

## climate change modelling for the world leaders



Climate change is a reality and it is impacting us through water first!

We are starting to see the consequences in terms of increased frequency and intensity of floods and droughts, more extreme waves, as well as changes in our ecosystems.

Decision makers around the world rely on water professionals to provide the best possible answers to questions on how we can adapt to climate change in the safest and most cost-effective way.

With Release 2011, the key MIKE products include a new Climate Change scenario modelling tool. Water modellers can now provide fast and consistent answers to climate change questions.



### How it works

The Climate Change tool is based on the CO<sub>2</sub> emission scenarios developed by the Intergovernmental Panel on Climate Change (IPCC). Scientists around the world use

Global (or General) Circulation Models (GCMs) to predict the changes in temperatures and precipitation for these IPCC scenarios. It is these predictions that are included with Release 2011 and used as the basis for the Climate Change tool.

To create a new scenario, select:

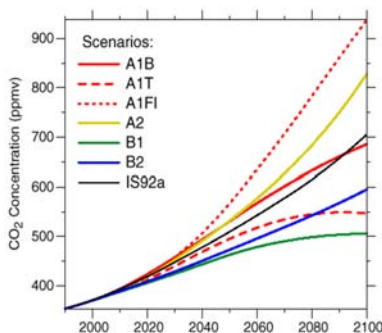
1. An existing baseline MIKE model
2. The emission scenario to be simulated

3. The GCM or GCMs to be used for the scaling
4. The year in the future that the simulation should represent

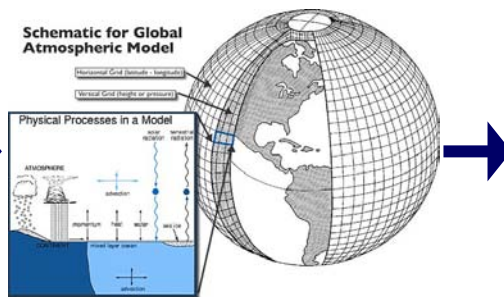
The scaling method is both global and efficient. Based on the GCM output, it modifies your baseline model boundary data (precipitation, temperature and evapotranspiration). This makes it suitable for fast assessments and screening studies.

With the new tool many adaptation options can be compared and the best solutions found.

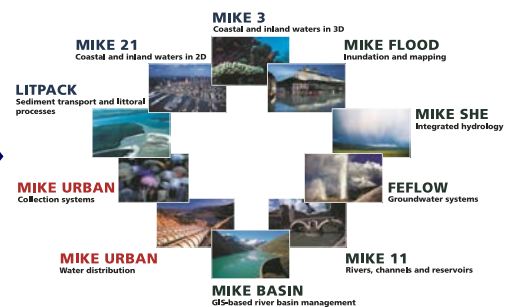
The Climate Change tool can also make use of more detailed data such as from Regional Circulation Models.



IPCC CO<sub>2</sub> emission scenarios



Global Circulation Models



MIKE by DHI models