



Automatic Weather Stations on the APRS Network

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Garware School and Thokarwadi Dam site

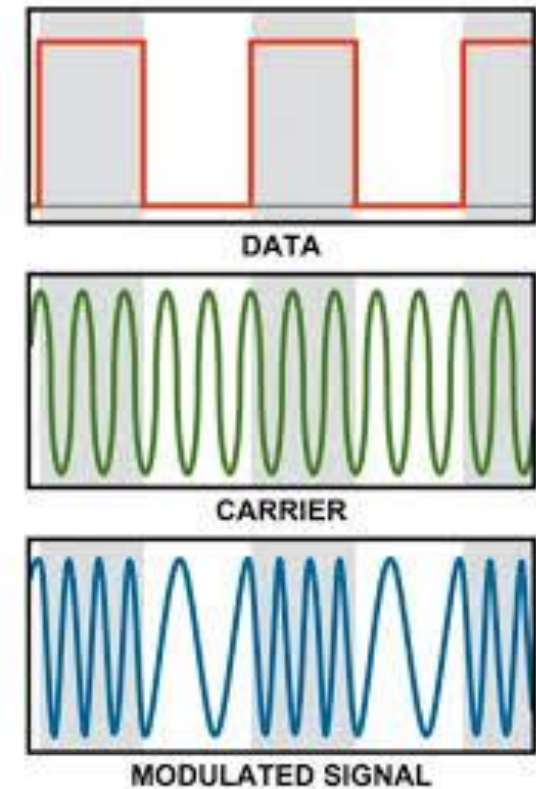
We Meet Every First Sunday Of The Month



VHF:VU2ETD 144.800MHz-600KHz With Echolink
UHF:VU2DYQ Tx:435.700MHz Rx:434.100MHz

Automatic Packet Reporting System (APRS)

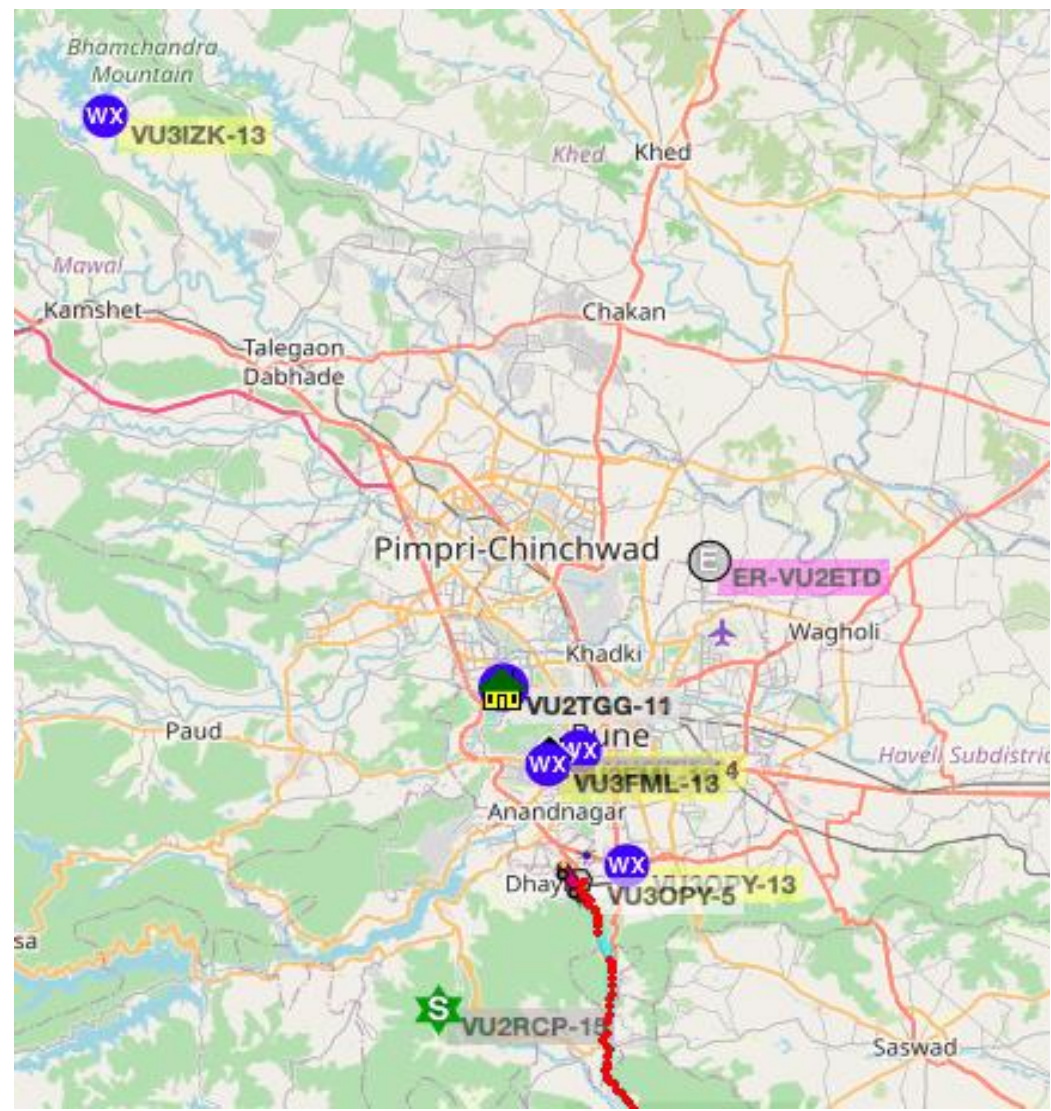
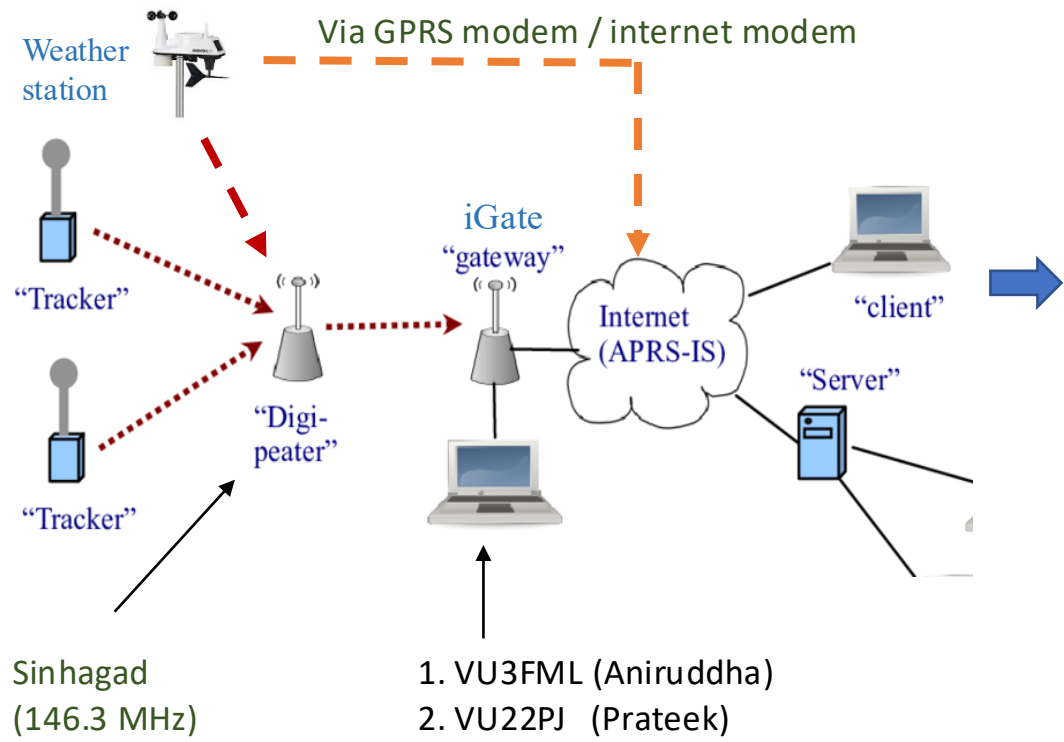
- Real-Time Digital Communication Protocol
- Low Bandwidth
 - 1200 baud AFSK (Audio Frequency Shift Keying)
- Applications → **DISASTER MANAGEMENT SUPPORT IN ADDITION TO VOICE COMMUNICATION**
 - Weather monitoring, Vehicle Tracking, Emergency Communication via messages
- Key APRS functional equipment
 - **iGate** → **APRS Internet Gateway**
 - bridges local radio-based Automatic Position Reporting System (APRS) data to the internet (APRS-IS)
 - **Digipeater** → **(Digital Repeater)** specialized node, using a "store and forward" mechanism to receive, verify, and retransmit amateur radio packets
 - **Digirig** → **Data to Sound converter for transmission on voice channel**



Why are we building our APRS Network ?

- Enhance Disaster Management support
 - Enhance **Infrastructure-independent network** for data
 - 'will stand' **during disasters even if other public communication infrastructure fails**
- Use of APRS Acquired data for disaster management support
 - Vehicle Tracking of government and our own vehicles
 - Weather and associated data from weather stations at strategic locations

Integrating the Weather Station with the APRS Network



What all does a Weather Station contribute ?

Temperature,
Humidity
sensors

Rain Bucket

Anemometer

Wind Vane

Radiation
sensor

Data
Acquisition
system

Soil moisture &
temperature
Sensors



Measuring associated Parameters



Evapometer

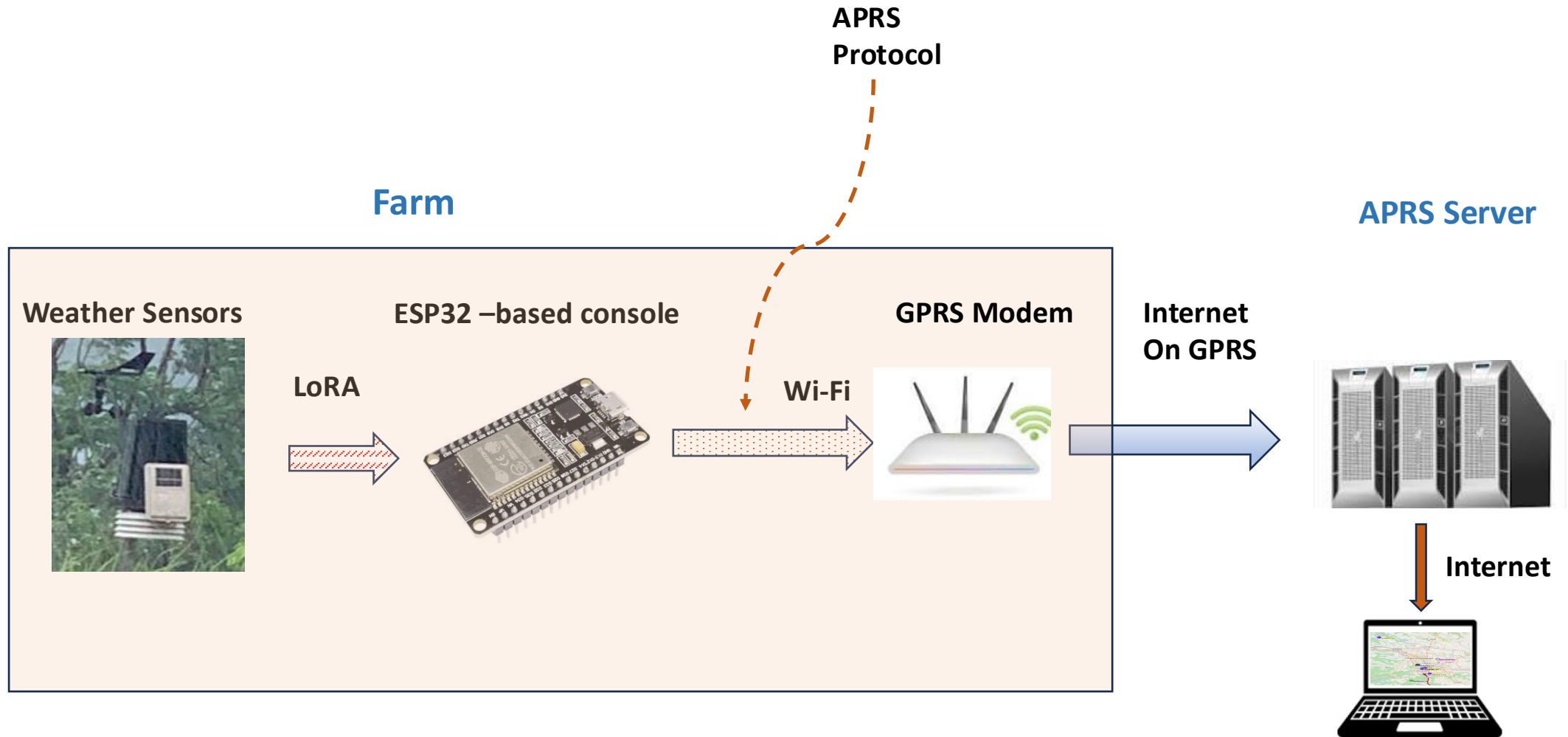
Pond Water level measurement





Connecting to the APRS Network

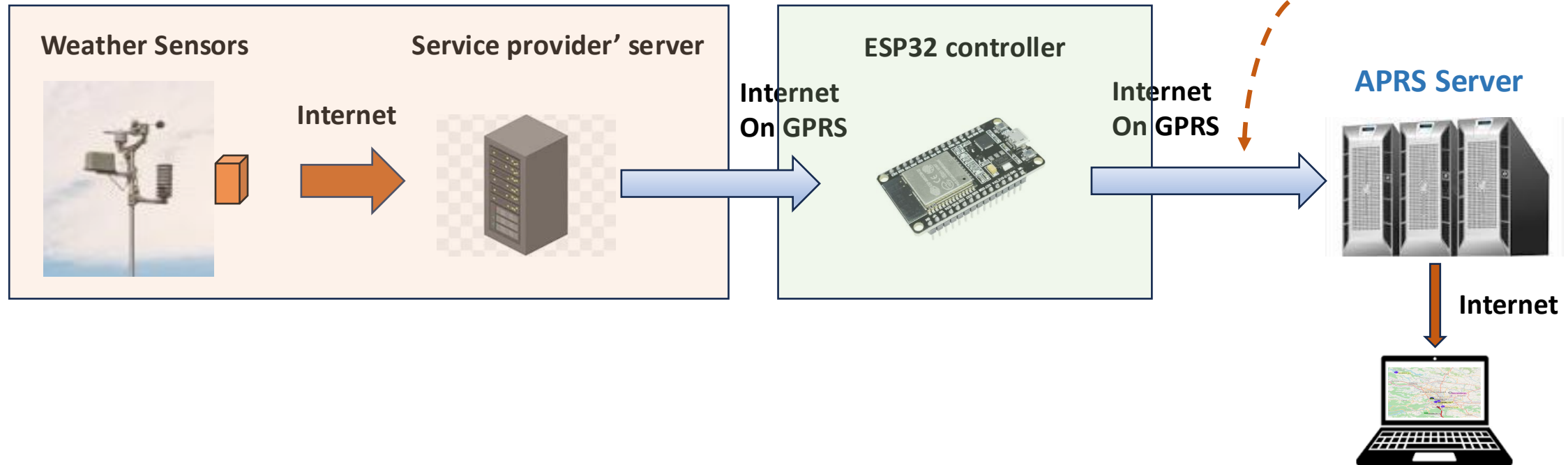
FARM Weather Station Schematic

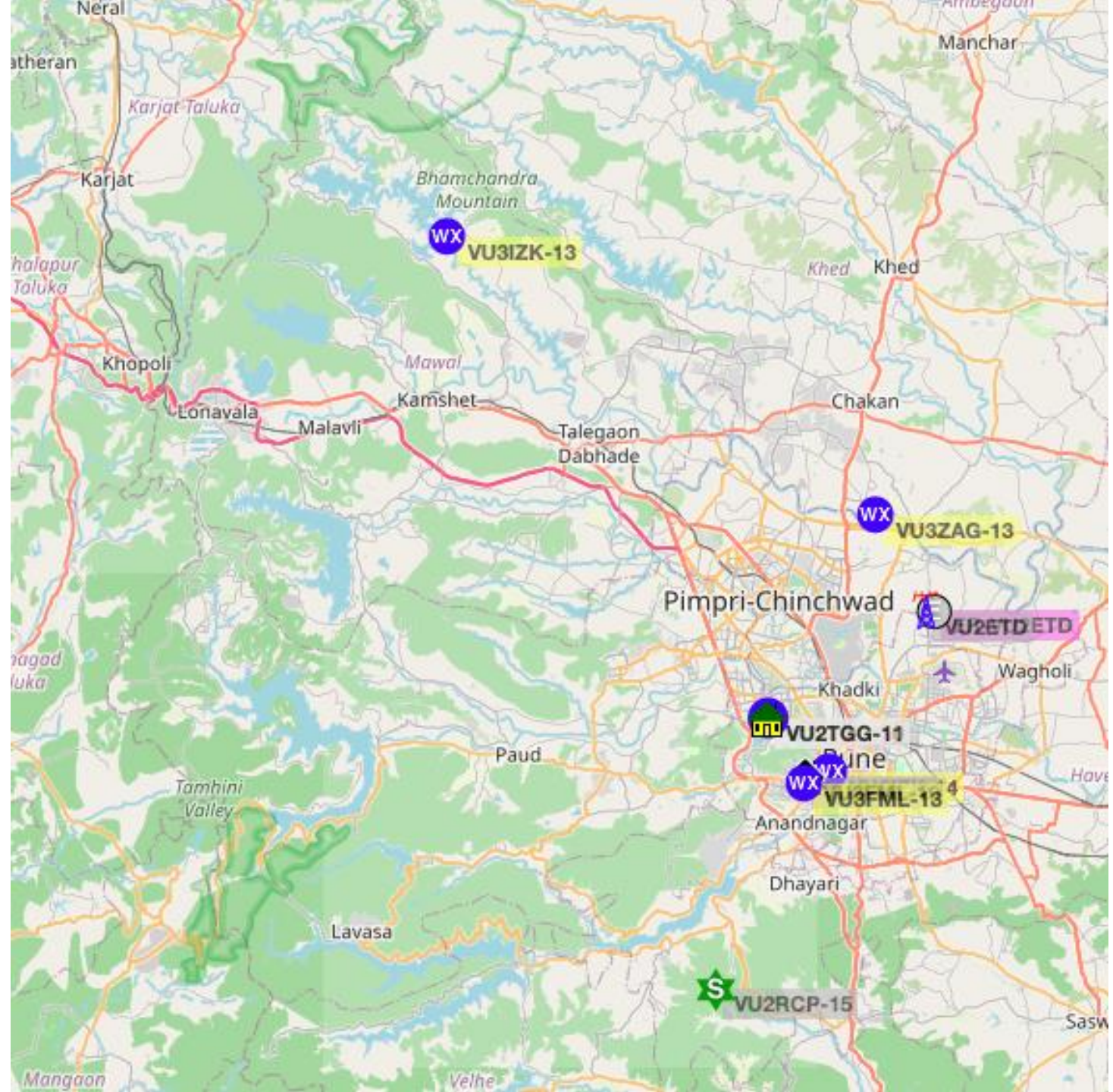


Garware Weather Station Schematic

Previously Existing

Hitesh's location





The future – Resilience using VHF
Radio all the way !!

FARM Weather station on VHF

