Join Expert Group on Dynamic Modelling

"View on the usefulness but also the gaps in the existing monitoring data when it comes to using the data in models."

Filip Moldan, chair of JEG DM

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Big progress

- Coverage of vegetation data is expanding due to multiple efforts
- Maintaining monitoring in place provides long data series which sometimes provide new insights (e.g. by capturing more extreme events, by covering greater span in weather conditions, by including land use change)
- Spatial resolution of deposition data has greatly increased
- Availability of data is improving (e.g. through web, through journals supplementary material to publications)

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More effort needed

- Better representation of all relevant habitats by the monitoring programmes
- Scarce availability of certain parameters (e.g. P in soils)
- Low-availability of all data needed for modelling from the same locations (IM is a good example, Natura 2000 is less good example)
- To model biogeochemistry of N still not satisfactory, robustness of modeling biodiversity change is limited by the quality of underlying biogeochemical model runs
- Lack of process understanding in part due to less focuss on experimental work (as opposed to modelling and to monitoring)
- Accessibility of data: only a fraction of what is monitored is easily available

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How models can inform policy makers?

- Maps and interactive tools (such as the US EPA Global Change Impacts & Adaptation - Critical Loads Mapper) are excellent for getting the messages across
- Models are excellent for synthesis and visualisation of monitoring combined with process understanding. Many examples available!
- Models can fill the gaps (time and space)
- Policy makers are not sensitive to difference between observation based x model based outputs – as long as approved by experts
- Models are very efficient in making predictions

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Where are we and what can be achieved in future?

- Modelling of ecosystem effects is ahead of what is being used for policy purposes.
- Exception is modelling of biodiversity change due to air pollution
- Interaction between modelling community and policy makers is equally important for making use of the (new) model outputs as progress in modelling itself: Guidance is both welcomed and needed.