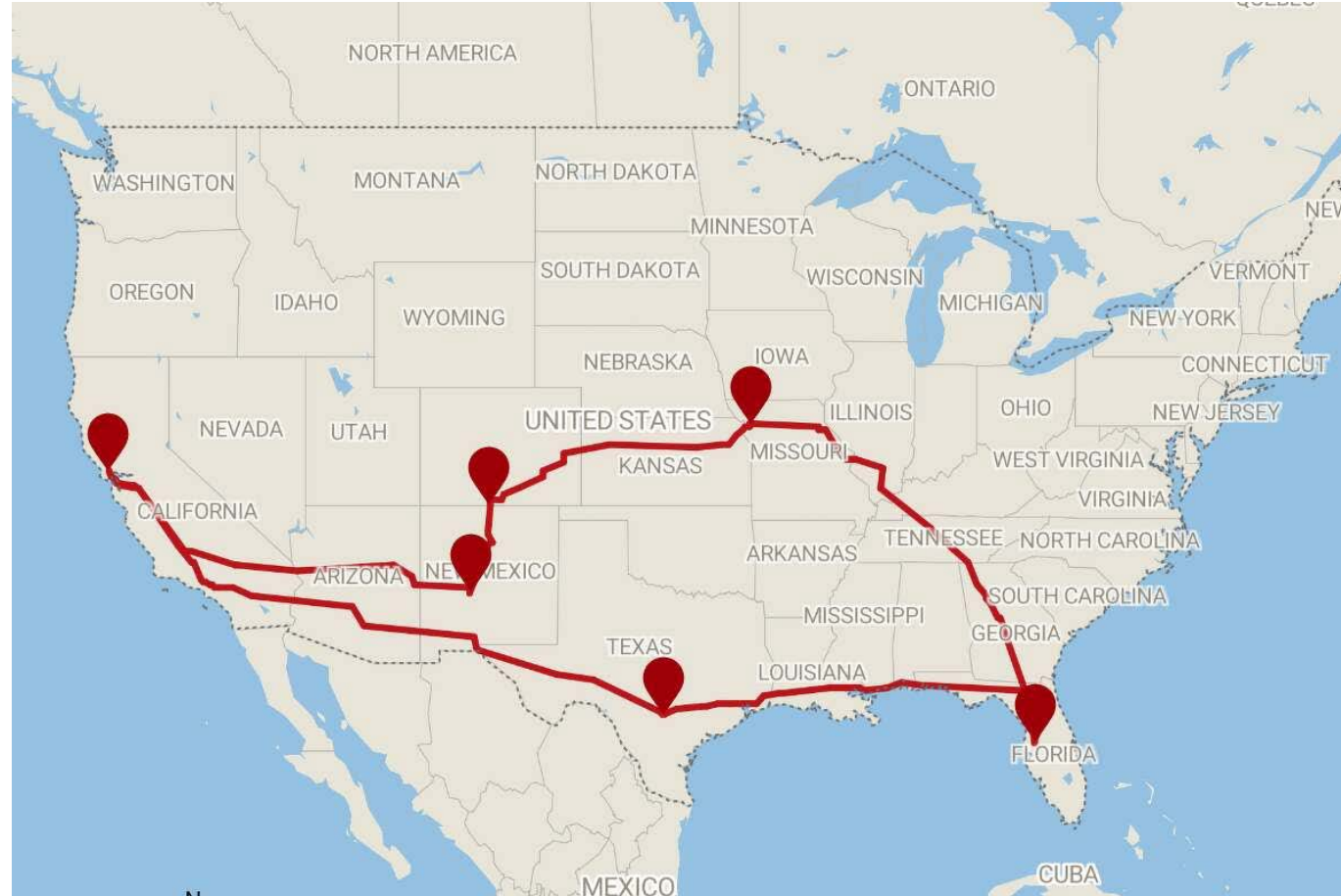




How do you respond some one in the Netherland's QTH (where you are located)?

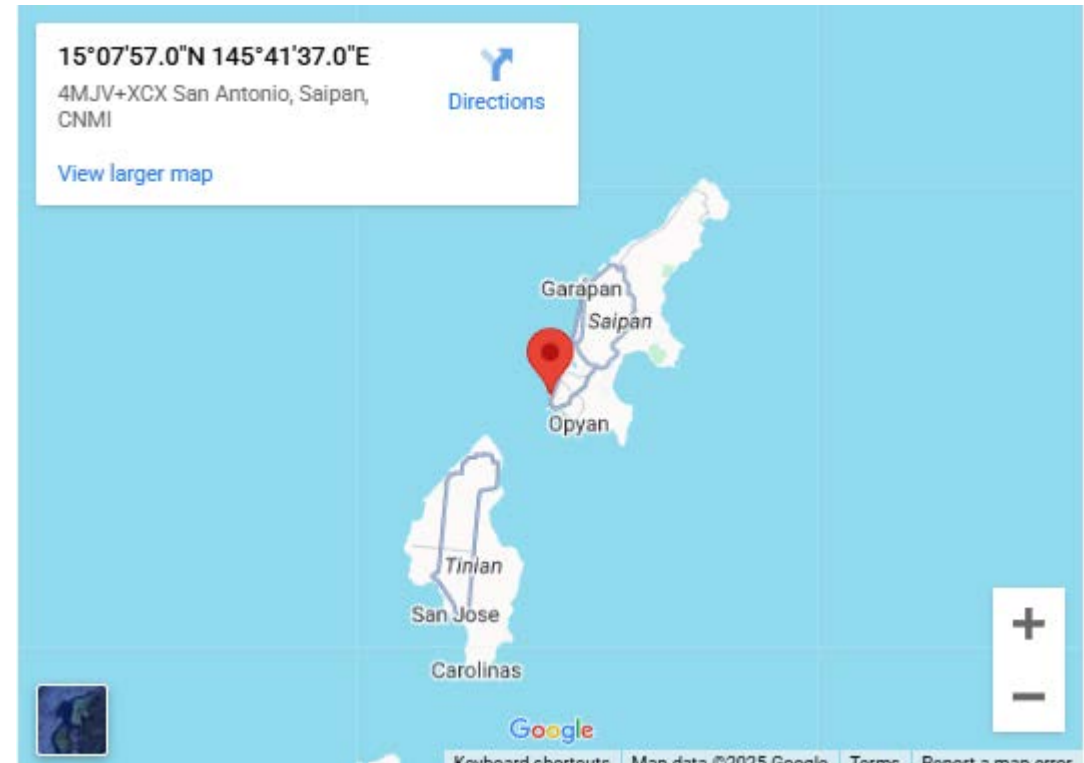
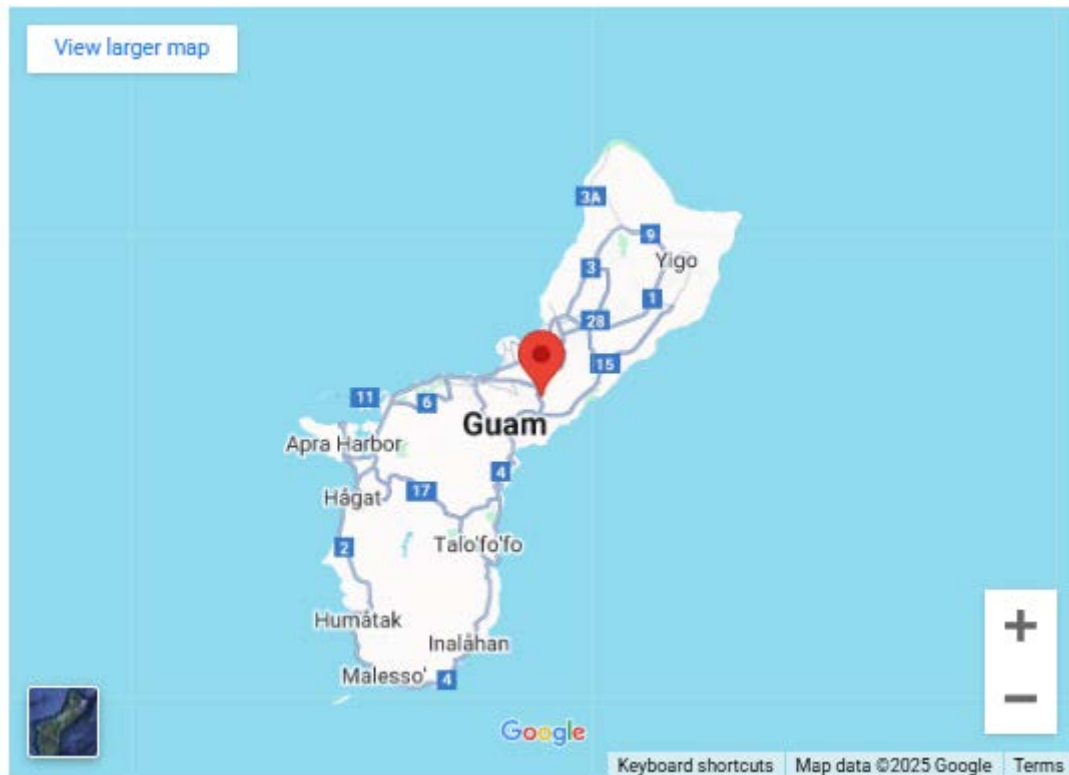
- I am in Texas
 - There are 25 places in the world named Texas!
 - Texas can be found in 6 countries throughout the world.
 - America has the highest number of places called Texas, spread across 15 regions.
- Can you just say "I'm in San Antonio"

There happens to be at least six places in the continental U.S. bearing the name San Antonio.



There are 328 places in the world named San Antonio!

San Antonio can be found in 28 countries throughout the world.

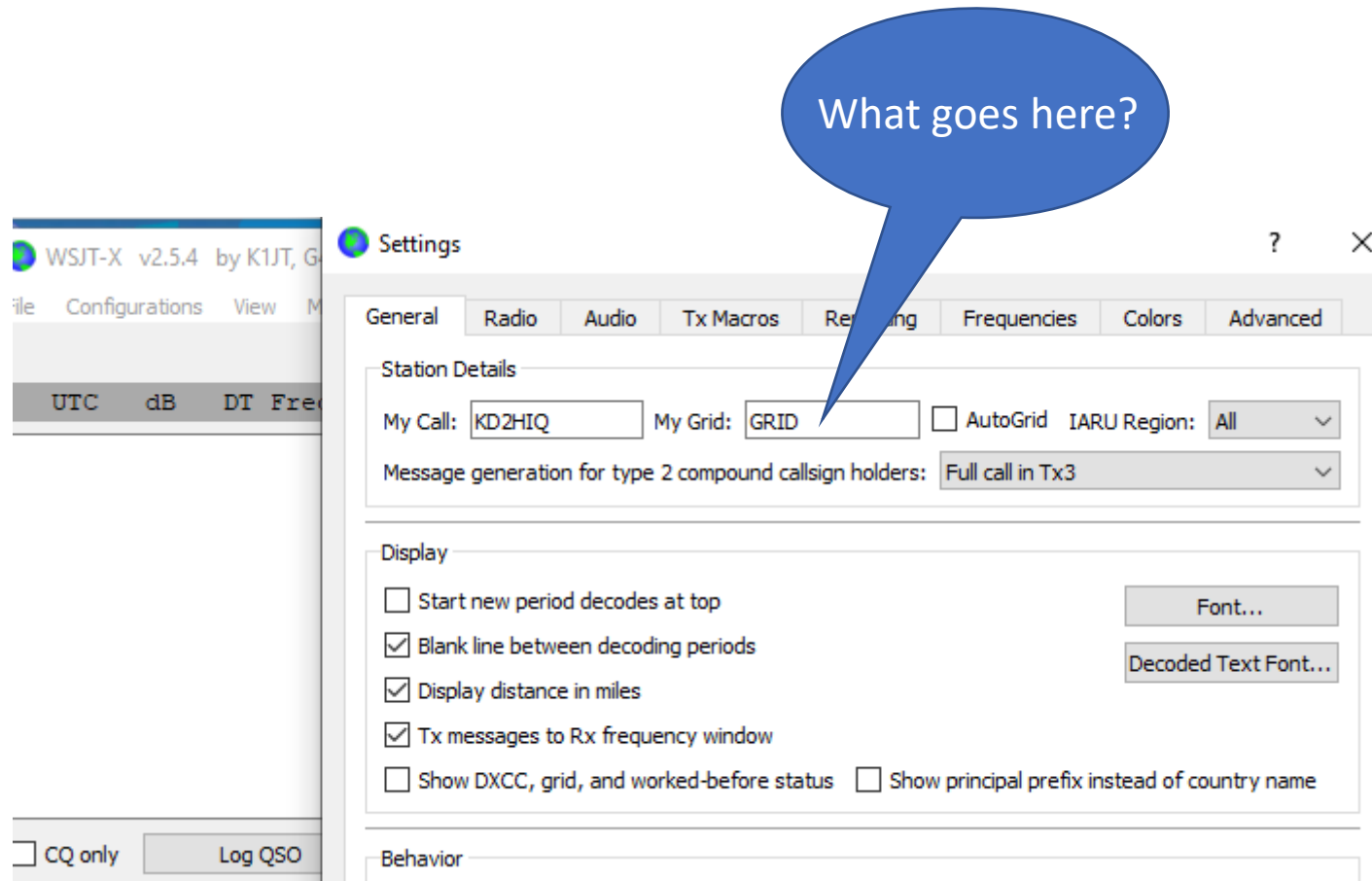


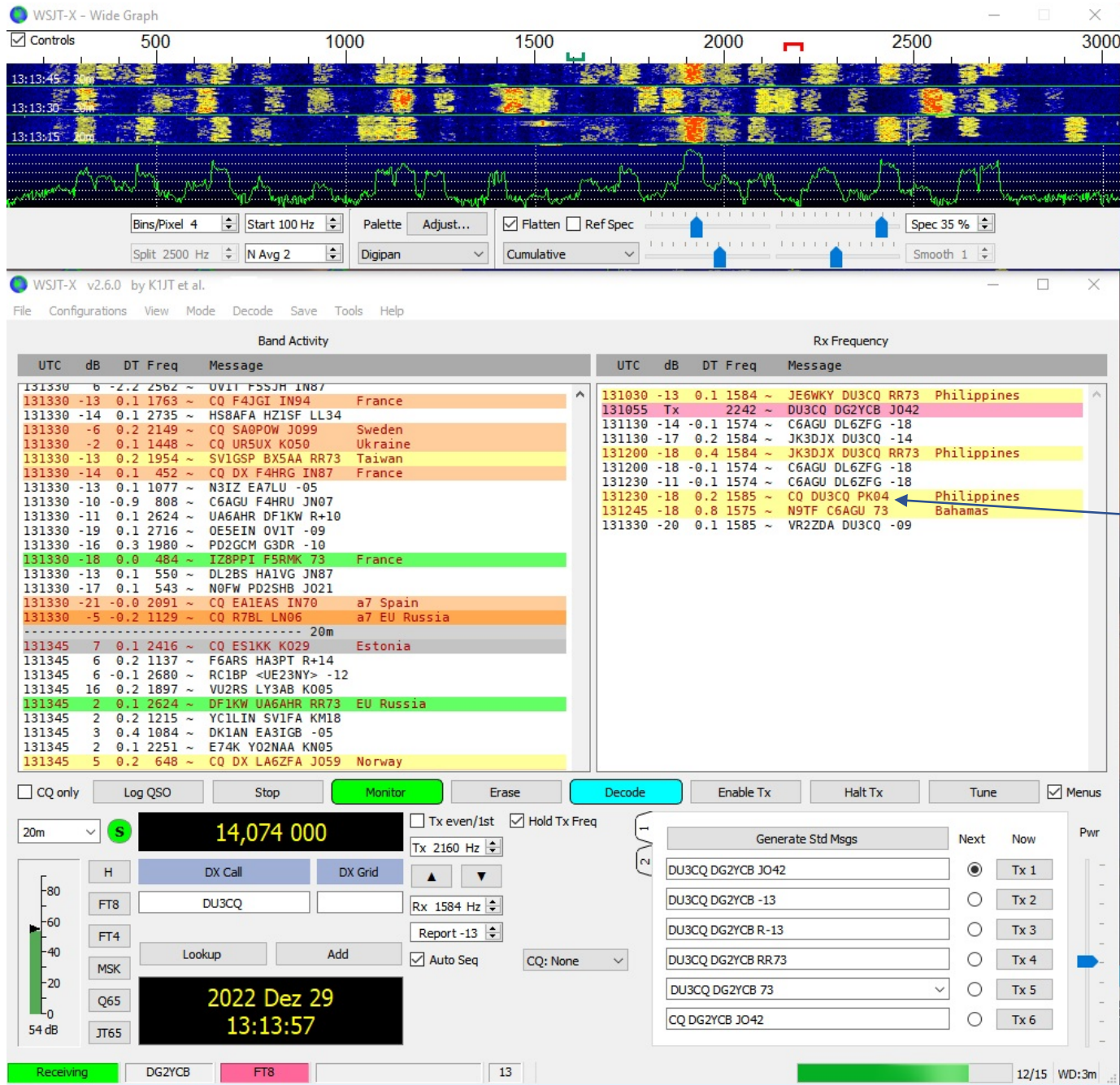
See the confusion?

- Digital protocols require grid squares
 - Used to identify your location
 - Usually in the program setup
 - Can be used to calculate distance

Understanding Maidenhead Grid Squares in Amateur Radio

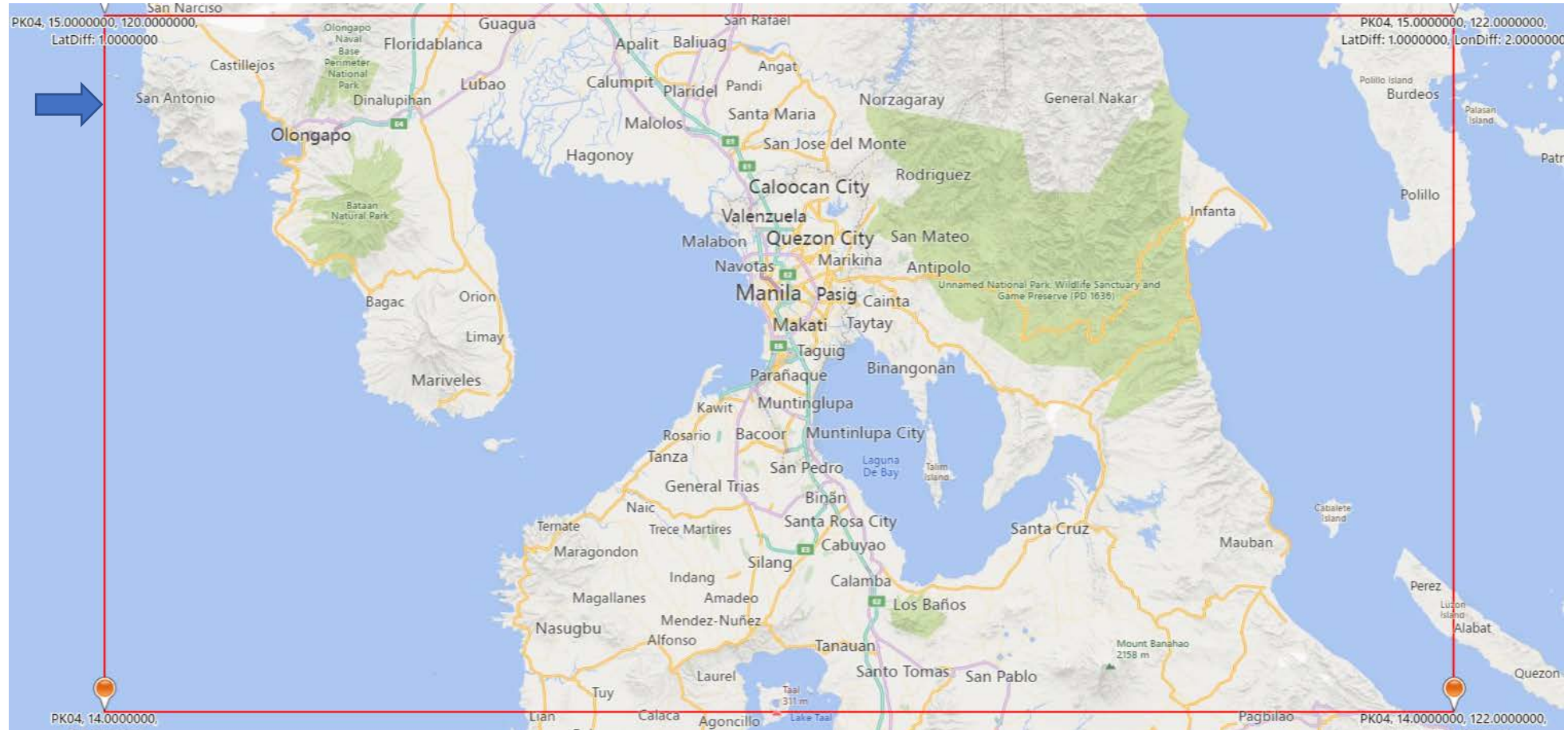
FT8 uses grid squares





What does
PK04 mean?

It's a location in the Philippines

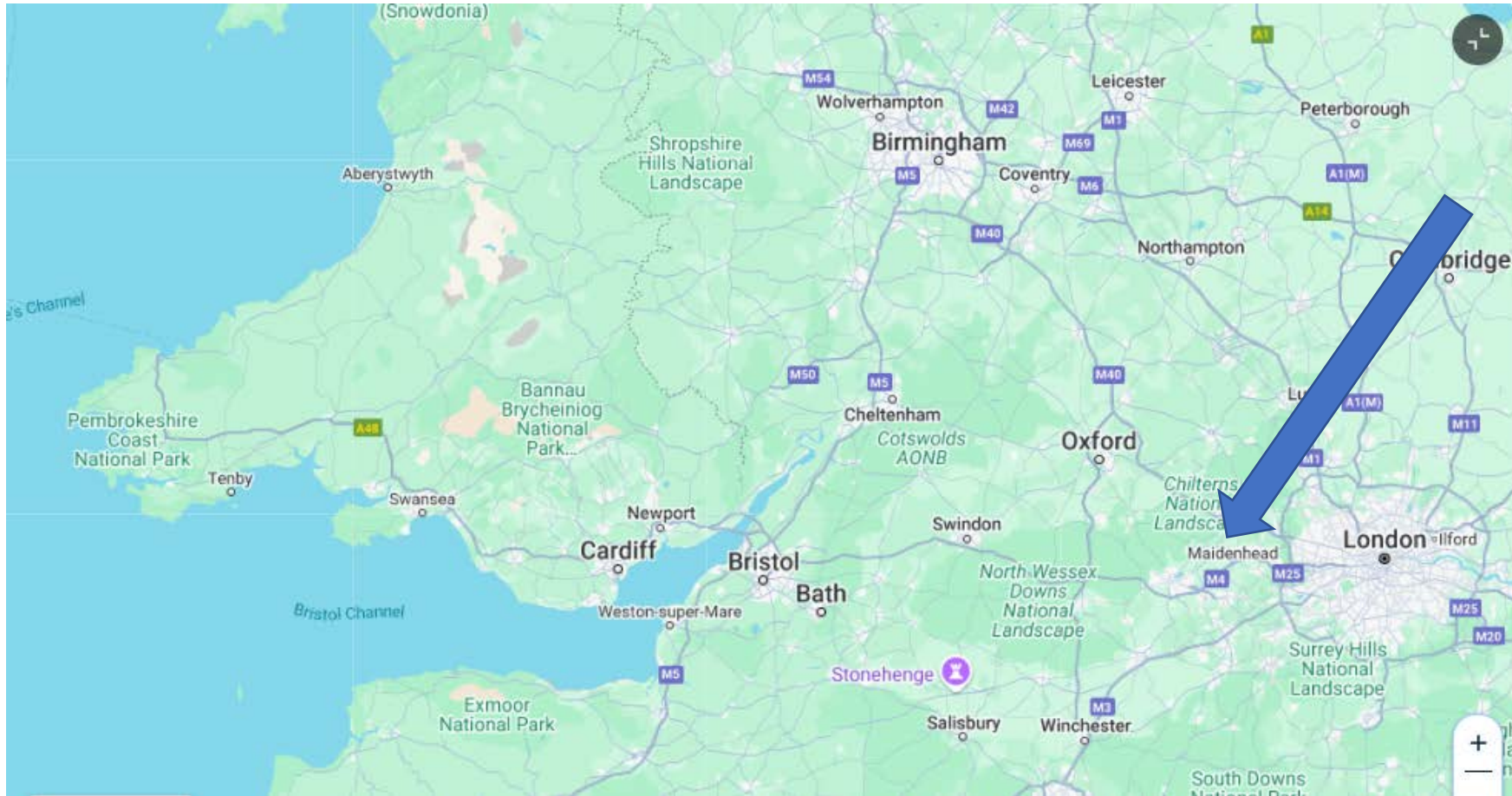




What are Maidenhead Grid Squares?

- Think of Maidenhead Grid Squares, or just 'grid squares' for short, as the ham radio world's own special way of mapping the globe.
- Born in Maidenhead, England back in the 1980s, this system chops up the planet into a checkerboard of squares. Each square gets its own mix of letters and numbers — kind of like a secret code. It's like longitude and latitude got a makeover: instead of a string of long numbers, you get something short and sweet.
- Plus, these grid squares pack a punch, holding more info in each character. That means when you're in the middle of a radio chat, sharing where you are is just quicker and easier.

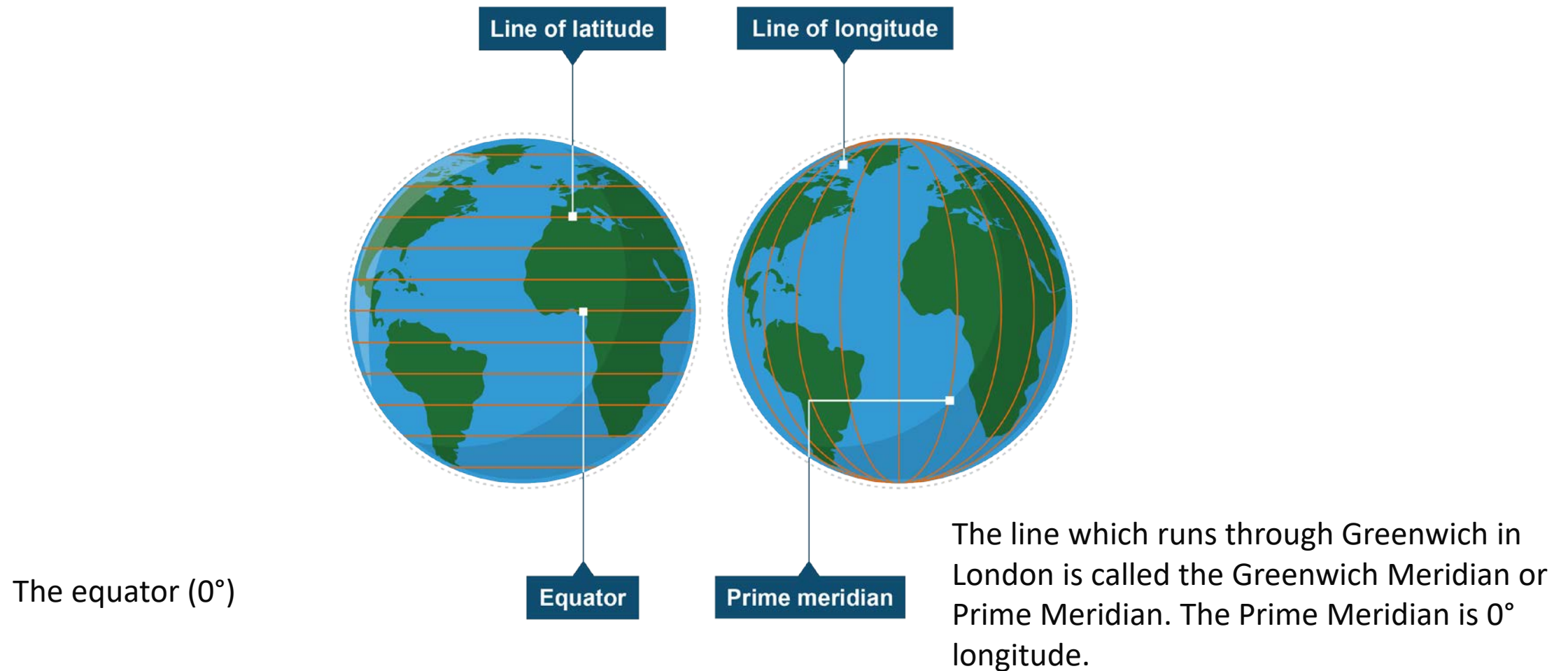
Where it all began.



Comparing Grid Squares with Longitude and Latitude

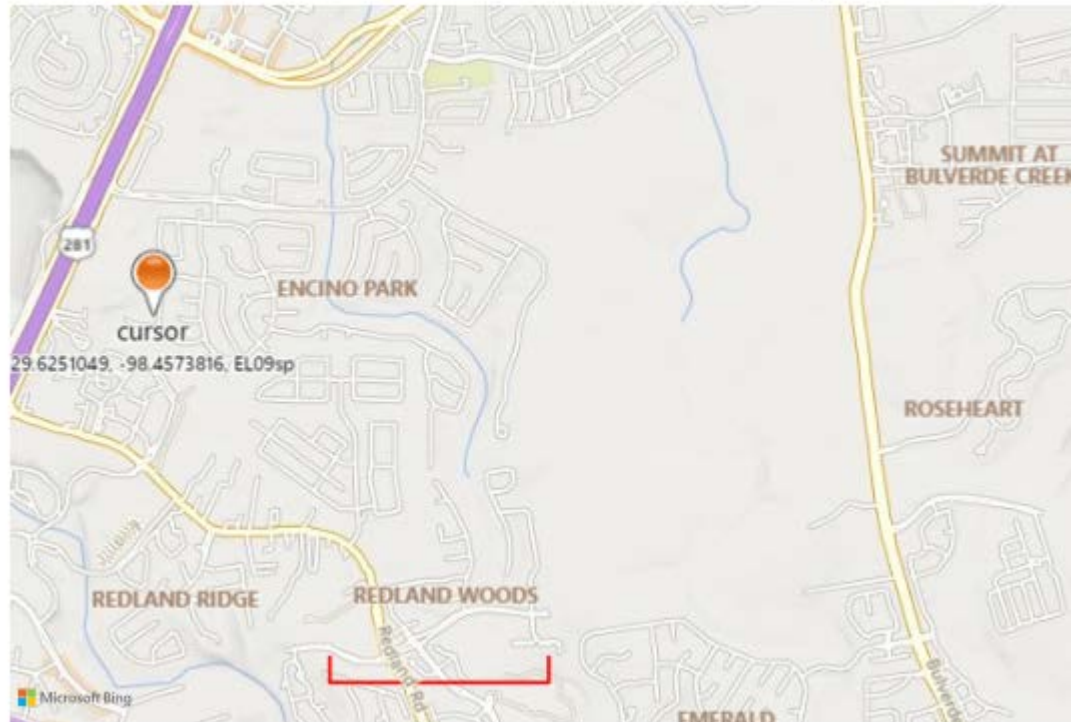
- When it comes to pinpointing your location, longitude and latitude are like giving someone turn-by-turn directions — detailed, but a bit of a mouthful, especially over the radio.
- Maidenhead Grid Squares, though, are more like sharing a landmark, e.g. "turn left at the library." They're shorter, snappier, and way easier to spit out during a radio chat. For most things a ham radio operator does, these grid squares hit the sweet spot of being precise enough without getting bogged down in too many details.
- This is super handy in radio contests, where quick and clear communication is key.

Latitude and Longitude



Which is easier to describe location?

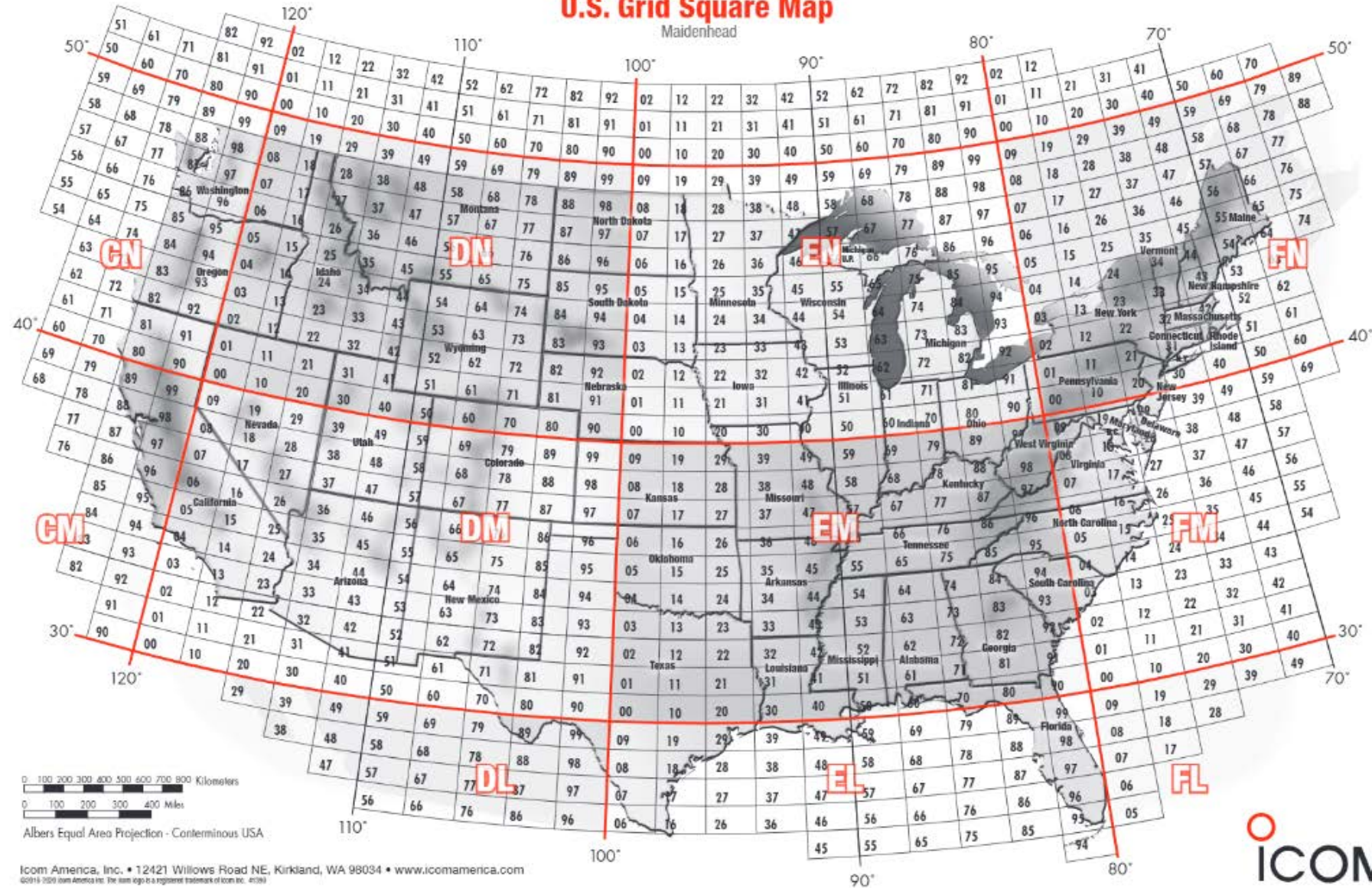
Latitude	Longitude	GRID
29.6251049, -98.4573816, EL09sp		



The coordinates are always written with latitude first, followed by a comma, followed by longitude

U.S. Grid Square Map

Maidenhead



Major VHF/UHF Contests

Mid January, Full Weekend
ARRL VHF Sweepstakes

Early March, Full Weekend
ARRL International DX Contest Phone

Early April, Spring Sprint-144 MHz

Early April, Spring Sprint-222 MHz

Early April, Spring Sprint-432 MHz

Early May, Spring Sprint-50 MHz

Mid May, Full Weekend
CQ National Fox Hunting Weekend

Early June, Full Weekend
ARRL VHF QSO Party

Mid June, Full Weekend,
SMIRK 6 meter QSO Party

Mid/Late June, Full Weekend
ARRL Field Day

Mid July,
CQ World Wide VHF Contest

Mid July, Full Weekend
IARU HF World Championships

Early August, Full Weekend
ARRL UHF Contest

Mid September, Full Weekend
ARRL September VHF QSO Party

Courtesy: CQ Magazine & ARRL

Icom Grid Square Tips:

1. Say your grid square location when operating on VHF & UHF bands.
2. Many portable GPS receivers can read out Maidenhead* grid squares automatically.
3. Say your grid square letters phonetically.
Example: for grid 13 in region DM say "delta, mike, one, three" on air.
4. Give your general location along with your grid square.

5. Have fun on VHF & UHF!

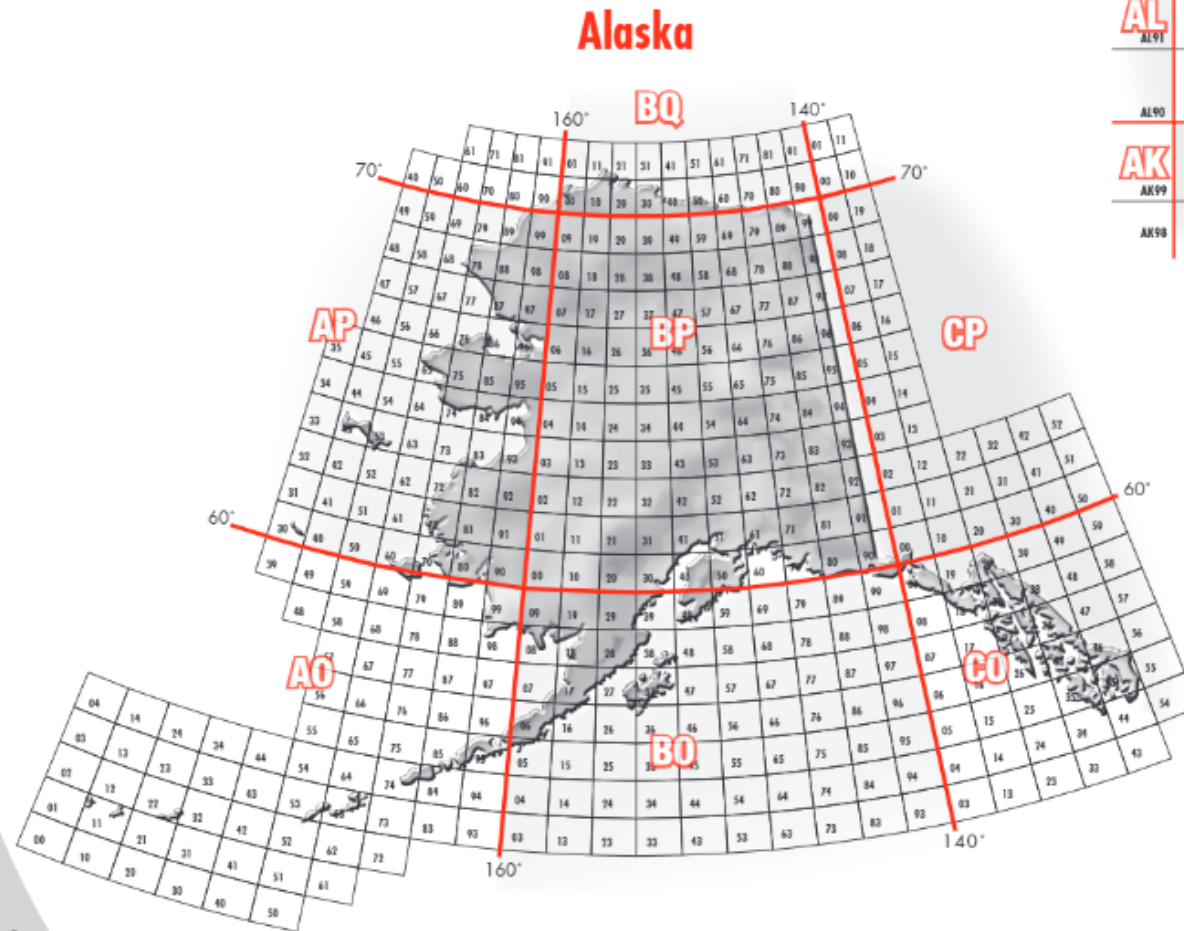
*An instrument of the Maidenhead Locator System (named after the town outside London where it was first conceived by a meeting of European VHF managers in 1983), a grid square measures 1° latitude by 2° longitude and measures approximately 70 x 100 miles in the continental US. A grid square is indicated by two letters (the field) and two numbers (the square).

From ARRL source: <http://www.arrl.org/locator/gridinfo.html>

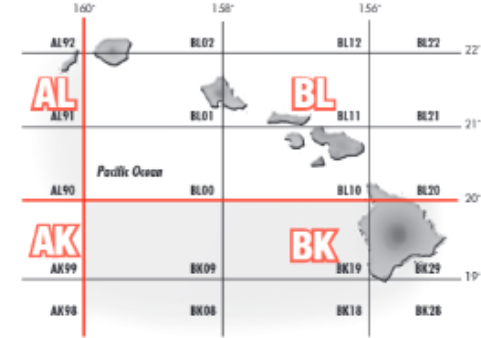
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U.S. Grid Square Map

Maidenhead



Hawaii

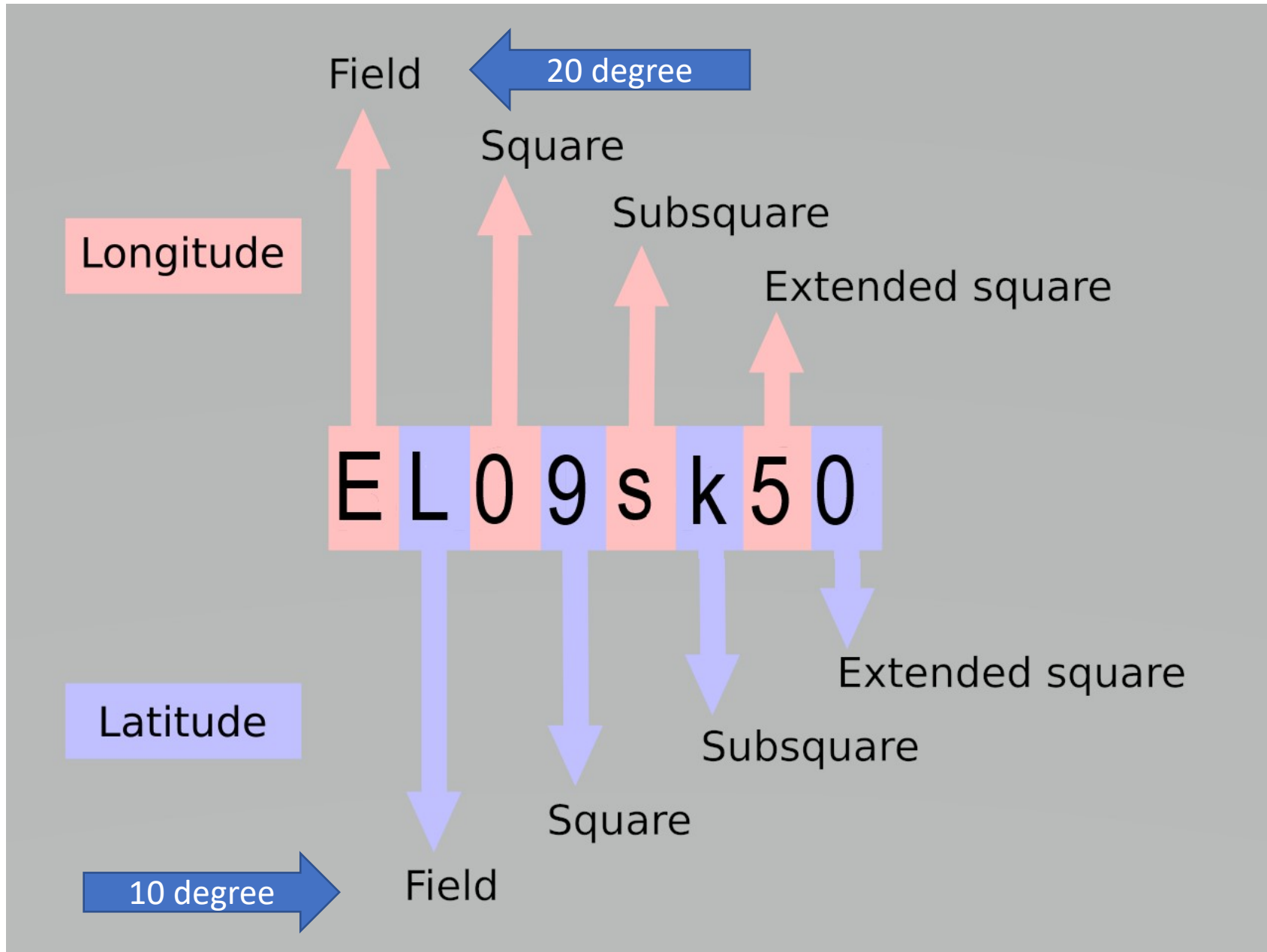


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www.icomamerica.com

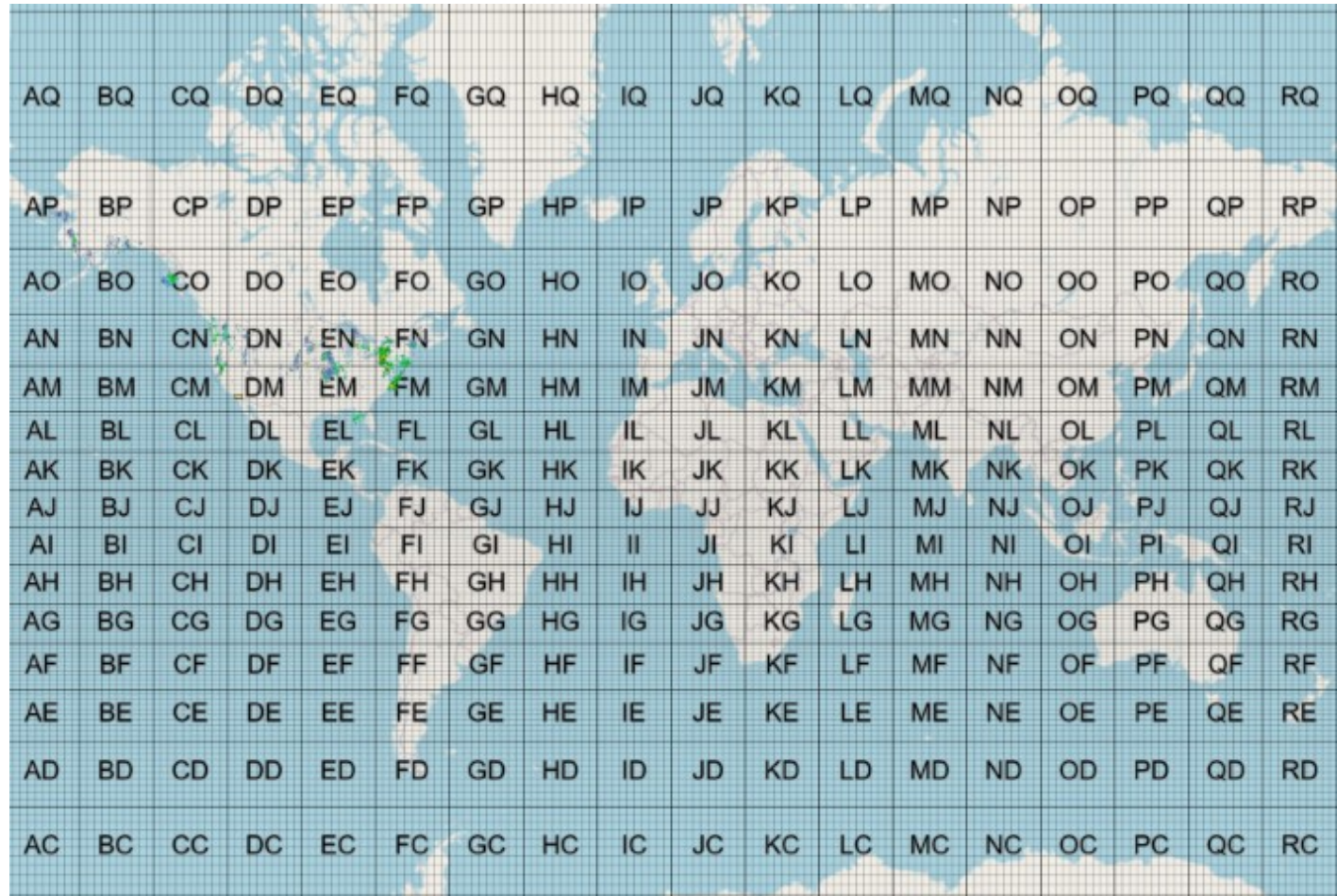
ICOM

How are Maidenhead Grid Squares Calculated?

- Imagine the Earth as a giant checkerboard. The Maidenhead system starts by dividing this checkerboard into 324 large squares.
- Each of these squares is labeled with a pair of letters: the first letter represents a 20-degree slice from east to west, much like a row in the game checkers, and the second letter accounts for a 10-degree section from north to south, akin to a column.
- So, just like picking a square in checkers, these letters pinpoint a specific area on our global board.



The globe is divided into latitudinal and longitudinal grid squares



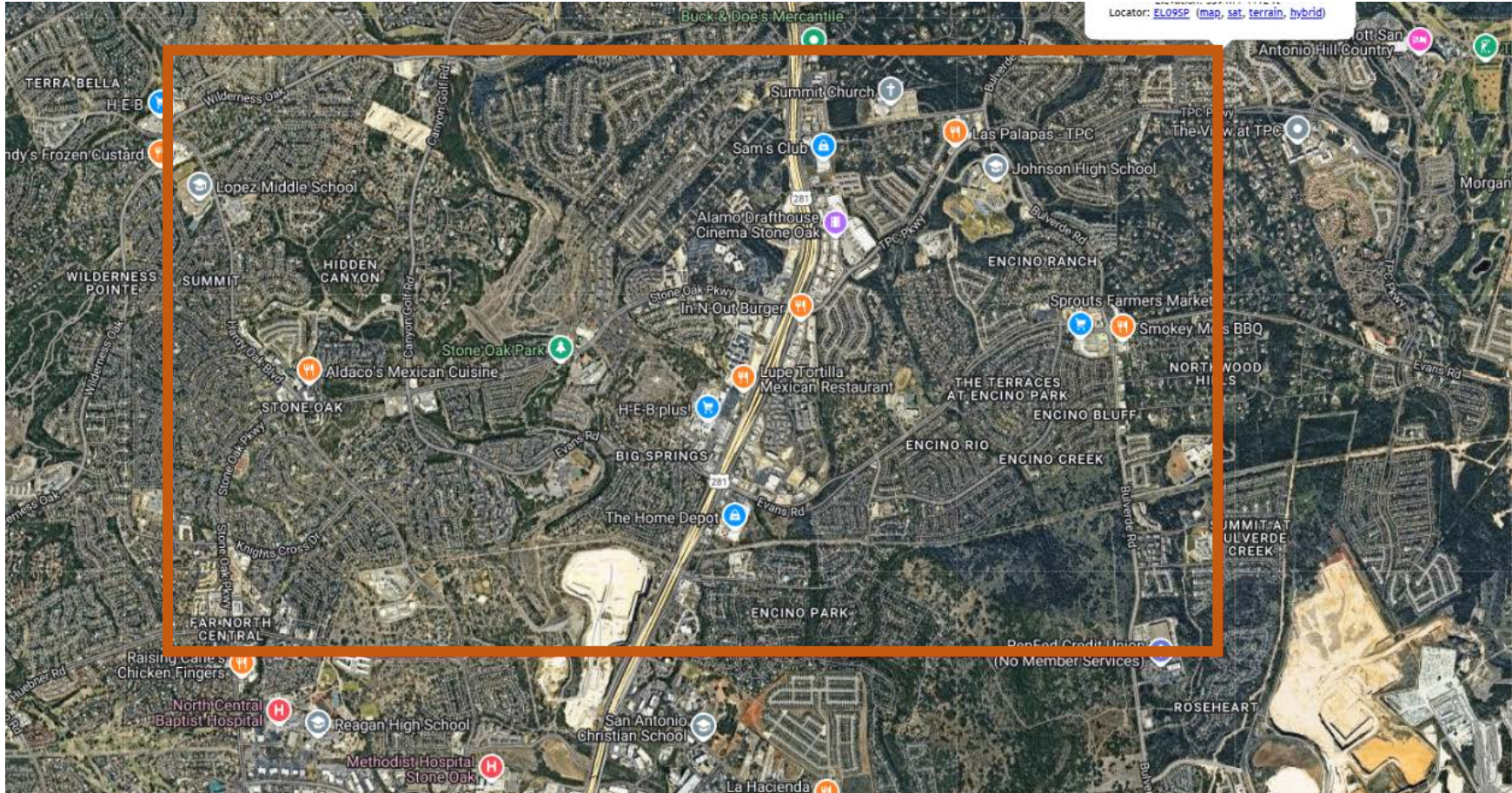
The precision of the location increases with each additional set of characters. For instance, a four-character grid identifies a location within about 100 kilometers(62m), while a six-character grid narrows it down to approximately 5kilometers or roughly corresponding to 3 × 4 miles in the continental US.

Each two-letter grid square is further subdivided into 10 latitudinal and 10 longitudinal segments.



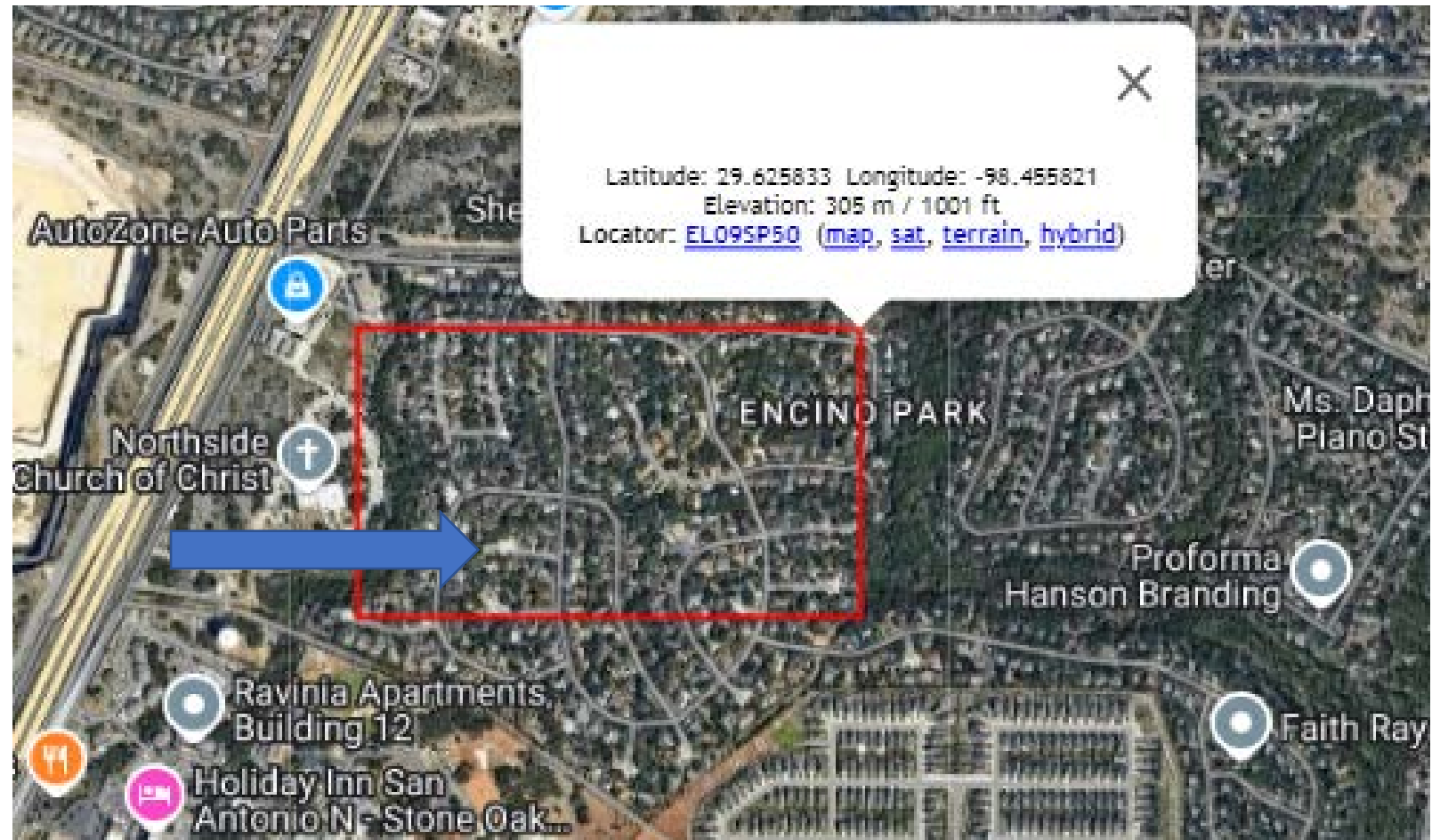
EL09sp

6 figure grid square ~ 3 x 4 miles- 5 kilometers



EL09sp50

8 figure grid square



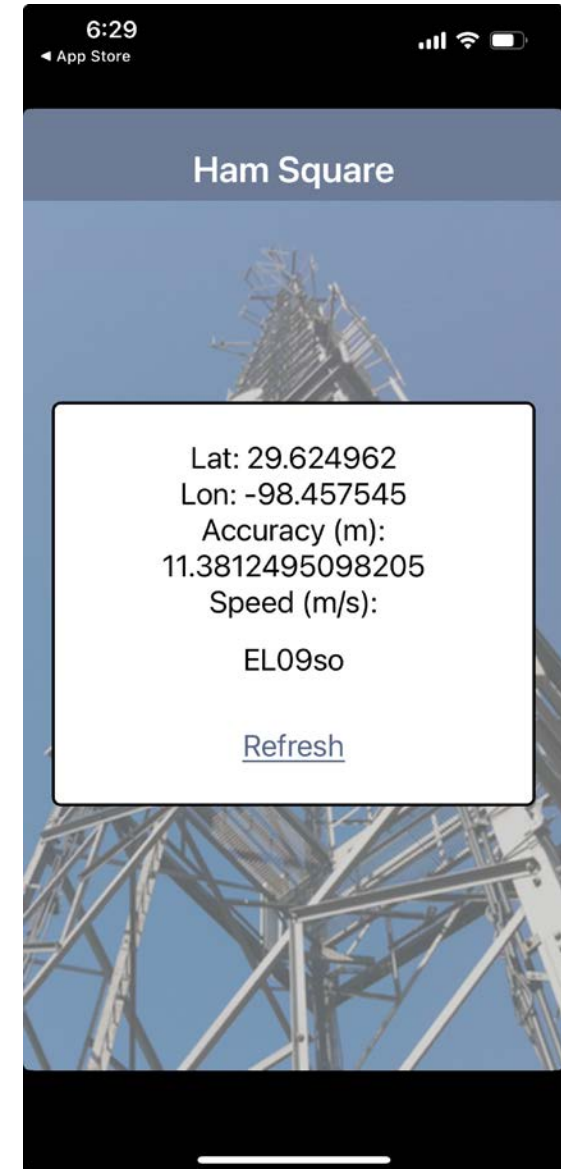
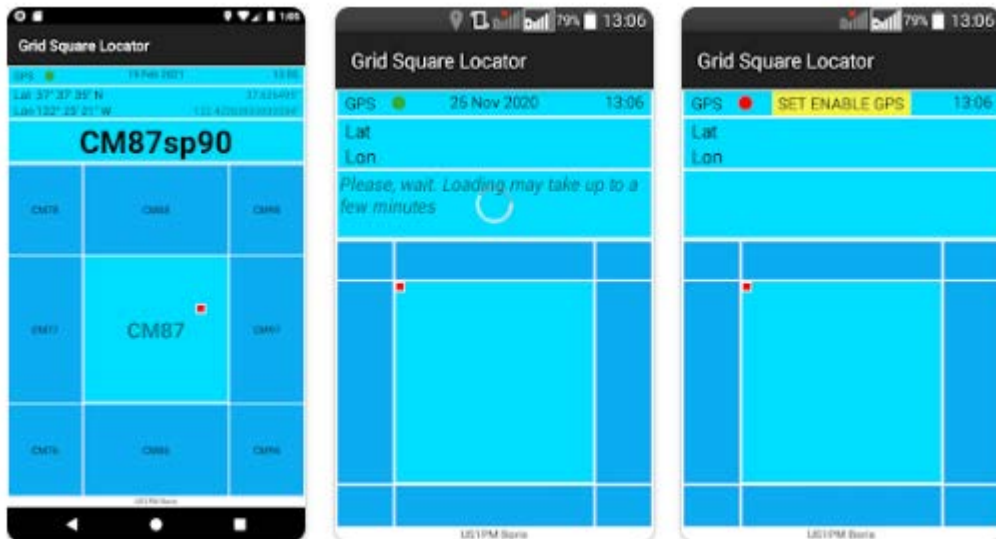
EL09sp50ca

10 figure grid square



Apps on the Go:

- There's an app for everything, right? Grid squares are no different. Apps like '[Ham Square](#)' use your phone's GPS to tell you your grid square. It's perfect for when you're out and about.
- Grid Square Locator. Android



Summary

- Maidenhead Grid Squares represent a fascinating aspect of amateur radio, blending geographical precision with ease of use. They not only aid in effective communication but also add an element of fun and challenge to various radio activities.

- **Additional Resources**

1. QRZ.com

1. Website: [QRZ.com](https://www.qrz.com)
2. Features: Offers a comprehensive database of amateur radio operators and includes tools for finding and calculating grid squares.

2. GridMapper

1. Website: [GridMapper - QRZ.com](https://www.qrz.com/gridmapper)
2. Features: An interactive map that allows users to look up grid squares based on their location or call sign.

3. DX Atlas

1. Website: [DX Atlas](https://www.dxatlas.com)
2. Features: Provides interactive world maps with grid square overlays, useful for planning and visualizing locations in amateur radio activities.

4. ARRL (American Radio Relay League)

1. Website: [ARRL](https://www.arrl.org)
2. Features: Offers a range of educational resources, articles, and guides about grid squares and their applications in amateur radio.

5. Amateur Radio Maidenhead Grid Square Locator Map

1. Website: <https://www.karhukoti.com/maidenhead-grid-square-locator>

Amateur Radio Maidenhead Grid Square Locator Map

Hover over map, specify your 2 (the field), 4 (the square), 6, or 8 character grid, or enter latitude and longitude to show grid and/or calculate distance. [Feedback or suggestion? Click here.](#)

Distance Between 2 Grid Squares

Grid #1

Grid #2

Distance (mid-points of grids): 1358.45244 km, 733.01138 nm, with azimuth 10.1°.

Find Grid by Latitude & Longitude

Latitude #1

Longitude #1

Distance Between 2 Lats & Lons

Latitude #2

Longitude #2

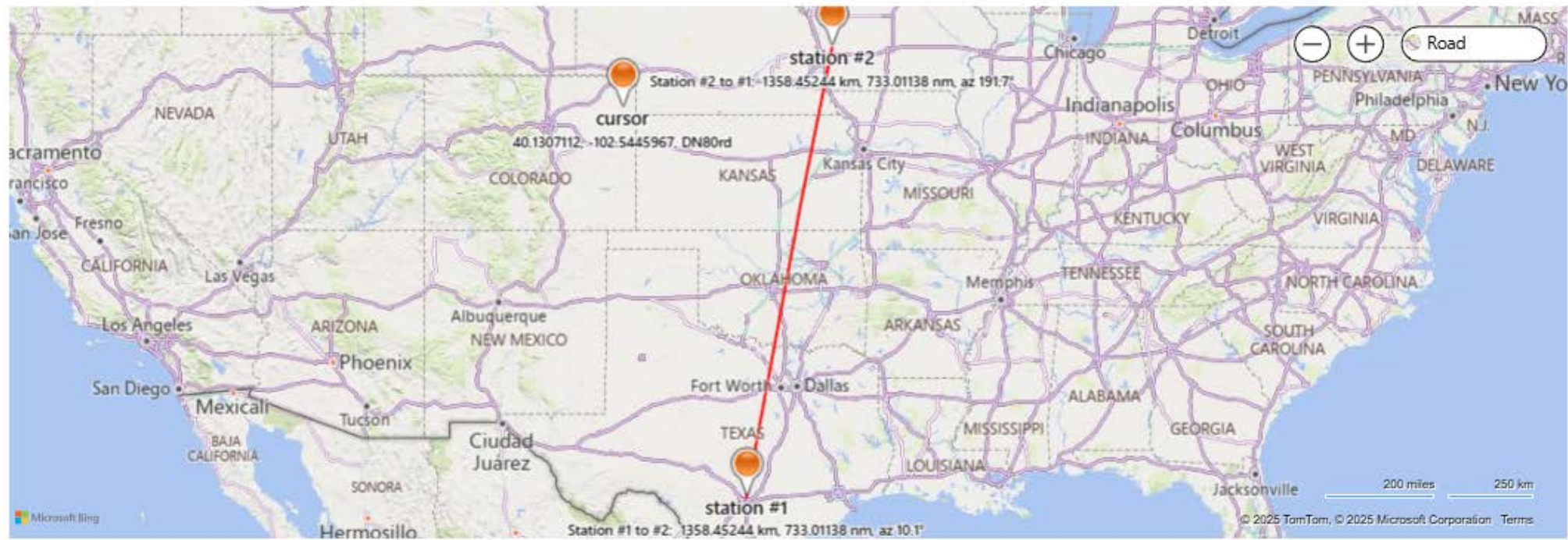
Show A Particular Grid

Grid

Use Desktop Map

<https://www.karhukoti.com/maidenhead-grid-square-locator/>

40.1307112, -102.5445967, DN80rd



When to use.

- However, remember, grid squares are kind of an insider thing in the **amateur radio world**.
- Transmitting your longitude and latitude to 5 decimal places (nearest 1.11 m) will allow searchers to precisely locate your car on a freeway, but not if you're lost in woods.
- **HOWEVER**
- You might want to use something like the [What Three Words](#) app or revert to traditional longitude and latitude to talk with first responders or other folks not involved with ham radio.

What Three Words

- [What Three Words](#) is like having a super-detailed map of the world, divided into tiny 3-meter squares — each with its unique three-word identifier. While a grid square can guide you to the general area, like which town you're in, What Three Words can pinpoint something as specific as a tent in a campsite, a fallen hiker's location, or the [exact spot of a transmitter tower](#). It's that precise. And it's able to transmit that information with three simple words.
- So, imagine you're deep in the woods and someone's hurt. If you have cell service, use What3Words to find your precise location, and when you call for help, convey that information. If you're out on a hike and there's no cell-tower in sight, use a map to determine your latitude and longitude as precisely as you can and radio that information in.
- **But don't use Maidenhead grid-squares for emergencies.** It's all about using the right tool at the right time.

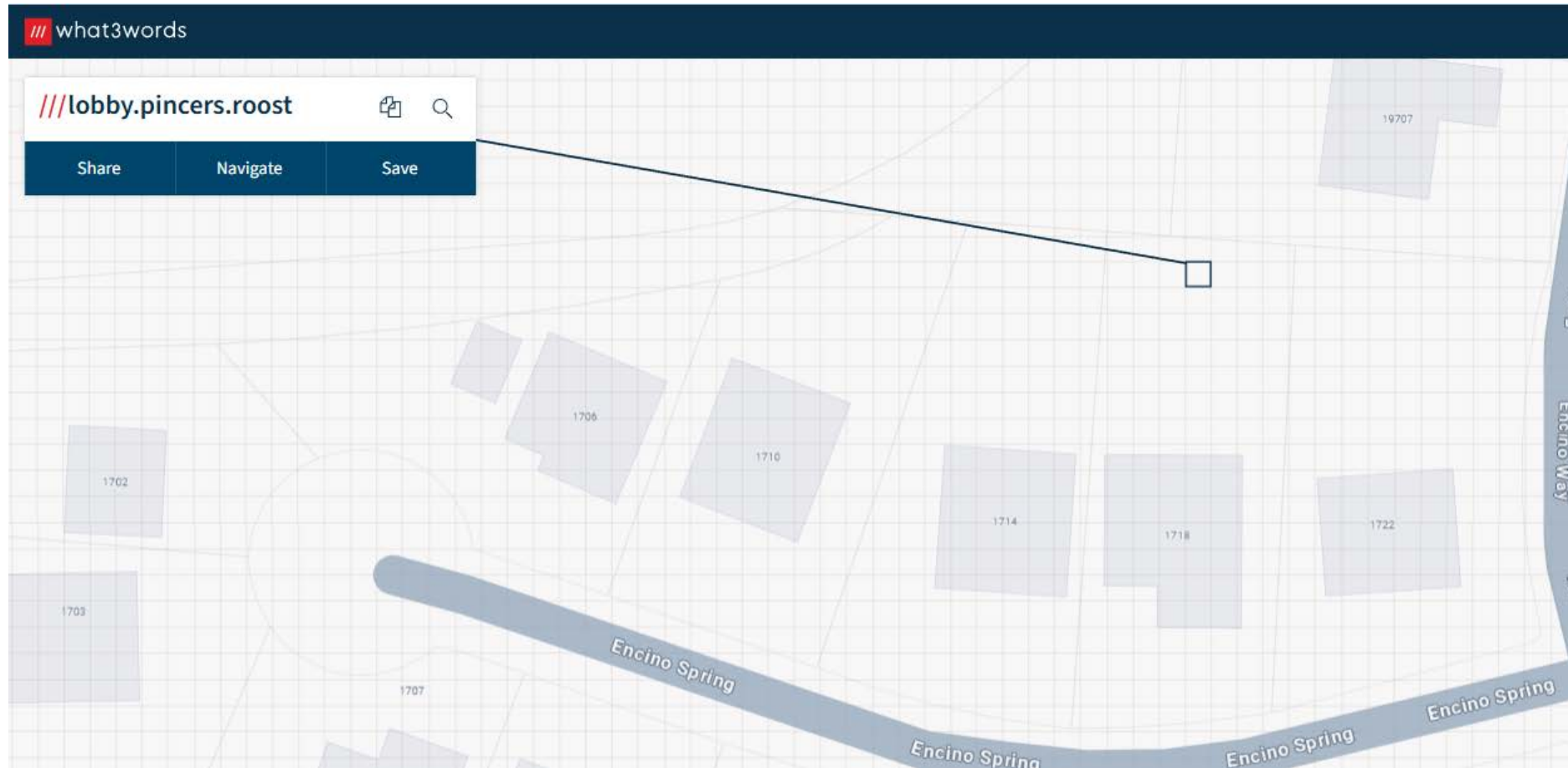
What3words divides the world into a grid of 57 trillion 3-by-3-metre (10 ft × 10 ft) squares, each of which has a three-word address.



Very precise- 3 meter square

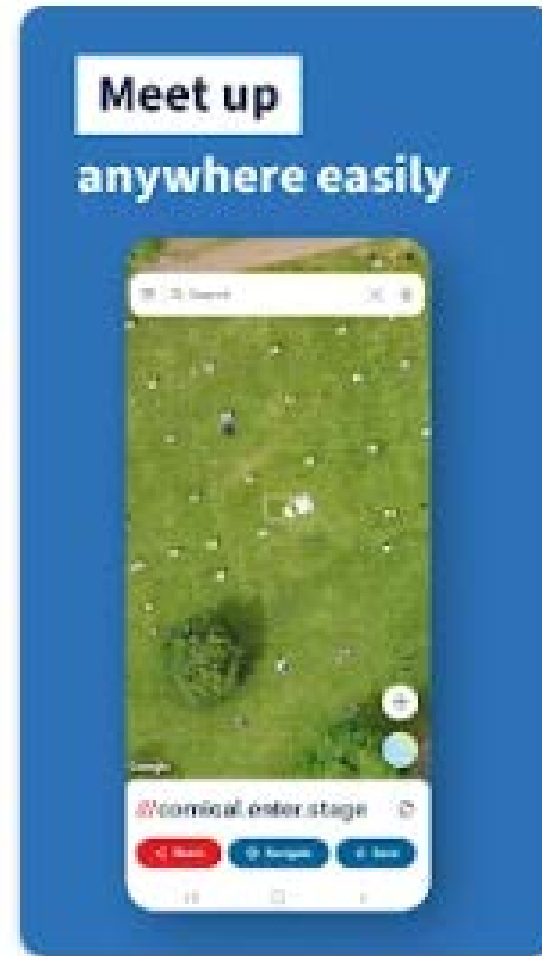


Very precise- 3 meter square

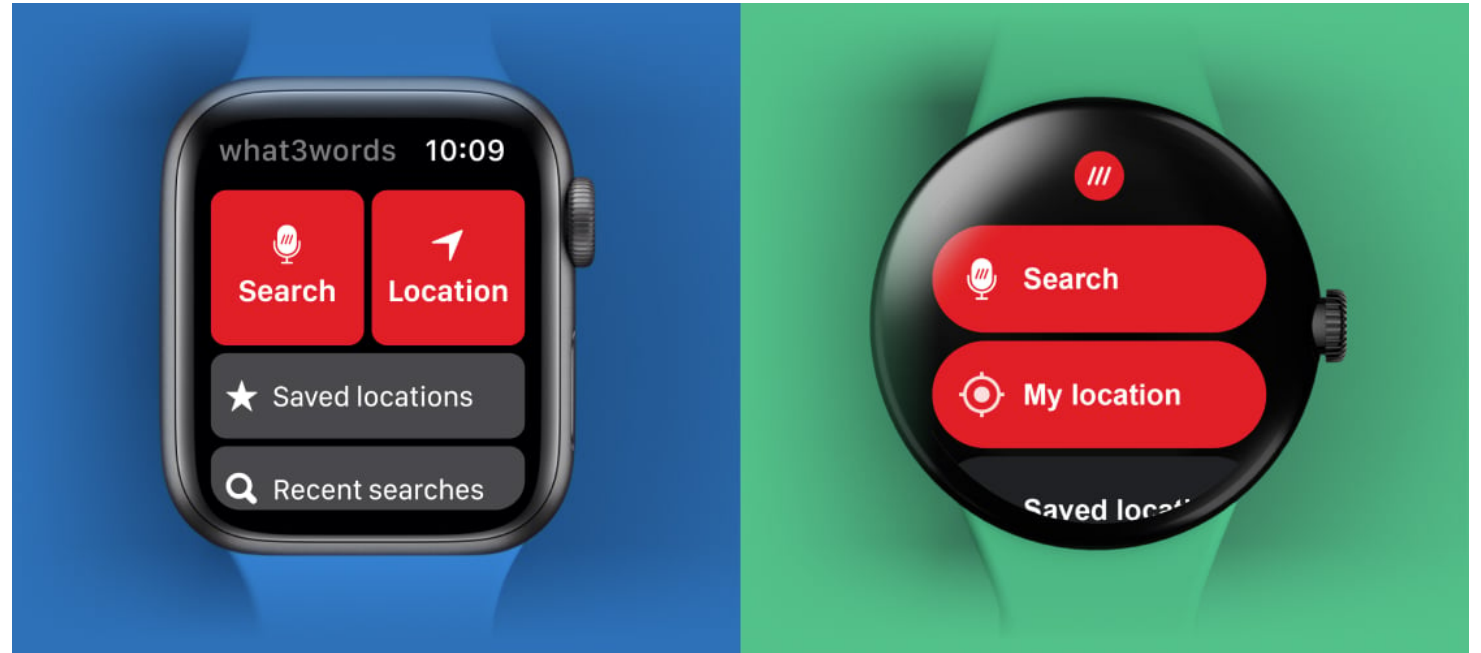


Apps:

- What Three Words



Devices:



Apple & Android Watches have apps for what3words

Garmin watch



TED Talk on what 3 words

- Did you know that the idea for what3words comes from the music industry?
- When bands, musicians and roadies kept getting lost trying to find gigs and festivals, Chris Sheldrick knew there had to be a better way to talk about locations.
- Chris, CEO and co-founder, told the what3words origin story in a TED Talk.
- https://www.ted.com/talks/chris_sheldrick_a_precise_three_word_address_for_every_place_on_earth

The End.

