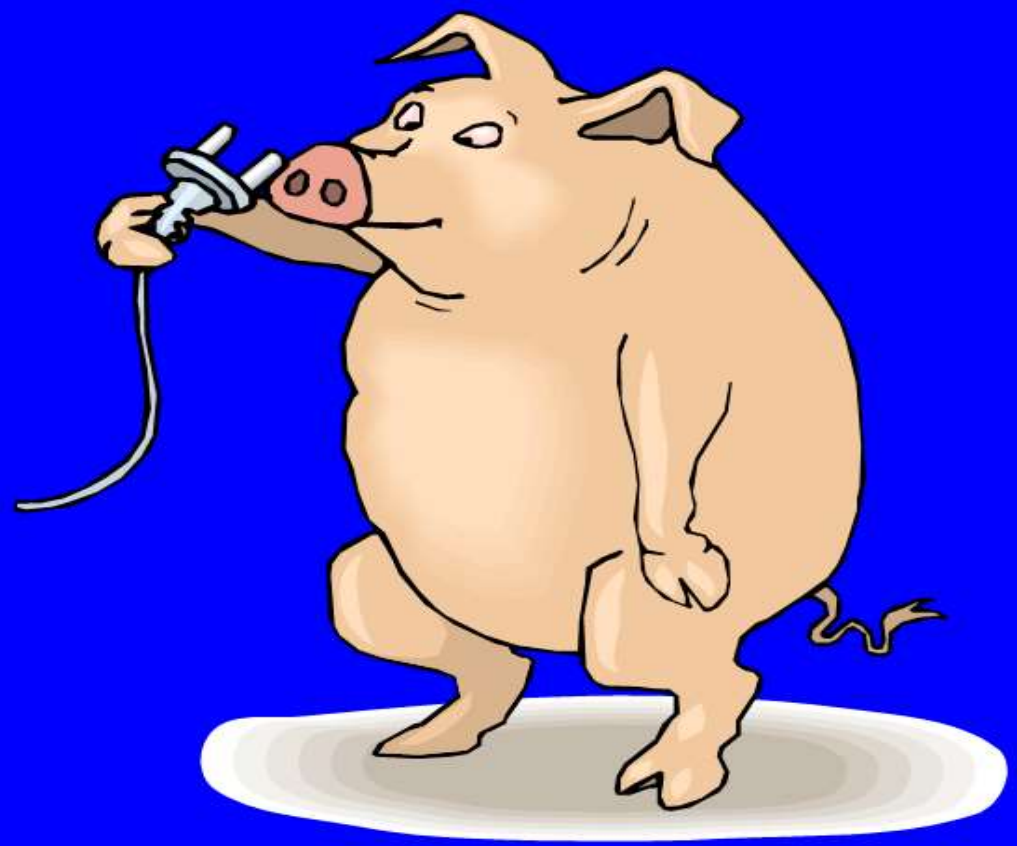
1

Hello Seek You, Seek You!



Automatic **Packet** Reporting System

Initial system was developed in the 1980's by Bob Bruninga, a senior research engineer at the USNA. This early version was used to map high frequency Navy ship position reports.

Positions/objects/items

Bob, WB4APR, introduced the amateur radio APRS system in 1992 and it contains a number of packet types including position status, messages, queries, weather reports and telemetry. Positions of fixed stations are configured in the APRS software. Moving stations (portable or mobile) automatically derive their position information from a GPS receiver connected to the APRS equipment

Automatic *Packet* Reporting System

As technology became more widely available, 'Position' was replaced with 'Packet' to better describe the more generic capabilities of the system and to emphasize its use beyond mere position reporting.

APRS Network

APRS packets are transmitted for all other stations to hear and use. Packet repeaters, called digipeaters, form the backbone of the APRS system, and use store and forward technology to retransmit packets. .

All North American APRS information
is transmitted on one simplex
frequency of 144.390.
This frequency varies throughout the
world as can be seen in the next slide.

APRS Freqs:


144.39
144.80
144.64
144.62
144.66
144.80
145.01
145.525
145.575
144.93
145.175
144.575
everythinghamradio.com
Complied by
G6UIM
send updates to G6UIM via QRZ.com

Digipeaters & IGates

Digipeaters keep track of the packets they forward for a period of time, thus preventing duplicate packets from being retransmitted. Eventually most packets are heard by an APRS Internet Gateway, called an IGate, and the packets are routed on to the Internet APRS backbone

The local digipeater located on a water tank
on N. Belair Road also contains
two club voice repeaters.

byonics.com/aprs

BYONICS

APRS Products

Byonics carries a full line of APRS products, to allow you to track whether you are walking around, driving a car, or flying a high altitude balloon.

TinyTrak Controllers

TinyTrak controllers will allow any 2-meter radio to be paired with a GPS to send location data to the APRS network.

TinyTrak3Plus

The TinyTrak3Plus is a simple, popular way to build an APRS tracker. Simply connect one between a serial GPS receiver and a 2-meter hand held or mobile radio and begin sending your location to the APRS network.

TinyTrak4

The TinyTrak3Plus and TinyTrak4 are APRS controllers which can be connected between a GPS and any 2-meter radio to transmit a location to the APRS network.

MicroTrak Trackers

The MicroTrak tracker line combines the TinyTrak controller with a GPS and built in transmitter. They are available in portable, car, and high altitude balloon versions, and are pre-configured with your amateur radio callsign.

MT-RTG

The MicroTrak RTG is the easiest way to add APRS tracking to a vehicle. The combo includes everything needed to transmit your location. Just plug into 12V and it is Ready To Go.

MT-AIO

The MicroTrak AIO is a self contained portable APRS tracker. It runs for a week on a set of 8 AA batteries sending a 10 watt position report every 2 minutes.

APRS Accessories

GPS Receivers

Our serial GPS receivers included with products above are also available for individual purchase. We have outdoor-safe versions, modules and cables to connect these to radios and computers.

Byonics MicroTrak RTG

Callsign KR4XN-8

Path WIDE1-1,WIDE2-1

Symbol > Table /

Frequency 144.390 MHz

Timing

Auto TXD 253 ms

Auto TX Rate 120 sec

Manual TXD 73 ms

Manual TX Rate 120 sec

Quiet Time 1578 msec

Calibration 128

Status

Text MicroTrak RTG

Send Every 4

Send Separate

Don't Send '>'

Edit Telemetry

Transmit Altitude

Allow TTL Serial

No TX Out on PTT In

Serial Out High

Alternate Digi Paths

Invert CD In

Send NMEA

Only Send Valid

Send 300 Baud

Serial 9600 Baud

TX Twist

Send DAO

No Startup Packet

Timestamp None

Mic-E

Enable

Force Printable

Message In Service

Path Conventional

Time Slotting

Enable

Offset 15 sec

SmartBeaconing

Enable

Min Turn Angle 27 deg

Turn Slope 255

Min Turn Time 5 sec

Slow Speed 10 MPH

Slow Rate 180 sec

Fast Speed 60 MPH

Fast Rate 120 sec

Power Switch

Enable

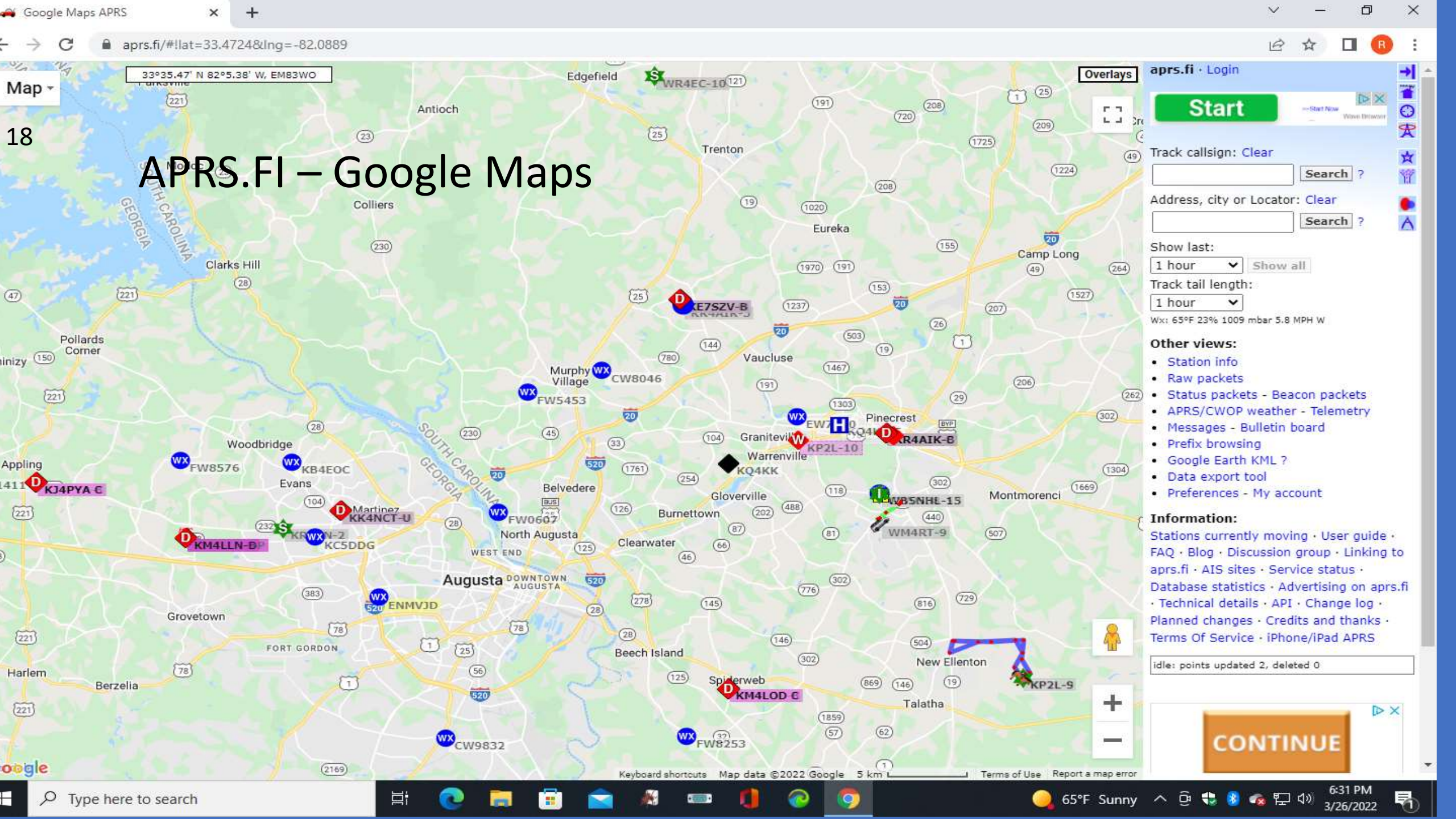
3 sec

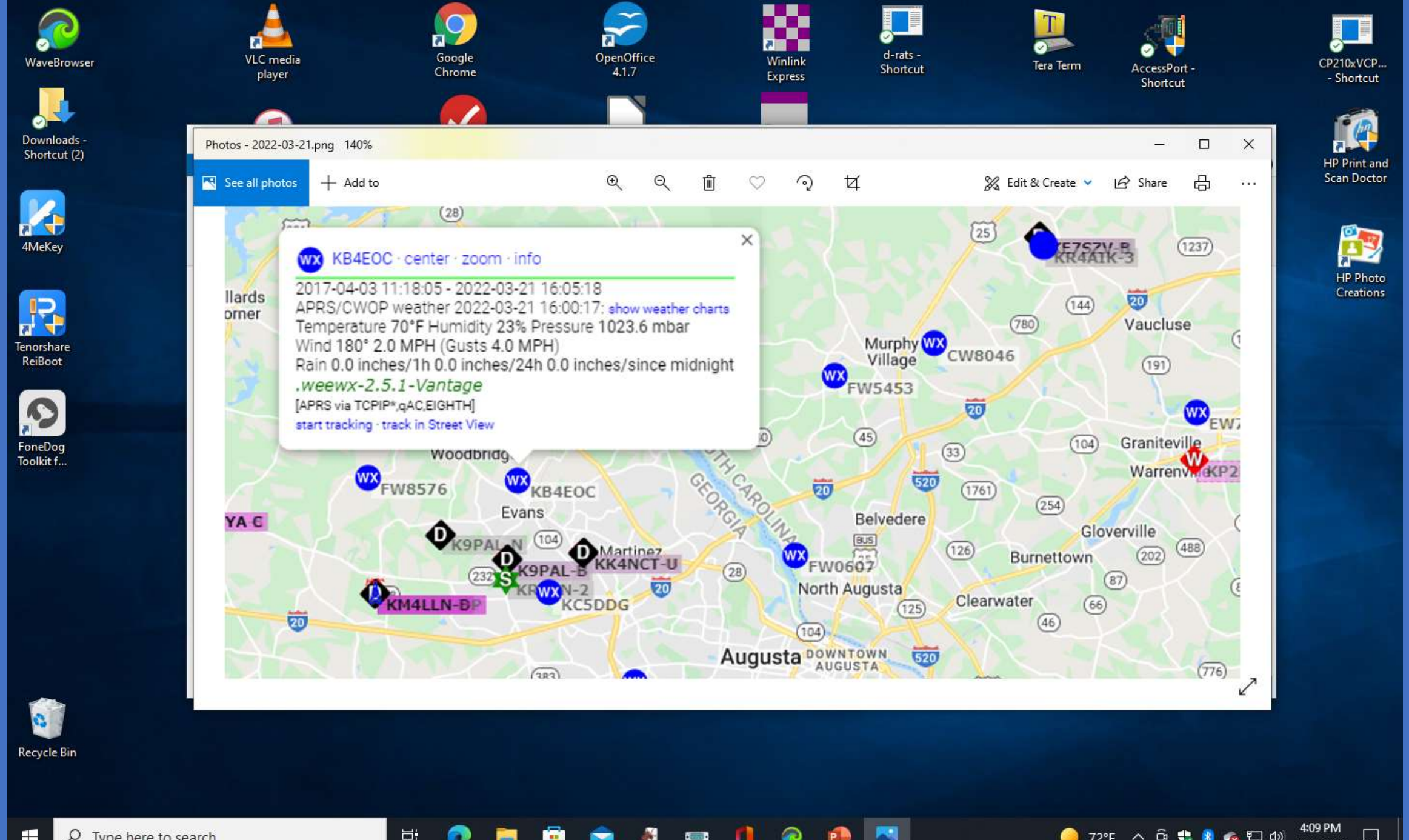
Configure

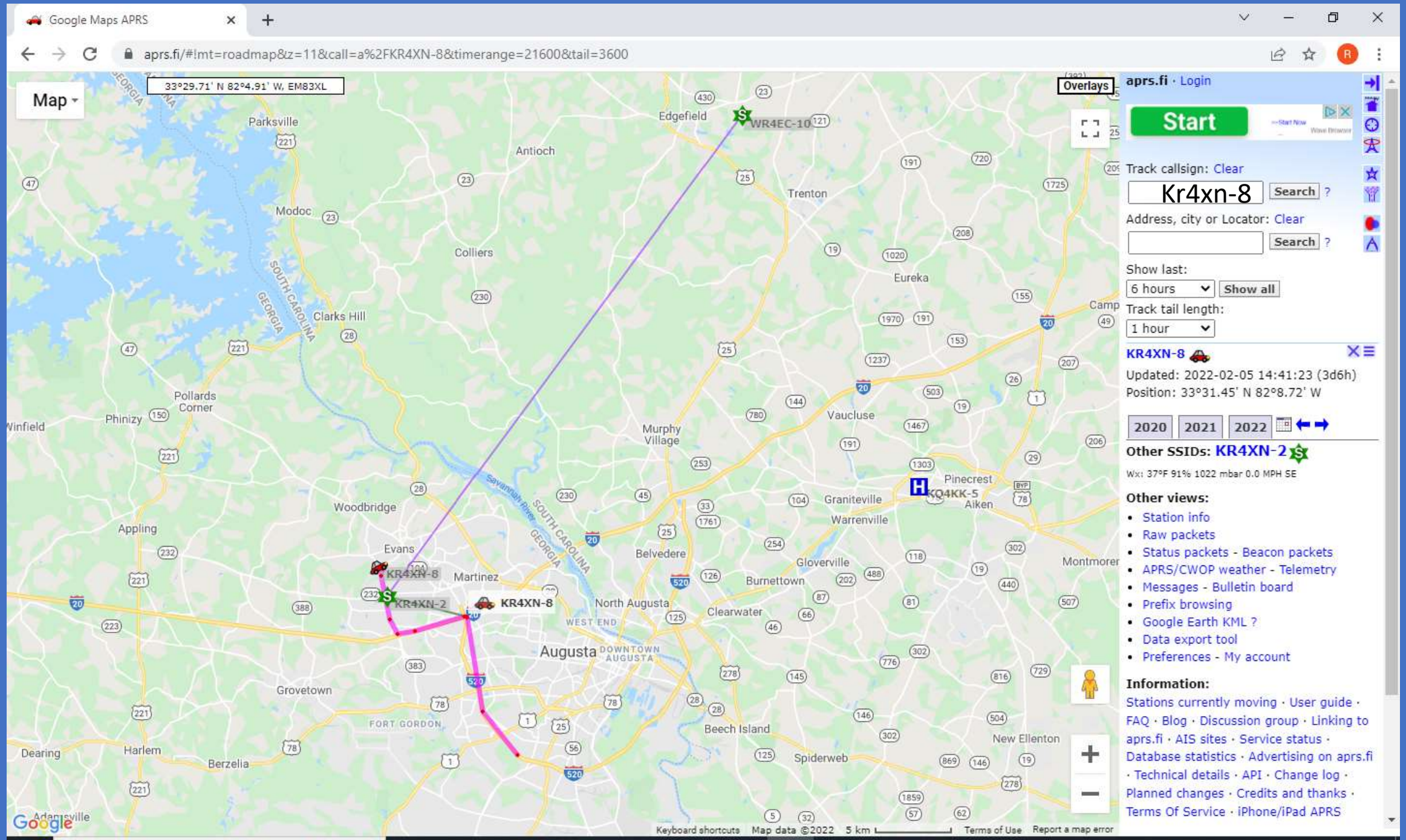
Test Tones

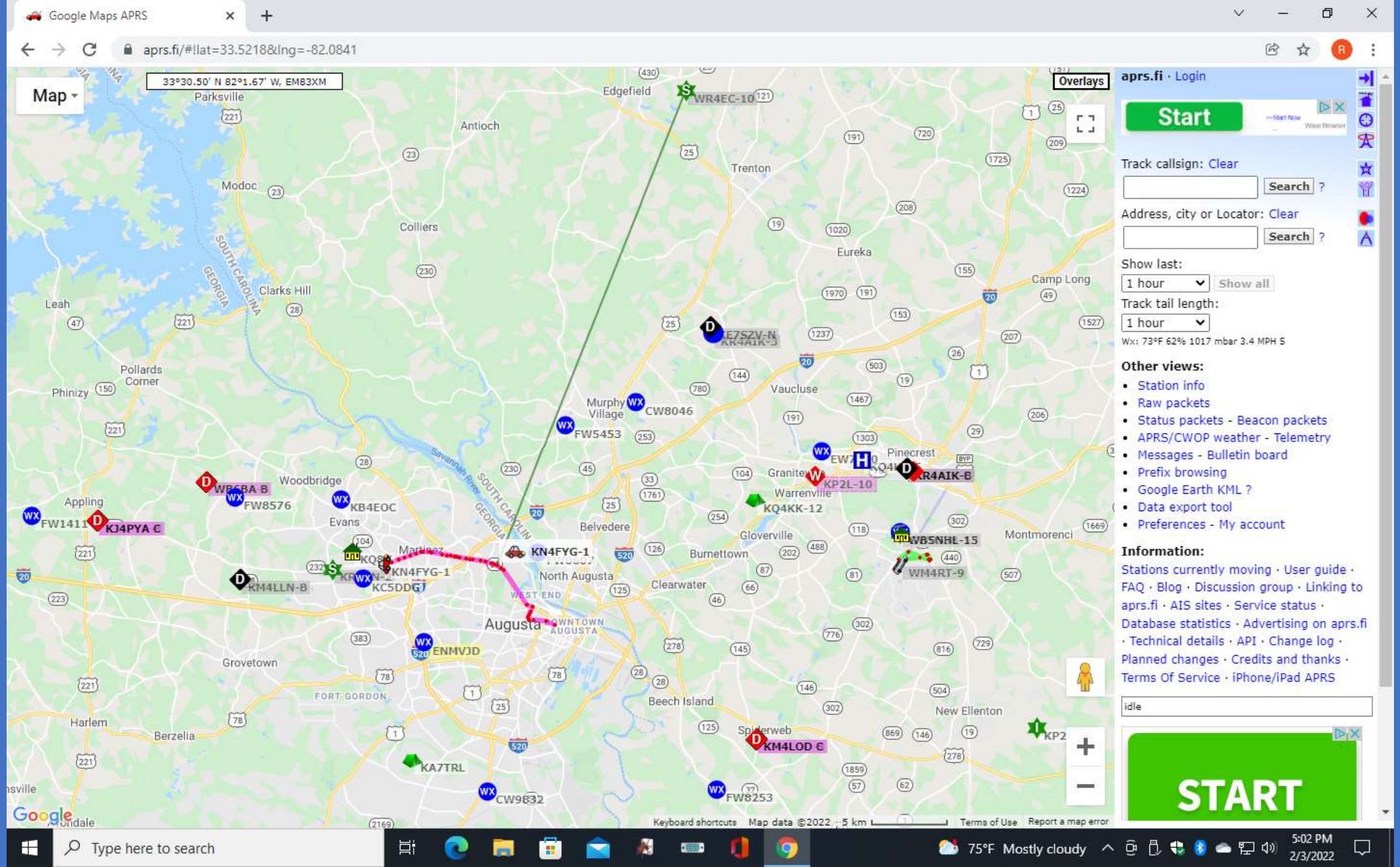

CRAFTSMAN

APRS.FI – Google Maps




WaveBrowser
VLC media player
Google Chrome
OpenOffice 4.1.7
Winlink Express
d-rats - Shortcut
Tera Term
AccessPort - Shortcut
CP210xVCP... - Shortcut
Downloads - Shortcut (2)
HP Print and Scan Doctor
4MeKey
HP Photo Creations
Tenorshare ReiBoot
FoneDog Toolkit f...
Recycle Bin
Photos - 2022-03-21.png 140%
See all photos
Add to
Edit & Create
Share
KB4EOC · center · zoom · info
2017-04-03 11:18:05 - 2022-03-21 16:05:18
APRS/CWOP weather 2022-03-21 16:00:17: show weather charts
Temperature 70°F Humidity 23% Pressure 1023.6 mbar
Wind 180° 2.0 MPH (Gusts 4.0 MPH)
Rain 0.0 inches/1h 0.0 inches/24h 0.0 inches/since midnight
.weewx-2.5.1-Vantage
[APRS via TCPIP*,qAC,EIGHTH]
start tracking · track in Street View
KK4AIK-3
Murphy Village
CW8046
FW5453
Vaucluse
Graniteville
Warrenville
FW8576
KB4EOC
Evans
Woodbridge
K9PAL-N
K9PAL-B
KK4NCT-U
KM4LLN-D
KC5DDG
FW0607
North Augusta
Belvedere
Gloverville
Burnettown
Clearwater
Augusta DOWNTOWN AUGUSTA
GEORGIA
SOUTH CAROLINA
Type here to search
72°F
4:09 PM
3/21/2022


Google Maps APRS
aprs.fi/#!mt=roadmap&z=11&call=a%2FKR4XN-8&timerange=21600&tail=3600
Map
33°29.71' N 82°4.91' W, EM83XL
Overlays
aprs.fi · Login
Start
Track callsign: Clear
Kr4xn-8
Search ?
Address, city or Locator: Clear
Search ?
Show last:
6 hours
Show all
Track tail length:
1 hour
KR4XN-8
Updated: 2022-02-05 14:41:23 (3d6h)
Position: 33°31.45' N 82°8.72' W
2020 2021 2022
Other SSIDs: KR4XN-2
Wx: 37°F 91% 1022 mbar 0.0 MPH SE
Other views:
Station info
Raw packets
Status packets - Beacon packets
APRS/CWOP weather - Telemetry
Messages - Bulletin board
Prefix browsing
Google Earth KML ?
Data export tool
Preferences - My account
Information:
Stations currently moving · User guide · FAQ · Blog · Discussion group · Linking to aprs.fi · AIS sites · Service status · Database statistics · Advertising on aprs.fi · Technical details · API · Change log · Planned changes · Credits and thanks · Terms Of Service · iPhone/iPad APRS
WR4EC-10
KR4XN-8
KR4XN-2
KR4XN-8
KQ4KK-5
Edgefield
Antioch
Parksville
Modoc
Colliers
Trenton
Eureka
Clarks Hill
Pollards Corner
Phinizy
Winfield
Murphy Village
Vaucluse
Pinecrest
Aiken
Graniteville
Warrenville
Woodbridge
Appling
Evans
Martinez
Belvedere
Gloverville
Burnettown
North Augusta
Clearwater
Augusta
DOWNTOWN AUGUSTA
WEST END
Grovetown
FORT GORDON
Beech Island
Spiderweb
New Ellenton
Dearing
Harlem
Berzelia
Montmorer
Keyboard shortcuts
Map data ©2022
5 km
Terms of Use
Report a map error
Type here to search
42°F Clear
8:54 PM


Google Maps APRS
aprs.fi/#!lat=33.5218&lng=-82.0841
Map
33°30.50' N 82°1.67' W, EM83XM
Overlays
aprs.fi · Login
Start
Track callsign: Clear
Search ?
Address, city or Locator: Clear
Search ?
Show last:
1 hour
Show all
Track tail length:
1 hour
Wx: 73°F 62% 1017 mbar 3.4 MPH S
Other views:
Station info
Raw packets
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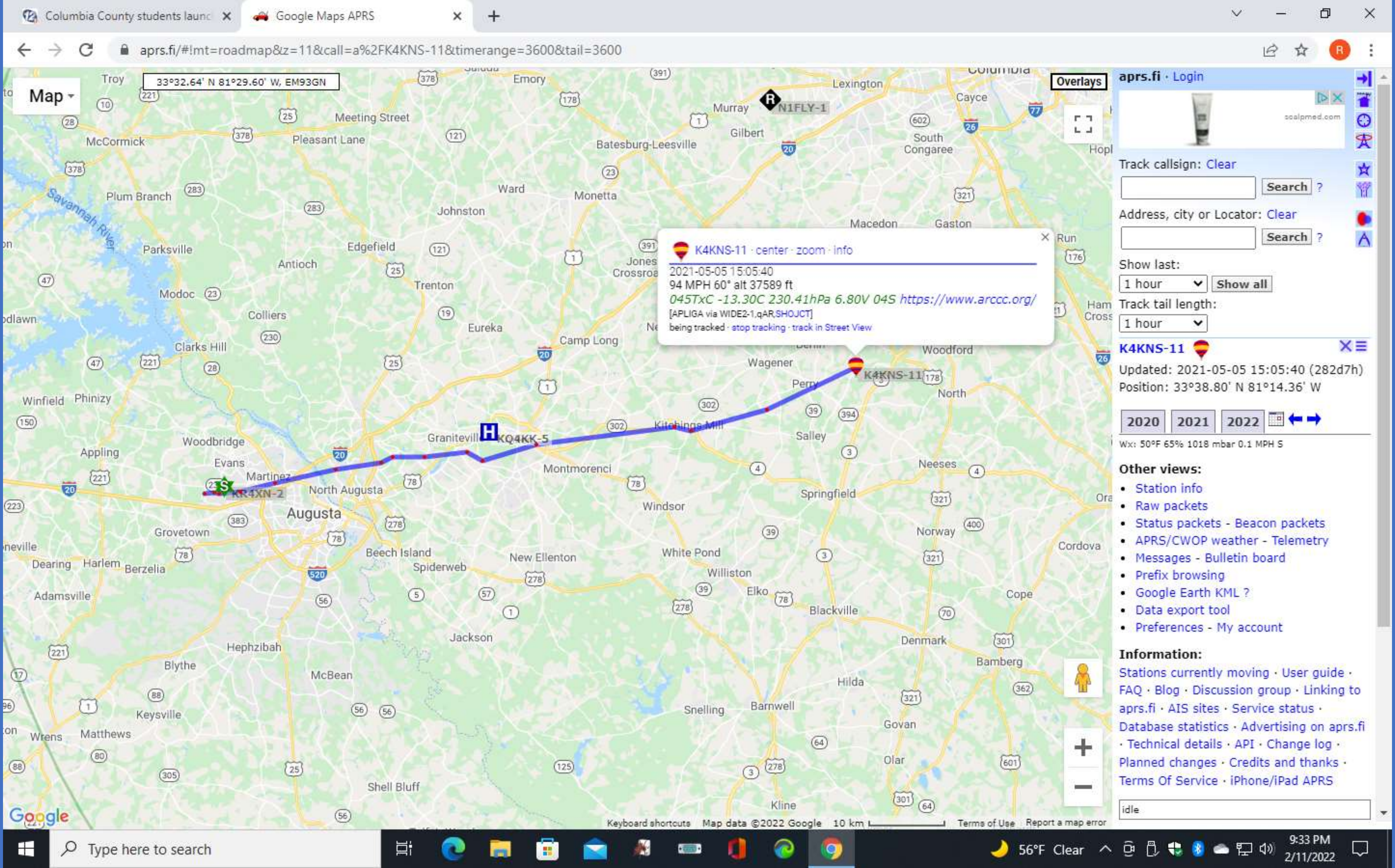
idle
START
Parksville
Edgefield
WR4EC-10
Antioch
Trenton
Modoc
Colliers
Eureka
Camp Long
Clarks Hill
Leah
Pollards Corner
Phinizy
Vaucluse
Murphy Village
CW8046
FW5453
Pinecrest
KP2L-10
KR4AIK-B
Granite
Warrenville
KQ4KK-12
Woodbridge
WB6BA-B
FW8576
KB4EOC
Evans
Appling
FW1411
KJ4PYA-C
Belvedere
Gloverville
WB5NHL-15
Montmorenci
Martinez
KN4FYG-1
Burnettown
WM4RT-9
North Augusta
Clearwater
KM4LLN-B
KC5DDG
Augusta
ENMVJD
Grovetown
Beech Island
New Ellenton
Spiderweb
KM4LOD-C
Harlem
Berzelia
KA7TRL
CW9832
FW8253
Google
Keyboard shortcuts
Map data ©2022
5 km
Terms of Use
Report a map error
Type here to search
75°F Mostly cloudy
5:02 PM
2/3/2022

25



Columbia County students launc
Google Maps APRS
aprs.fi/#!mt=roadmap&z=11&call=a%2FK4KNS-11&timerange=3600&tail=3600
Map
33°32.64' N 81°29.60' W, EM93GN
Overlays
N1FLY-1
KQ4KK-5
KR4XN-2
K4KNS-11
K4KNS-11 · center · zoom · info
2021-05-05 15:05:40
94 MPH 60° alt 37589 ft
045TxC -13.30C 230.41hPa 6.80V 04S https://www.arccc.org/
[APLIGA via WIDE2-1,qAR,SHOJCT]
being tracked · stop tracking · track in Street View
Augusta
North Augusta
Martinez
Evans
Graniteville
Kitchings Mill
Perry
Wagener
Woodford
Salley
Springfield
Montmorenci
Windsor
Aiken
Edgefield
Johnston
Batesburg-Leesville
Lexington
Cayce
South Congaree
aprs.fi · Login
Track callsign: Clear
Search ?
Address, city or Locator: Clear
Search ?
Show last:
1 hour
Show all
Track tail length:
1 hour
K4KNS-11
Updated: 2021-05-05 15:05:40 (282d7h)
Position: 33°38.80' N 81°14.36' W
2020 2021 2022
Wx: 50°F 65% 1018 mbar 0.1 MPH S
Other views:
Station info
Raw packets
Status packets - Beacon packets
APRS/CWOP weather - Telemetry
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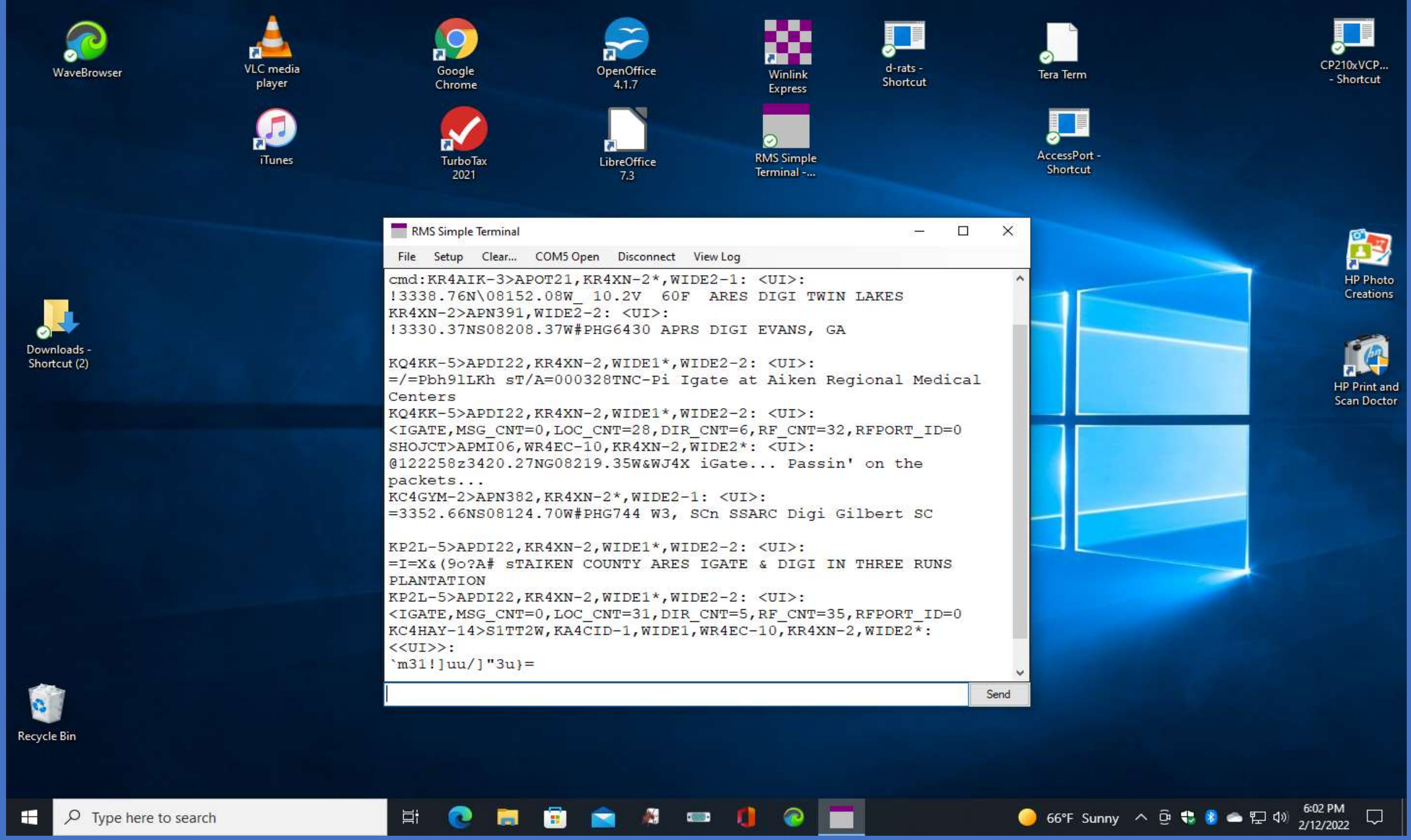
idle
Keyboard shortcuts
Map data ©2022 Google
10 km
Terms of Use
Report a map error
Type here to search
56°F Clear
9:33 PM
2/11/2022


WaveBrowser
VLC media player
Google Chrome
OpenOffice 4.1.7
Winlink Express
d-rats - Shortcut
Tera Term
CP210xVCP... - Shortcut
iTunes
TurboTax 2021
LibreOffice 7.3
RMS Simple Terminal -...
AccessPort - Shortcut
HP Photo Creations
Downloads - Shortcut (2)
HP Print and Scan Doctor
Recycle Bin
RMS Simple Terminal
File Setup Clear... COM5 Open Disconnect View Log
cmd:KR4AIK-3>APOT21,KR4XN-2*,WIDE2-1: <UI>:
!3338.76N\08152.08W_ 10.2V 60F ARES DIGI TWIN LAKES
KR4XN-2>APN391,WIDE2-2: <UI>:
!3330.37NS08208.37W#PHG6430 APRS DIGI EVANS, GA
KQ4KK-5>APDI22,KR4XN-2,WIDE1*,WIDE2-2: <UI>:
=/=Pbh9lLKh sT/A=000328TNC-Pi Igate at Aiken Regional Medical Centers
KQ4KK-5>APDI22,KR4XN-2,WIDE1*,WIDE2-2: <UI>:
<IGATE,MSG_CNT=0,LOC_CNT=28,DIR_CNT=6,RF_CNT=32,RFPORT_ID=0
SHOJCT>APMI06,WR4EC-10,KR4XN-2,WIDE2*: <UI>:
@122258z3420.27NG08219.35W&WJ4X iGate... Passin' on the packets...
KC4GYM-2>APN382,KR4XN-2*,WIDE2-1: <UI>:
=3352.66NS08124.70W#PHG744 W3, SCn SSARC Digi Gilbert SC
KP2L-5>APDI22,KR4XN-2,WIDE1*,WIDE2-2: <UI>:
=I=X&(9o?A# sTAIKEN COUNTY ARES IGATE & DIGI IN THREE RUNS PLANTATION
KP2L-5>APDI22,KR4XN-2,WIDE1*,WIDE2-2: <UI>:
<IGATE,MSG_CNT=0,LOC_CNT=31,DIR_CNT=5,RF_CNT=35,RFPORT_ID=0
KC4HAY-14>S1TT2W,KA4CID-1,WIDE1,WR4EC-10,KR4XN-2,WIDE2*:
<<UI>>:
`m31!]uu/]"3u}=
Send
Type here to search
66°F Sunny
6:02 PM
2/12/2022

Some References:

APRS Organization – www.aprs.orgwww.aprs.org
APRS Protocol – http://www.aprs.org/doc/aprs101.PDFwww.aprs.org/doc/
APRS Yahoo Group – https://groups.yahoo.com/neo/groups/APRS/info