goya
Processing Record 602 | marsh harbour
Processing Record 603 | coos bay
Processing Record 604 | juba
Processing Record 605 | havre-saint-pierre
Processing Record 606 | keelung
Key Error
Processing Record 608 | nelson bay
Processing Record 609 | naze
Processing Record 610 | san juan del sur
Processing Record 611 | kahului
Processing Record 612 | kuliayapitiya
Processing Record 613 | zhengjiatun
Processing Record 614 | banska bystrica
Key Error
Processing Record 616 | outlook
Processing Record 617 | harper
Processing Record 618 | ahipara
Processing Record 619 | vanimo
Key Error
Processing Record 621 | balkhash
Processing Record 622 | hollola
Processing Record 623 | zmeinogorsk
Processing Record 624 | athabasca
Processing Record 625 | iskateley
Processing Record 626 | baghdad
Processing Record 627 | mercedes
Processing Record 628 | willowmore
Processing Record 629 | umm kaddadah
Processing Record 630 | sokolo

```

Above is my json query. I added row by row and tracked the progress of the data capture with the print command. I used the try except to filter out cities that were generated by citypy that were not identified in the openweathermap query. Below is the sample data pull.

In [3]:

```

Beginning Data Retrieval
-----
Processing Record 1 of Set 1 | lompoc
Processing Record 2 of Set 1 | klaksvik
Processing Record 3 of Set 1 | bisignano
Processing Record 4 of Set 1 | bengkulu
City not found. Skipping...
Processing Record 5 of Set 1 | hilo
Processing Record 6 of Set 1 | rikitea
Processing Record 7 of Set 1 | ahipara
Processing Record 8 of Set 1 | lebu
Processing Record 9 of Set 1 | hamilton
Processing Record 10 of Set 1 | castro
Processing Record 11 of Set 1 | ashland
Processing Record 12 of Set 1 | ushuaiia
Processing Record 13 of Set 1 | haines junction
Processing Record 14 of Set 1 | punta arenas
Processing Record 15 of Set 1 | salalah
Processing Record 16 of Set 1 | port macquarie
Processing Record 17 of Set 1 | mataura
Processing Record 18 of Set 1 | saint-philippe
Processing Record 19 of Set 1 | kaitangata
Processing Record 20 of Set 1 | souillac
Processing Record 21 of Set 1 | srednekolymsk
Processing Record 22 of Set 1 | busselton
Processing Record 23 of Set 1 | severo-kurilsk
Processing Record 24 of Set 1 | belushya guba
City not found. Skipping...
Processing Record 25 of Set 1 | ivaipora
City not found. Skipping...
Processing Record 26 of Set 1 | cape town
Processing Record 27 of Set 1 | ambilobe
Processing Record 28 of Set 1 | yellowknife
Processing Record 29 of Set 1 | talnakh
Processing Record 30 of Set 1 | namatanai
Processing Record 31 of Set 1 | scottsburgh
City not found. Skipping...
Processing Record 32 of Set 1 | leningradskiy
Processing Record 33 of Set 1 | khormuj
City not found. Skipping...
Processing Record 34 of Set 1 | kodiak
Processing Record 35 of Set 1 | muros

```

```
Processing Record 36 of Set 1 | tamandare
Processing Record 37 of Set 1 | taolanaro
City not found. Skipping...
Processing Record 38 of Set 1 | albany
Processing Record 39 of Set 1 | lumut
Processing Record 40 of Set 1 | sukumo
Processing Record 41 of Set 1 | chapais
Processing Record 42 of Set 1 | khatanga
Processing Record 43 of Set 1 | ordzhonikidze
Processing Record 44 of Set 1 | jiangyou
Processing Record 45 of Set 1 | ancud
Processing Record 46 of Set 1 | vila franca do campo
Processing Record 47 of Set 1 | shchelkun
Processing Record 48 of Set 1 | vanimo
Processing Record 49 of Set 1 | kalmanhaza
Processing Record 50 of Set 1 | butaritari
Processing Record 0 of Set 2 | codrington
Processing Record 1 of Set 2 | ayolas
Processing Record 2 of Set 2 | kapaa
Processing Record 3 of Set 2 | east london
Processing Record 4 of Set 2 | vaini
Processing Record 5 of Set 2 | tessalit
Processing Record 6 of Set 2 | panguna
Processing Record 7 of Set 2 | cockburn town
Processing Record 8 of Set 2 | valerianovsk
Processing Record 9 of Set 2 | tingrela
City not found. Skipping...
Processing Record 10 of Set 2 | novobirilyussy
Processing Record 11 of Set 2 | krasnoborsk
Processing Record 12 of Set 2 | mar del plata
Processing Record 13 of Set 2 | new norfolk
Processing Record 14 of Set 2 | khonuu
City not found. Skipping...
Processing Record 15 of Set 2 | vila do maio
Processing Record 16 of Set 2 | dikson
Processing Record 17 of Set 2 | tsihombe
City not found. Skipping...
Processing Record 18 of Set 2 | tolitary
City not found. Skipping...
Processing Record 19 of Set 2 | kazalinsk
City not found. Skipping...
Processing Record 20 of Set 2 | livani
Processing Record 21 of Set 2 | urucui
Processing Record 22 of Set 2 | ribeira grande
Processing Record 23 of Set 2 | qaanaaq
Processing Record 24 of Set 2 | sentyabrskiy
City not found. Skipping...
Processing Record 25 of Set 2 | tuatapere
Processing Record 26 of Set 2 | bocaiuva
Processing Record 27 of Set 2 | jiexiu
Processing Record 28 of Set 2 | quelimane
Processing Record 29 of Set 2 | rujewa
Processing Record 30 of Set 2 | cherskiy
Processing Record 31 of Set 2 | port elizabeth
Processing Record 32 of Set 2 | yanchukan
City not found. Skipping...
Processing Record 33 of Set 2 | fortuna
Processing Record 34 of Set 2 | belyy yar
Processing Record 35 of Set 2 | venezuela
Processing Record 36 of Set 2 | bambous virieux
Processing Record 37 of Set 2 | illoqqortoormiut
City not found. Skipping...
Processing Record 38 of Set 2 | barrow
Processing Record 39 of Set 2 | mitsamiouli
Processing Record 40 of Set 2 | hunza
City not found. Skipping...
Processing Record 41 of Set 2 | bunia
Processing Record 42 of Set 2 | boa vista
Processing Record 43 of Set 2 | kudahuvadhoo
Processing Record 44 of Set 2 | mys shmidta
City not found. Skipping...
Processing Record 45 of Set 2 | bluff
Processing Record 46 of Set 2 | okhotsk
Processing Record 47 of Set 2 | muzaffarabad
Processing Record 48 of Set 2 | avarua
Processing Record 49 of Set 2 | esperance
Processing Record 0 of Set 3 | arenapolis
Processing Record 1 of Set 3 | tuktoyaktuk
Processing Record 2 of Set 3 | nemuro
```

```
Processing Record 3 of Set 3 | attawapiskat
City not found. Skipping...
Processing Record 4 of Set 3 | rio gallegos
Processing Record 5 of Set 3 | svetlaya
Processing Record 6 of Set 3 | nome
Processing Record 7 of Set 3 | caravelas
Processing Record 8 of Set 3 | karamea
City not found. Skipping...
Processing Record 9 of Set 3 | mandalgovi
Processing Record 10 of Set 3 | carnarvon
Processing Record 11 of Set 3 | atuona
Processing Record 12 of Set 3 | pemangkat
City not found. Skipping...
Processing Record 13 of Set 3 | karaul
City not found. Skipping...
Processing Record 14 of Set 3 | qiqihar
Processing Record 15 of Set 3 | cabo san lucas
Processing Record 16 of Set 3 | jamestown
Processing Record 17 of Set 3 | komsomolskiy
Processing Record 18 of Set 3 | arraial do cabo
Processing Record 19 of Set 3 | tiksi
Processing Record 20 of Set 3 | amnat charoen
Processing Record 21 of Set 3 | provideniya
Processing Record 22 of Set 3 | luang prabang
Processing Record 23 of Set 3 | hami
Processing Record 24 of Set 3 | saskylakh
Processing Record 25 of Set 3 | kyren
Processing Record 26 of Set 3 | yuaping
Processing Record 27 of Set 3 | dukat
Processing Record 28 of Set 3 | barentsburg
City not found. Skipping...
Processing Record 29 of Set 3 | chuy
Processing Record 30 of Set 3 | dorfen
Processing Record 31 of Set 3 | ayan
Processing Record 32 of Set 3 | port alfred
Processing Record 33 of Set 3 | nanortalik
Processing Record 34 of Set 3 | nizhneyansk
City not found. Skipping...
Processing Record 35 of Set 3 | vertientes
Processing Record 36 of Set 3 | charters towers
Processing Record 37 of Set 3 | nenjiang
Processing Record 38 of Set 3 | hermanus
Processing Record 39 of Set 3 | saleaula
City not found. Skipping...
Processing Record 40 of Set 3 | puerto del rosario
Processing Record 41 of Set 3 | husavik
Processing Record 42 of Set 3 | maldonado
Processing Record 43 of Set 3 | bintulu
Processing Record 44 of Set 3 | warqla
City not found. Skipping...
Processing Record 45 of Set 3 | luderitz
Processing Record 46 of Set 3 | vardo
Processing Record 47 of Set 3 | faanui
Processing Record 48 of Set 3 | muzhi
Processing Record 49 of Set 3 | zhangye
Processing Record 0 of Set 4 | nouadhibou
Processing Record 1 of Set 4 | oussouye
Processing Record 2 of Set 4 | agaro
Processing Record 3 of Set 4 | samusu
City not found. Skipping...
Processing Record 4 of Set 4 | tasiilaq
Processing Record 5 of Set 4 | amderma
City not found. Skipping...
Processing Record 6 of Set 4 | bathsheba
Processing Record 7 of Set 4 | pacific grove
Processing Record 8 of Set 4 | half moon bay
Processing Record 9 of Set 4 | goderich
Processing Record 10 of Set 4 | severnyy
City not found. Skipping...
Processing Record 11 of Set 4 | erenhot
Processing Record 12 of Set 4 | hasaki
Processing Record 13 of Set 4 | agadez
Processing Record 14 of Set 4 | hobart
Processing Record 15 of Set 4 | drummondville
Processing Record 16 of Set 4 | selfoss
Processing Record 17 of Set 4 | carman
Processing Record 18 of Set 4 | kurumkan
Processing Record 19 of Set 4 | rawson
Processing Record 20 of Set 4 | osloborovs
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processing record 20 of set 4 | usakai uvira
Processing Record 21 of Set 4 | sitka
Processing Record 22 of Set 4 | pec
Processing Record 23 of Set 4 | nacala
Processing Record 24 of Set 4 | vaitupu
City not found. Skipping...
Processing Record 25 of Set 4 | ewo
Processing Record 26 of Set 4 | alihe
Processing Record 27 of Set 4 | felipe carrillo puerto
Processing Record 28 of Set 4 | sept-iles
Processing Record 29 of Set 4 | anzio
Processing Record 30 of Set 4 | abeche
Processing Record 31 of Set 4 | chokurdakh
Processing Record 32 of Set 4 | sao filipe
Processing Record 33 of Set 4 | yatou
Processing Record 34 of Set 4 | pangkalanbuun
Processing Record 35 of Set 4 | namibe
Processing Record 36 of Set 4 | caltagirone
Processing Record 37 of Set 4 | araguacu
City not found. Skipping...
Processing Record 38 of Set 4 | atuntaqui
Processing Record 39 of Set 4 | marshfield
Processing Record 40 of Set 4 | saint-joseph
Processing Record 41 of Set 4 | chambas
Processing Record 42 of Set 4 | mahebourg
Processing Record 43 of Set 4 | abadan
Processing Record 44 of Set 4 | lagoa
Processing Record 45 of Set 4 | axim
Processing Record 46 of Set 4 | sioux lookout
Processing Record 47 of Set 4 | voh
Processing Record 48 of Set 4 | puerto ayora
Processing Record 49 of Set 4 | sinnamary
Processing Record 0 of Set 5 | duz
City not found. Skipping...
Processing Record 1 of Set 5 | upernavik
Processing Record 2 of Set 5 | port hardy
Processing Record 3 of Set 5 | vieste
Processing Record 4 of Set 5 | dalvik
Processing Record 5 of Set 5 | tual
Processing Record 6 of Set 5 | novopokrovka
Processing Record 7 of Set 5 | soyo
Processing Record 8 of Set 5 | broken hill
Processing Record 9 of Set 5 | columbia
Processing Record 10 of Set 5 | sao joao da barra
Processing Record 11 of Set 5 | lumphat
Processing Record 12 of Set 5 | ciudad bolivar
Processing Record 13 of Set 5 | san quintin
Processing Record 14 of Set 5 | bredasdorp
Processing Record 15 of Set 5 | torbay
Processing Record 16 of Set 5 | hithadhoo
Processing Record 17 of Set 5 | tabarqah
City not found. Skipping...
Processing Record 18 of Set 5 | vila velha
Processing Record 19 of Set 5 | samaniego
Processing Record 20 of Set 5 | kruisfontein
Processing Record 21 of Set 5 | tumannyy
City not found. Skipping...
Processing Record 22 of Set 5 | dunedin
Processing Record 23 of Set 5 | nikolskoye
Processing Record 24 of Set 5 | geraldton
Processing Record 25 of Set 5 | sarangani
Processing Record 26 of Set 5 | bontang
Processing Record 27 of Set 5 | jacareacanga
Processing Record 28 of Set 5 | palabuhanratu
City not found. Skipping...
Processing Record 29 of Set 5 | raudenberg
Processing Record 30 of Set 5 | terrenate
Processing Record 31 of Set 5 | vao
Processing Record 32 of Set 5 | asau
City not found. Skipping...
Processing Record 33 of Set 5 | hovd
Processing Record 34 of Set 5 | bure
Processing Record 35 of Set 5 | ranot
Processing Record 36 of Set 5 | barawe
City not found. Skipping...
Processing Record 37 of Set 5 | merauke
Processing Record 38 of Set 5 | prichard
Processing Record 39 of Set 5 | gravelbourg
Processing Record 40 of Set 5 | searcy

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Processing Record 41 of Set 5 | cnagda
City not found. Skipping...
Processing Record 42 of Set 5 | victoria
Processing Record 43 of Set 5 | sisimiut
Processing Record 44 of Set 5 | trelew
Processing Record 45 of Set 5 | aban
City not found. Skipping...
Processing Record 46 of Set 5 | vakhrushev
Processing Record 47 of Set 5 | pierre
Processing Record 48 of Set 5 | ilulissat
Processing Record 49 of Set 5 | lorengau
Processing Record 0 of Set 6 | mokrousovo
Processing Record 1 of Set 6 | baltay
Processing Record 2 of Set 6 | kainantu
Processing Record 3 of Set 6 | goulburn
Processing Record 4 of Set 6 | lincoln
Processing Record 5 of Set 6 | harnosand
Processing Record 6 of Set 6 | camana
City not found. Skipping...
Processing Record 7 of Set 6 | pleshanovo
Processing Record 8 of Set 6 | ostrovnoy
Processing Record 9 of Set 6 | porto novo
Processing Record 10 of Set 6 | kawana waters
City not found. Skipping...
Processing Record 11 of Set 6 | quatre cocos
Processing Record 12 of Set 6 | marzuq
Processing Record 13 of Set 6 | prince george
Processing Record 14 of Set 6 | grand river south east
City not found. Skipping...
Processing Record 15 of Set 6 | sorsk
Processing Record 16 of Set 6 | port blair
Processing Record 17 of Set 6 | shihizi
Processing Record 18 of Set 6 | coffs harbour
Processing Record 19 of Set 6 | rasova
Processing Record 20 of Set 6 | dingle
Processing Record 21 of Set 6 | la primavera
Processing Record 22 of Set 6 | tezu
Processing Record 23 of Set 6 | qasigiannguit
Processing Record 24 of Set 6 | westport
Processing Record 25 of Set 6 | peleduy
Processing Record 26 of Set 6 | yei
City not found. Skipping...
Processing Record 27 of Set 6 | dakar
Processing Record 28 of Set 6 | temaraia
City not found. Skipping...
Processing Record 29 of Set 6 | pisco
Processing Record 30 of Set 6 | buzuluk
Processing Record 31 of Set 6 | jahrom
City not found. Skipping...
Processing Record 32 of Set 6 | ponferrada
Processing Record 33 of Set 6 | kaeo
Processing Record 34 of Set 6 | chimbote
Processing Record 35 of Set 6 | rocha
Processing Record 36 of Set 6 | kurokino
Processing Record 37 of Set 6 | kavaratti
Processing Record 38 of Set 6 | puri
Processing Record 39 of Set 6 | maues
Processing Record 40 of Set 6 | kapit
Processing Record 41 of Set 6 | sinegorye
Processing Record 42 of Set 6 | thompson
Processing Record 43 of Set 6 | kadykchan
City not found. Skipping...
Processing Record 44 of Set 6 | itaueira
Processing Record 45 of Set 6 | georgetown
Processing Record 46 of Set 6 | parana
Processing Record 47 of Set 6 | govindgarh
Processing Record 48 of Set 6 | laguna
Processing Record 49 of Set 6 | tura
Processing Record 0 of Set 7 | nhulunbuy
Processing Record 1 of Set 7 | buala
Processing Record 2 of Set 7 | ngunguru
Processing Record 3 of Set 7 | abu zabad
Processing Record 4 of Set 7 | katete
Processing Record 5 of Set 7 | flin flon
Processing Record 6 of Set 7 | fayaoue
Processing Record 7 of Set 7 | umzimvubu
City not found. Skipping...
Processing Record 8 of Set 7 | port hedland
Processing Record 9 of Set 7 | omsukchan
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Processing Record 10 of Set 7 | la asuncion
Processing Record 11 of Set 7 | hambantota
Processing Record 12 of Set 7 | matagami
Processing Record 13 of Set 7 | palmer
Processing Record 14 of Set 7 | dzhebariki-khaya
Processing Record 15 of Set 7 | shitanjing
Processing Record 16 of Set 7 | ixtapa
Processing Record 17 of Set 7 | bethel
Processing Record 18 of Set 7 | khani
Processing Record 19 of Set 7 | saint george
Processing Record 20 of Set 7 | whitehorse
Processing Record 21 of Set 7 | isiolo
Processing Record 22 of Set 7 | sao paulo de olivenca
Processing Record 23 of Set 7 | buckeye
Processing Record 24 of Set 7 | wewak
Processing Record 25 of Set 7 | huarmey
Processing Record 26 of Set 7 | satitoa
City not found. Skipping...
Processing Record 27 of Set 7 | la libertad
Processing Record 28 of Set 7 | norman wells
Processing Record 29 of Set 7 | dicabisagan
Processing Record 30 of Set 7 | kavieng
Processing Record 31 of Set 7 | wladyslawowo
Processing Record 32 of Set 7 | kemin
Processing Record 33 of Set 7 | coolum beach
Processing Record 34 of Set 7 | rosetta
Processing Record 35 of Set 7 | bermeo
Processing Record 36 of Set 7 | turtas
Processing Record 37 of Set 7 | mount gambier
Processing Record 38 of Set 7 | key west
Processing Record 39 of Set 7 | aklavik
Processing Record 40 of Set 7 | tikapur
Processing Record 41 of Set 7 | oranjestad
Processing Record 42 of Set 7 | calvinia
Processing Record 43 of Set 7 | kahului
Processing Record 44 of Set 7 | gaziantep
Processing Record 45 of Set 7 | port augusta
Processing Record 46 of Set 7 | turukhansk
Processing Record 47 of Set 7 | roma
Processing Record 48 of Set 7 | buraydah
Processing Record 49 of Set 7 | andenes
City not found. Skipping...
Processing Record 0 of Set 8 | coihaique
Processing Record 1 of Set 8 | surt
Processing Record 2 of Set 8 | rawannawi
City not found. Skipping...
Processing Record 3 of Set 8 | nanjangud
Processing Record 4 of Set 8 | saravan
Processing Record 5 of Set 8 | penzance
Processing Record 6 of Set 8 | mehamn
Processing Record 7 of Set 8 | baherden
Processing Record 8 of Set 8 | minbu
Processing Record 9 of Set 8 | hamina
Processing Record 10 of Set 8 | mackay
Processing Record 11 of Set 8 | omaruru
Processing Record 12 of Set 8 | roald
Processing Record 13 of Set 8 | tashtyp
Processing Record 14 of Set 8 | kyra
City not found. Skipping...
Processing Record 15 of Set 8 | walvis bay
Processing Record 16 of Set 8 | klouklubed
Processing Record 17 of Set 8 | le port
Processing Record 18 of Set 8 | hokitika
Processing Record 19 of Set 8 | guapi
Processing Record 20 of Set 8 | manyana
Processing Record 21 of Set 8 | airai
Processing Record 22 of Set 8 | wajid
Processing Record 23 of Set 8 | mumford
Processing Record 24 of Set 8 | labuhan
Processing Record 25 of Set 8 | sabang
Processing Record 26 of Set 8 | batagay-alyta
Processing Record 27 of Set 8 | ambodifototra
City not found. Skipping...
Processing Record 28 of Set 8 | gouyave
Processing Record 29 of Set 8 | avera
Processing Record 30 of Set 8 | zonguldak
Processing Record 31 of Set 8 | tokur
Processing Record 32 of Set 8 | pyay
Processing Record 33 of Set 8 | ulladulla
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Processing Record 34 of Set 8 | grand-santi
Processing Record 35 of Set 8 | urusha
Processing Record 36 of Set 8 | lata
Processing Record 37 of Set 8 | anar darreh
City not found. Skipping...
Processing Record 38 of Set 8 | tazovskiy
Processing Record 39 of Set 8 | kefamenanu
Processing Record 40 of Set 8 | agva
City not found. Skipping...
Processing Record 41 of Set 8 | kysyl-syr
Processing Record 42 of Set 8 | wajima
Processing Record 43 of Set 8 | kargopol
Processing Record 44 of Set 8 | tubruq
City not found. Skipping...
Processing Record 45 of Set 8 | ovalle
Processing Record 46 of Set 8 | wadi musa
Processing Record 47 of Set 8 | iguape
Processing Record 48 of Set 8 | san juan
Processing Record 49 of Set 8 | vinh
Processing Record 0 of Set 9 | kuminskiy
Processing Record 1 of Set 9 | samalaeulu
City not found. Skipping...
Processing Record 2 of Set 9 | honningsvag
Processing Record 3 of Set 9 | harper
Processing Record 4 of Set 9 | batasan
Processing Record 5 of Set 9 | yumen
Processing Record 6 of Set 9 | tutoia
Processing Record 7 of Set 9 | tazmalt
Processing Record 8 of Set 9 | lavrentiya
Processing Record 9 of Set 9 | sarmanovo
Processing Record 10 of Set 9 | edgewater
Processing Record 11 of Set 9 | gushikawa
Processing Record 12 of Set 9 | kalmunai
Processing Record 13 of Set 9 | houma
Processing Record 14 of Set 9 | vila
Processing Record 15 of Set 9 | umba
Processing Record 16 of Set 9 | pevek
Processing Record 17 of Set 9 | adrар
Processing Record 18 of Set 9 | termiz
Processing Record 19 of Set 9 | luanda
Processing Record 20 of Set 9 | manitsoq
Processing Record 21 of Set 9 | yuncheng
Processing Record 22 of Set 9 | port shepstone
Processing Record 23 of Set 9 | truth or consequences
Processing Record 24 of Set 9 | acapulco
Processing Record 25 of Set 9 | necochea
Processing Record 26 of Set 9 | broome
Processing Record 27 of Set 9 | laredo
Processing Record 28 of Set 9 | paradwip
City not found. Skipping...
Processing Record 29 of Set 9 | fort smith
Processing Record 30 of Set 9 | comodoro rivadavia
Processing Record 31 of Set 9 | ferme-neuve
Processing Record 32 of Set 9 | dengzhou
Processing Record 33 of Set 9 | kamennogorsk
Processing Record 34 of Set 9 | padang
Processing Record 35 of Set 9 | sorvag
City not found. Skipping...
Processing Record 36 of Set 9 | sorland
Processing Record 37 of Set 9 | huangchuan
Processing Record 38 of Set 9 | alofi
Processing Record 39 of Set 9 | sur
Processing Record 40 of Set 9 | tocopilla
Processing Record 41 of Set 9 | rudbar
City not found. Skipping...
Processing Record 42 of Set 9 | galesong
Processing Record 43 of Set 9 | paamiut
Processing Record 44 of Set 9 | narsaq
Processing Record 45 of Set 9 | sungaipenuh
Processing Record 46 of Set 9 | papara
Processing Record 47 of Set 9 | kuche
City not found. Skipping...
Processing Record 48 of Set 9 | isangel
Processing Record 49 of Set 9 | kamylshlov
Processing Record 0 of Set 10 | ponta do sol
Processing Record 1 of Set 10 | lengshuitan
Processing Record 2 of Set 10 | thinadhoo
Processing Record 3 of Set 10 | saint anthony
Processing Record 4 of Set 10 | yulara
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Processing Record 5 of Set 10 | kokopo
Processing Record 6 of Set 10 | iqualuit
Processing Record 7 of Set 10 | longyearbyen
Processing Record 8 of Set 10 | los llanos de aridane
Processing Record 9 of Set 10 | hayden
Processing Record 10 of Set 10 | erzurum
Processing Record 11 of Set 10 | bonthe
Processing Record 12 of Set 10 | ketchikan
Processing Record 13 of Set 10 | barkhan
Processing Record 14 of Set 10 | euclides da cunha
Processing Record 15 of Set 10 | sanghar
Processing Record 16 of Set 10 | te anau
Processing Record 17 of Set 10 | valleyview
Processing Record 18 of Set 10 | cidreira
Processing Record 19 of Set 10 | banda aceh
Processing Record 20 of Set 10 | tagusao
Processing Record 21 of Set 10 | terrace
Processing Record 22 of Set 10 | el chichicaste
Processing Record 23 of Set 10 | gberia fotombu
Processing Record 24 of Set 10 | ranir bazar
Processing Record 25 of Set 10 | grindsted
Processing Record 26 of Set 10 | katsuura
Processing Record 27 of Set 10 | qaqortoq
Processing Record 28 of Set 10 | pontes e lacerda
Processing Record 29 of Set 10 | bata
Processing Record 30 of Set 10 | kingston
Processing Record 31 of Set 10 | aleksandrovka
Processing Record 32 of Set 10 | vostok
Processing Record 33 of Set 10 | puerto madryn
Processing Record 34 of Set 10 | yuzhnyy
Processing Record 35 of Set 10 | bulungu
Processing Record 36 of Set 10 | kollam
Processing Record 37 of Set 10 | progreso
Processing Record 38 of Set 10 | visby
Processing Record 39 of Set 10 | ilebo
Processing Record 40 of Set 10 | ajadabiya
Processing Record 41 of Set 10 | maine-soroa
Processing Record 42 of Set 10 | sayreville
Processing Record 43 of Set 10 | palana
Processing Record 44 of Set 10 | acajutiba
Processing Record 45 of Set 10 | lakatoro
Processing Record 46 of Set 10 | solsvik
City not found. Skipping...
Processing Record 47 of Set 10 | lakes entrance
Processing Record 48 of Set 10 | ludza
Processing Record 49 of Set 10 | zvishavane
Processing Record 0 of Set 11 | mao
Processing Record 1 of Set 11 | seaham
Processing Record 2 of Set 11 | kaa-khem
Processing Record 3 of Set 11 | grindavik
Processing Record 4 of Set 11 | pangody
Processing Record 5 of Set 11 | zhzhou
Processing Record 6 of Set 11 | clyde river
Processing Record 7 of Set 11 | estelle
Processing Record 8 of Set 11 | ulaanbaatar
Processing Record 9 of Set 11 | victoria point
Processing Record 10 of Set 11 | flores
Processing Record 11 of Set 11 | cairns
Processing Record 12 of Set 11 | beyneu
Processing Record 13 of Set 11 | hoquiam
Processing Record 14 of Set 11 | kurilsk
Processing Record 15 of Set 11 | albuquerque
Processing Record 16 of Set 11 | tomatlan
Processing Record 17 of Set 11 | blackfoot
Processing Record 18 of Set 11 | anito
Processing Record 19 of Set 11 | meybod
Processing Record 20 of Set 11 | muscat
Processing Record 21 of Set 11 | san patricio
Processing Record 22 of Set 11 | pali
Processing Record 23 of Set 11 | atambua
Processing Record 24 of Set 11 | mocambique
City not found. Skipping...
Processing Record 25 of Set 11 | kuytun
Processing Record 26 of Set 11 | lamu
Processing Record 27 of Set 11 | bandarbeyla
Processing Record 28 of Set 11 | eenhana
Processing Record 29 of Set 11 | newburn
Processing Record 30 of Set 11 | changli
Processing Record 31 of Set 11 | toownomha
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Processing Record 31 of Set 11 | coquimbo
Processing Record 32 of Set 11 | banjar
Processing Record 33 of Set 11 | hohhot
Processing Record 34 of Set 11 | debre birhan
Processing Record 35 of Set 11 | nelson bay
Processing Record 36 of Set 11 | sibu
Processing Record 37 of Set 11 | black river
City not found. Skipping...
Processing Record 38 of Set 11 | thaba-tseka
Processing Record 39 of Set 11 | hobyo
Processing Record 40 of Set 11 | bela vista de goias
Processing Record 41 of Set 11 | ugoofaaru
Processing Record 42 of Set 11 | dali
Processing Record 43 of Set 11 | kadaya
Processing Record 44 of Set 11 | kensington
Processing Record 45 of Set 11 | zhigansk
Processing Record 46 of Set 11 | merritt island
Processing Record 47 of Set 11 | yamada
Processing Record 48 of Set 11 | kamenskoye
City not found. Skipping...
Processing Record 49 of Set 11 | baghdad
Processing Record 0 of Set 12 | havre-saint-pierre
Processing Record 1 of Set 12 | alta floresta
Processing Record 2 of Set 12 | rio grande
Processing Record 3 of Set 12 | wuwei
Processing Record 4 of Set 12 | arman
Processing Record 5 of Set 12 | salamiyah
Processing Record 6 of Set 12 | vestmannaeyjar
Processing Record 7 of Set 12 | dondo
Processing Record 8 of Set 12 | gallup
Processing Record 9 of Set 12 | micheweni
Processing Record 10 of Set 12 | yanam
Processing Record 11 of Set 12 | nipawin
Processing Record 12 of Set 12 | jalu
Processing Record 13 of Set 12 | brae
Processing Record 14 of Set 12 | alappuzha
City not found. Skipping...
Processing Record 15 of Set 12 | leonidovo
Processing Record 16 of Set 12 | krasnyy yar
Processing Record 17 of Set 12 | nyimba
Processing Record 18 of Set 12 | simao
Processing Record 19 of Set 12 | kharsia
Processing Record 20 of Set 12 | asekeyevo
Processing Record 21 of Set 12 | haibowan
City not found. Skipping...
Processing Record 22 of Set 12 | les herbiers
Processing Record 23 of Set 12 | bonavista
Processing Record 24 of Set 12 | belaya gora
Processing Record 25 of Set 12 | gao
Processing Record 26 of Set 12 | yerbogachen
Processing Record 27 of Set 12 | porechye-rybnoye
Processing Record 28 of Set 12 | san andres
Processing Record 29 of Set 12 | fairbanks
Processing Record 30 of Set 12 | george
Processing Record 31 of Set 12 | bradford
Processing Record 32 of Set 12 | lago da pedra
City not found. Skipping...
Processing Record 33 of Set 12 | jomalig
City not found. Skipping...
Processing Record 34 of Set 12 | port lincoln
Processing Record 35 of Set 12 | carutapera
Processing Record 36 of Set 12 | awjilah
Processing Record 37 of Set 12 | naryan-mar
Processing Record 38 of Set 12 | la ronge
Processing Record 39 of Set 12 | natal
Processing Record 40 of Set 12 | nevsehir
Processing Record 41 of Set 12 | turayf
Processing Record 42 of Set 12 | temiscaming
Processing Record 43 of Set 12 | gardan diwal
City not found. Skipping...
Processing Record 44 of Set 12 | kupang
Processing Record 45 of Set 12 | port-cartier
Processing Record 46 of Set 12 | storm lake
Processing Record 47 of Set 12 | manokwari
Processing Record 48 of Set 12 | julich
Processing Record 49 of Set 12 | makung
City not found. Skipping...
Processing Record 0 of Set 13 | viedma
Processing Record 1 of Set 13 | dolbeau
City not found. Skipping...

```

```

city not found. Skipping...
Processing Record 2 of Set 13 | sarkand
Processing Record 3 of Set 13 | jhang
Processing Record 4 of Set 13 | naze
Processing Record 5 of Set 13 | zory
Processing Record 6 of Set 13 | labuan
Processing Record 7 of Set 13 | luwuk
Processing Record 8 of Set 13 | sao felix do xingu
Processing Record 9 of Set 13 | fonte boa
Processing Record 10 of Set 13 | mahibadho
Processing Record 11 of Set 13 | loukhi
Processing Record 12 of Set 13 | mount isa
Processing Record 13 of Set 13 | kargasok
Processing Record 14 of Set 13 | mandera
Processing Record 15 of Set 13 | praya
-----
Data Retrieval Complete
-----

```

## Convert Raw Data to DataFrame

- Export the city data into a .csv.
- Display the DataFrame

```
In [6]: weather_df = pd.DataFrame({
    'name':city_name,
    'longitude':lng,
    'latitude':lat,
    'time':time_zone,
    'temp':temp,
    'humidity':humidity,
    'cloudiness':cloudiness,
    'wind_speed':wind_speed
})
```

```
In [7]: weather_df.head()
```

	<b>name</b>	<b>longitude</b>	<b>latitude</b>	<b>time</b>	<b>temp</b>	<b>humidity</b>	<b>cloudiness</b>	<b>wind_speed</b>
0	Chokurdakh	147.90	70.62	39600	25.71	87	100	24.73
1	Castro	-73.76	-42.48	-10800	35.60	100	0	4.70
2	Codrington	153.24	-28.95	36000	73.49	35	0	8.05
3	Inhambane	35.38	-23.87	7200	62.16	83	84	4.94
4	Qaanaaq	-69.36	77.48	-10800	32.46	96	100	8.10

```
In [8]: weather_df.count()
```

```
Out[8]: name      561
longitude  561
latitude   561
time       561
temp       561
humidity   561
cloudiness 561
wind_speed 561
dtype: int64
```

```
In [9]: len(pd.unique(weather_df['name']))
```

```
Out[9]: 561
```

Above is my dataframe and I did a check on the number of valid rows. Also checked to see if the city name is unique and all the values were unique. Below is the sample results from the template.

```
In [4]:
```

```
Out[4]: City      547
Cloudiness  547
Country     547
Date        547
Humidity    547
Lat         547
```

```
    Lng      547
    Max Temp  547
    Wind Speed 547
dtype: int64
```

In [5]:

Out[5]:

	City	Cloudiness	Country	Date	Humidity	Lat	Lng	Max Temp	Wind Speed
0	Iompoc	1	US	1534984500	44	34.64	-120.46	77.00	11.41
1	klaksvik	92	FO	1534983600	100	62.23	-6.59	50.00	13.87
2	bisignano	0	IT	1534981800	88	39.50	16.27	66.20	5.82
3	hilo	90	US	1534984860	90	19.71	-155.08	77.00	8.05
4	rikitea	8	PF	1534986579	100	-23.12	-134.97	69.58	19.71

## Plotting the Data

- Use proper labeling of the plots using plot titles (including date of analysis) and axes labels.
- Save the plotted figures as .pngs.

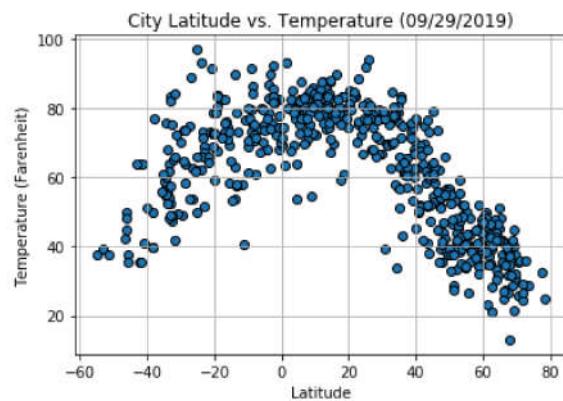
### Latitude vs. Temperature Plot

```
In [10]: # Build a scatter plot for each data type
plt.scatter(weather_df["latitude"], weather_df["temp"], marker="o", linewidths=1, edgecolors='k')

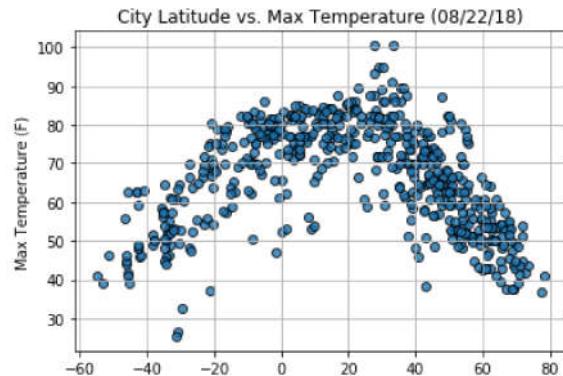
# Incorporate the other graph properties
plt.title("City Latitude vs. Temperature (09/29/2019)")
plt.ylabel("Temperature (Farenheit)")
plt.xlabel("Latitude")
plt.grid(True)

# Save the figure
plt.savefig("CityLatitudeTemperature.png")

# Show plot
plt.show()
```



In [6]:



Latitude

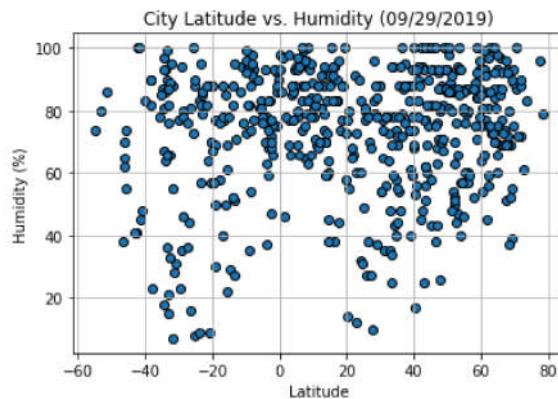
**Latitude vs. Humidity Plot**

```
In [11]: # Build a scatter plot for each data type
plt.scatter(weather_df["latitude"], weather_df["humidity"], marker="o", linewidths=1, edgecolors='k')

# Incorporate the other graph properties
plt.title("City Latitude vs. Humidity (09/29/2019)")
plt.ylabel("Humidity (%)")
plt.xlabel("Latitude")
plt.grid(True)

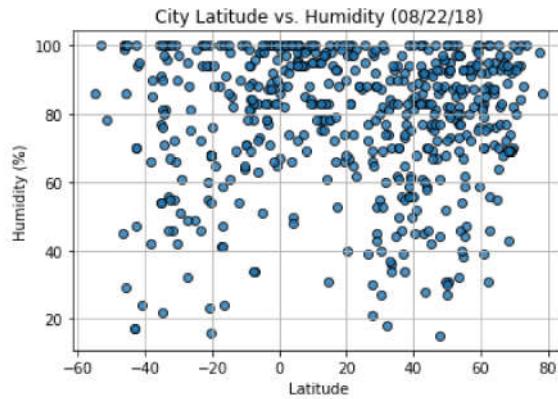
# Save the figure
plt.savefig("CityLatitudeHumidity.png")

# Show plot
plt.show()
```



In [ ]:

In [7]:

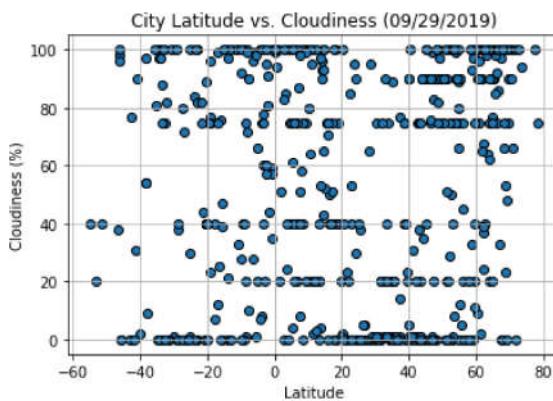
**Latitude vs. Cloudiness Plot**

```
In [12]: # Build a scatter plot for each data type
plt.scatter(weather_df["latitude"], weather_df["cloudiness"], marker="o", linewidths=1, edgecolors='k')

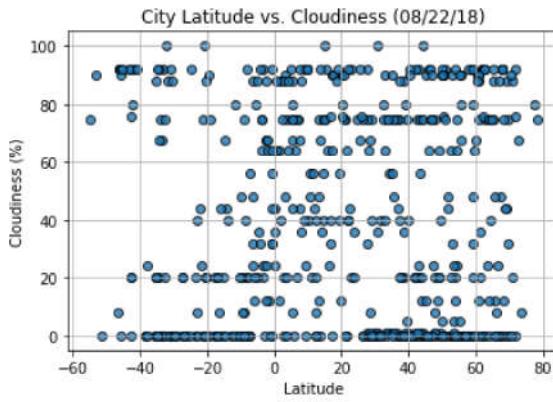
# Incorporate the other graph properties
plt.title("City Latitude vs. Cloudiness (09/29/2019)")
plt.ylabel("Cloudiness (%)")
plt.xlabel("Latitude")
plt.grid(True)

# Save the figure
plt.savefig("CityLatitudeCloudiness.png")

# Show plot
plt.show()
```



In [8]:



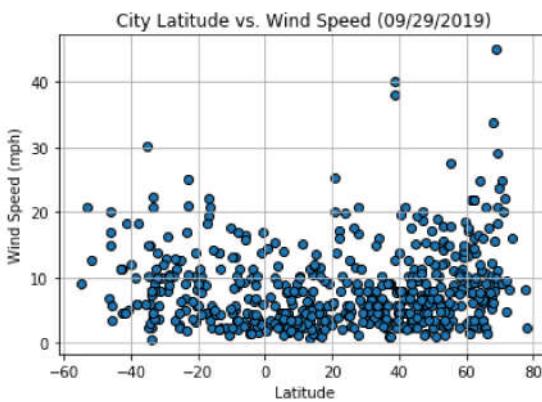
### Latitude vs. Wind Speed Plot

```
In [13]: # Build a scatter plot for each data type
plt.scatter(weather_df["latitude"], weather_df["wind_speed"], marker="o", linewidths=1, edgecolors='k')

# Incorporate the other graph properties
plt.title("City Latitude vs. Wind Speed (09/29/2019)")
plt.ylabel("Wind Speed (mph)")
plt.xlabel("Latitude")
plt.grid(True)

# Save the figure
plt.savefig("CityLatitudeWindSpeed.png")

# Show plot
plt.show()
```



In [9]:

