

## Tim Carter: “Quantifying Global Change Scenarios“ Talk Summary

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Tim began by stressing that scenarios are „possible future alternatives“, and **NOT predictions** of the future. He went on to describe the methodology of constructing scenarios using the Millennium Ecosystem Assessment (MA) as a working example. The first key point was highlighted as being the method used for definition of the „base case“(characterisation of current trends), for which data requirements can be considerable (Tim referred us to vol 2 of the MA). He then pointed out the distinction between direct (e.g. climate, land use) and indirect (e.g. policy, socio-economic response) drivers of change, and described ways in which these drivers can be quantified e.g. past trend extrapolation, modelling etc. and stressed that interactions between drivers can be most important so all drivers need to be considered to obtain „a consistent global framework for scenarios“.

He then highlighted two other key considerations for scenarios: unlikely but possible abrupt global changes (e.g. shut down of thermo-haline circulation leading to dramatic cooling), and regionalisation of scenarios (i.e. many scientists do not work at the global scale, and also regional scenarios can be more credible to stakeholders).

Finally Tim discussed some of the uncertainty issues associated with scenarios, namely:

- Additional levels of complexity introduce added uncertainty, **HOWEVER**, Joe Alcamo disagreed with this point and instead thinks that under-estimation of one driving force is compensated for by over-estimation of another, otherwise global models would not work at all!
- The scenario for which we have the best information is often the one selected, so predictions of the impacts of global change may not cover all uncertainty.
- We cannot assign a probability to any given scenario, because if we do we are moving back in to **predicting** and so it is no longer a scenario (see Tim’s first point!), however if we don’t then non-scientists will....