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Linking the global and the regional - what means global warming regionally in the Baltic Sea catchment?

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Climate science has undergone a number of shifts of attention in recent years. After an introductory phase driven mostly by academic interest, the problem of man-made climate change – mostly through emissions of greenhouse gases into the atmosphere – became a very important if not dominant political problem, with possible massive interventions in the societal organization on the globe. In this phase a key question was if the perspective of man-made climate change was realistic. An approach was called “detection and attribution” and its successful conclusion led to confident assertions in the IPCC reports that first a change beyond natural variability was taking place, and that any successful explanation had to involve a dominant contribution from the greenhouse gas drivers.

Using the authority of the IPCC reports, societies mostly in the western “developed” part of the world, embarked on policies to massively reduce emissions – to “mitigate man made climate change”. For such mitigation, specifics about regional manifestations were of minor societal importance, as the major issue was reduction (of growth) of emissions, while adaptation was considered less relevant if not -even worse- a distraction.

Later it became clear that a “halting” of man-made climate change was hardly possible; that man-made climate change had already led to changes also on the regional scale; the insight that the issue would be *limiting climate change in the foreseeable future, and stabilizing it at a later time*; COP-15 failed. Only then the issue of adaptation was recognized as another legitimate key problem. With that change, the regional manifestation and with it, regional detection and attribution were accepted as relevant and legitimate scientific challenges.

In this talk, this sequence of phases is discussed, and the knowledge about regional climate change in the Baltic Sea catchment, as described mostly in the BALTEX Baltic Sea Climate Change Assessment report (BACC), is reviewed.