

Water Sampling Protocol for Isotopic Analysis

Required material:

- 2ml vials with cup with septum
- PET 0.20 Micron filters
- Syringe



Considerations for sampling:

1. When you use the same filter for different samples (a filter can be used until it clogged by the accumulation of particles, their use depends on the dirt of the water), it must be borne in mind that some water of the last sample always remains inside, so for its use in the following sample, you must purge it before, with the same water being sampled. The same for the syringe.
2. Place the filter correctly into the tip of the syringe (it is important that it is well placed to ensure that all the water that falls on the vial is filtered).
3. Do not fill vials up to the top because they can break when they are stored in the refrigerator to preserve them (the water inside them expands).



4. The most important thing for the analysis of d2H and d18O in water is that the water does not evaporate during its storage, because this would alter the isotopic composition. For this reason vials must be tightly closed and must be kept in the refrigerator.

Sampling:

1. When you reach the point of sampling, load the syringe with water, place the filter and pour the water. This process must be repeated 3 or 4 times to avoid drops of water from the previous sampling to be inside the syringe or filter and contaminate the sample. The 5th time, charge the syringe with at least 3 ml of water.
2. Place the filter into the tip of the syringe (is important that it is well placed to ensure that all the water that falls on the vial is filtered).
3. Fill the 2 ml vial, to the level where it starts the thread (as shown above).
4. Close the vial with its plug (it is very important that they are well closed, to prevent evaporation).