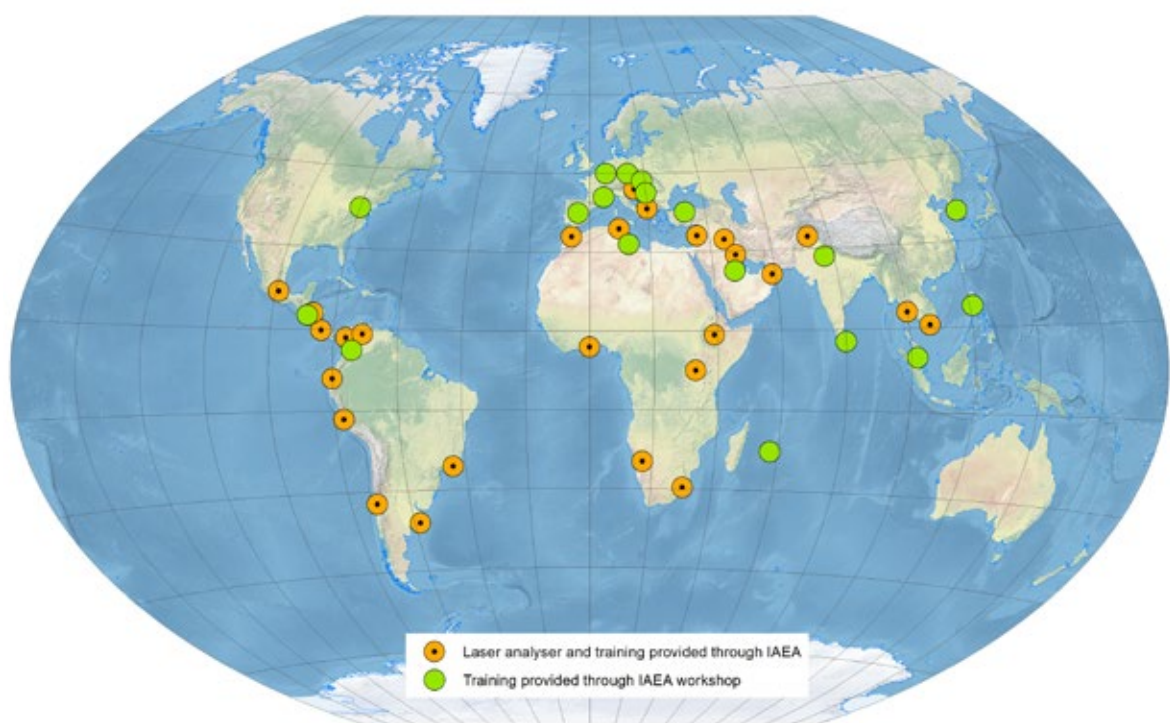




Water
Resources
Programme

Laser Absorption Spectroscopy for $\delta^{18}\text{O}$ and $\delta^2\text{H}$ in natural waters

The Water Resources Programme (WRP) has provided Laser Absorption Spectroscopy (LAS) machines to 30 Member States over the last four years, and trained over 60 counterparts in their use through regular training courses held at the Isotope Hydrology Laboratory. This method is inexpensive and easy to use compared to conventional Isotope-Ratio Mass Spectrometry (IRMS) technology, vastly increasing Member States' capabilities to produce quick and inexpensive results for stable isotope of water.



LAS is a revolutionary technology for the measurement of oxygen and hydrogen isotopes that became available in the late 2000s. It has rapidly evolved to become the main method for routine isotopic analysis of natural waters. LAS measures the $\delta^{18}\text{O}$ and $\delta^2\text{H}$ composition of microliter liquid water samples, with an analysis time of about 3–5 minutes, at precisions that meet or exceed IRMS technology.