MASTER CLASS ORGANISED BY PROF. DR. PATRICK MEIRE AND PROF. DR. TOM YSEBAERT

Nature based solutions: the answer to the challenges of climate change in estuarine and coastal systems?

Coastal areas, lagoons, estuaries, and deltas are among the most threatened habitats worldwide and very vulnerable to global change. Rising sea levels on the one hand and changing river discharges on the other hand will require innovative approaches for coastal communities to adapt to these changes and guarantee further human use of these low-lying systems. Indeed, worldwide, coastal areas harbour large human populations and very important economic activities that are increasingly challenged by these global change issues.

Over the years it became clear that there are limits to classical engineering techniques used in the past to protect these low-lying regions from flooding or to develop their economic functions. More recently the benefits of nature based solutions (NBS) became more and more obvious and worldwide there is a tendency to come to a more integrated approach combining classical engineering with nature based solutions for building coastal resilience and providing biodiversity benefits simultaneously.

Although nature based solutions are very promising, still quite a number of questions remain before it can become a mainstream technique. What is the stability or resilience of different habitat types or species involved? What design criteria should be used? What are the best methods, habitats for a given problem/region? What is the cost compared to classical engineering? How can other ecosystem services benefit from NBS?,….

In this masterclass we invite participants to share their experience on NBS and aim at coming up with a position paper on the possibilities and problems for the application of NBS in coastal systems in the broad sense.

Participants are requested to submit an abstract of their work and based on this they will be assigned a task that should be the basis for their presentation. In this way we will try to get a “red line” through the different presentations and focus on the possibilities and problems of NBS.

The masterclass itself will consist of a presentation by the organisers giving an overall framework on the topic and introducing the different contributions. This will be followed by presentations of the participants, which should be very short, 5-10 min max focussing on the assigned task in relation to their work. The presentations will be followed by discussions in small groups around specific issues. During these discussions we want to set up the framework of a position paper on the knowledge gaps for application of NBS and problems to overcome in the implementation of NBS. This framework will be developed into a publishable position paper by the participants after the master class.