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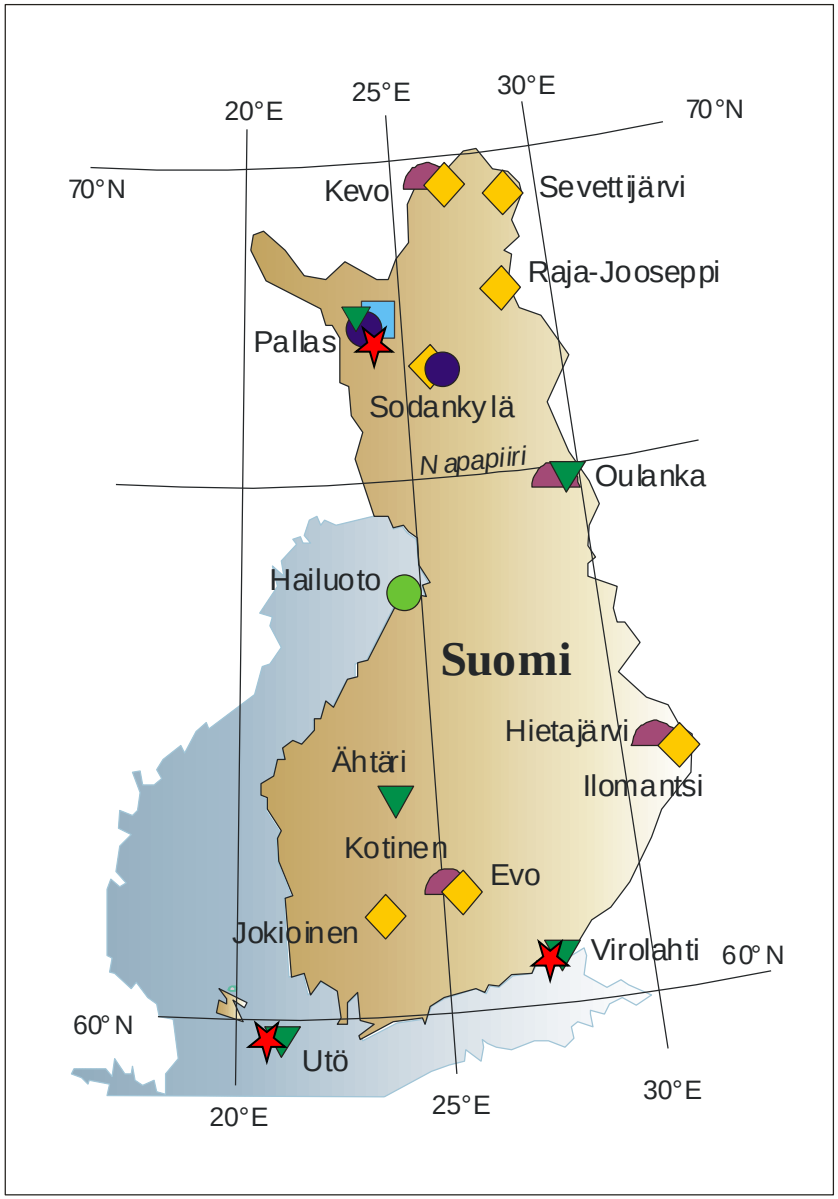
Background air quality networks in Finland

Measurement programmes

- EMEP
- GAW (WMO)
- Integrated monitoring
- HELCOM
- AMAP
- Other stations
- EU



Measured parameters: (1/2)

Deposition

- Main ions: pH, γ, Na, K, Ca, Mg, Cl, NO3-N, SO4-S
- Heavy metals: Al, As, Cd Cu, Fe, Mn, Ni, Pb, V, Zn, Co, Cr
- PAH compounds
- Mercury

Inorganic and organic gases

- O3
- SO2
- NOx
- Hg (TGM)
- VOC compounds

Measured parameters: (2/2)

Particles

- PM2.5: Na, K, Ca, Mg, NH4-N, Cl, NO3-N, SO4-S
- PM10: Al, As, Cd Cu, Fe, Mn, Ni, Pb, V, Zn, Co, Cr
- PM10: PAH compounds
- PM2.5: Mass concentration
- PM10: Mass concentration
- EC/OC

Inorganic gases + particles

- EMEP 3-stage filterpack: SO2-S, SO4-S, (HNO3+NO3)-N, (NH3+NH4)-N, Na, K, Ca, Mg, Cl
- MARGA (Monitor for Aerosols and Gases in Ambient Air):
  gases: HCl, SO2, HNO2, HNO3, NH3
  particles: Cl, SO4, NO3, NH4, Na, K, Mg, Ca

Experiences in implementing monitoring and modelling activities under the EMEP programme (FI)

+ Measurement sites serve several AQ programmes
    - More comprehensive information on chemical composition of ambient air
    - Saves instrument costs and human resources

+ Introduction of new automated technology in field measurements
    - E.g. MARGA provides results with better time resolution and better cut-off between gases and particles

+ Significant and successful co-operation with the EMEP MSC-W
    - scientific publications, cooperation within a EU-funded project

- Harmonization of EMEP/EU measurement programmes of chemical composition of PM2.5 and PM10

- Challence: Human and financial resources