The hydrology statement is aimed at providing the "large picture" of where WATER HM stands in the "global hydrology cycle". The aim is to show that WATER HM fills in a gap for the surface water observations and is part of a whole series of satellite missions.

The Hydrology science questions and their ordering is fine by us, our statement is to be seen more as a different way to look at the global water cycle challenges and to explain the gap that WATER HM will fill, and where the questions are coming from.

Concerning the applications IV, the list is not intended as a substitute for the list of questions but more as the global vision of the WATER HM mission contribution to different applications (from which the list of questions should be derived (at least in part)). There might be a whole set of very important applications (should extract one scientific question) that have been overlooked concerning the synergy hydro-oceano and that we have listed in IV.4. Oceanography: this is the whole synergy business for the coastal regions, quite new for most of us but extremely important with global change and for the WATER HM mission.

The main points we want to make with the hydrology statement are:
1. WATER HM fills a definite gap in the Global Water Cycle observations and is part of a whole set of satellite missions that fill in different gaps
2. There are very important applications that will use the synergy ocean-hydrology and might have been overlooked
3. WATER HM should be considered as a satellite mission that will operate along with other profiling altimeter satellite missions. This is especially important for the WATER HM orbit selection.
4. Risk reduction studies should be prioritized and the orbit selection is number 1 (orbit selection cannot be answered before a whole set of simulations have been done (see F. Lyard presentation as a start for these simulations)).
4.1. Simulations for different orbits (sun-synchronous, versus non-sun synchronous) and the computation of the different error budget is the number one risk reduction study since it will strongly impact the measurements required for the science questions.
4.2. the simulation studies have to take into account and simulate the existence of profiling altimeters operating at the same time as WATER HM (a post-Jason profiling altimeter for sure, plus probably a Sentinel (post-ENVISAT) polar sun-synchronous orbit)