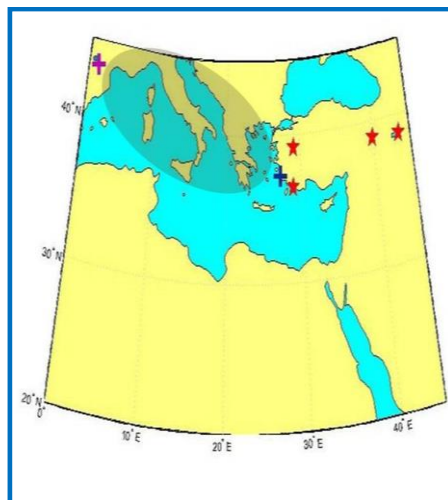


# Investigation of Electromagnetic Waves Associated with Oceanic Earthquakes in context with Earth-Ocean Coupling

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Investigation of Electromagnetic waves by using Sudden Ionospheric Disturbances (SID) was being carried out by using Very Low Frequency (VLF) data from SID monitoring station of Bafa (latitude  $37.24^\circ$  N, longitude  $27.19^\circ$  E) at 23.4 kHz received at France with sampling rate is 10 sec. The radio waves are extensively used to study of Seismo-electromagnetic phenomena which may possibly associate with four major earthquakes in the Turkey region. We analyse the trend of signal for the whole year and compute the sunrise and sunset terminator time from it. We observe night-time fluctuation during the processes of earthquake preparation over the earthquake epicentres in the Turkey Anatolian block. We calculate the total energy accumulation by all those earthquakes for a single day and compute the effective magnitude of all the earthquakes for that day which behaves as a single quake. We computed a cross correlation between trend from the night-time fluctuation value with effective magnitude of earthquake and found that the unusual fluctuations in signal strength are well correlated with earthquake magnitude and the fluctuation is maximum on few days prior to earthquake events.



- + France Receiver
- + VLF Transmitter
- ★ Earthquake Epicentre

Fresnal Zone along with earthquake epicentres