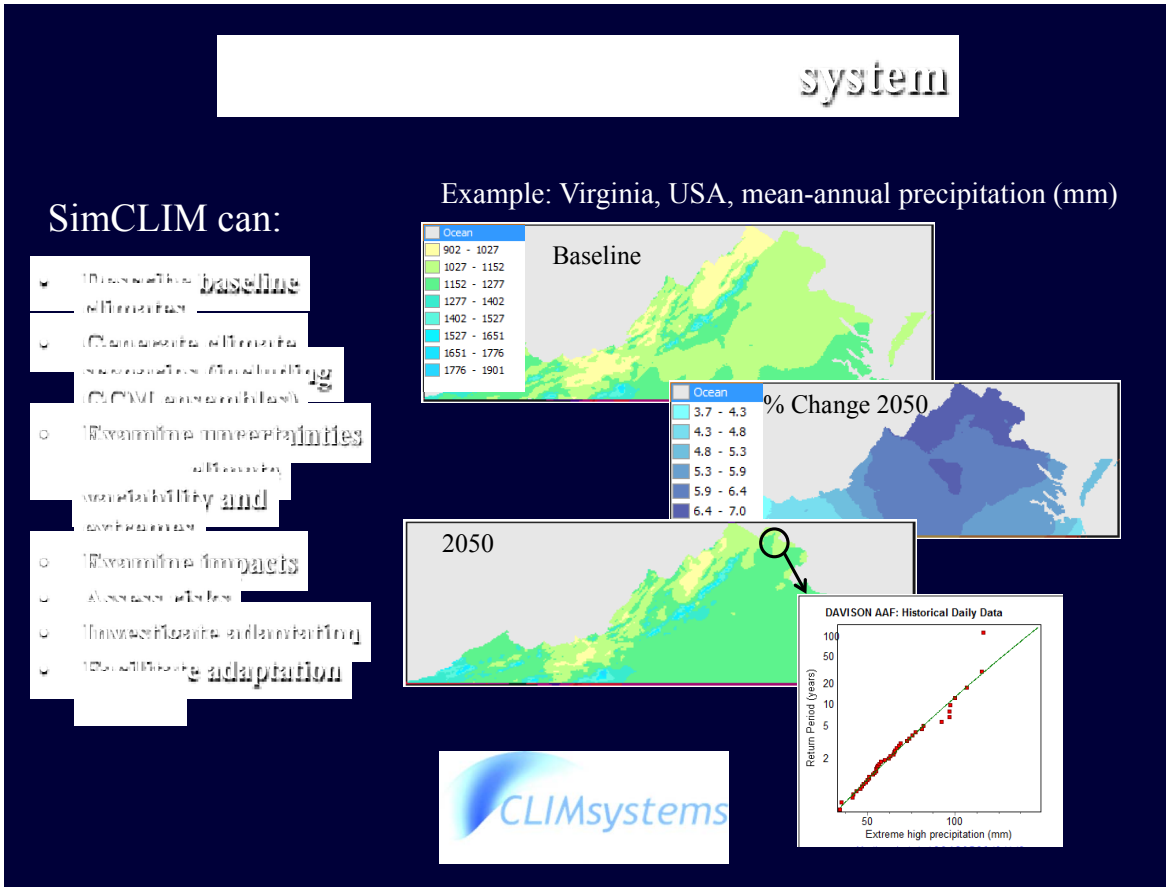
Title of case study	**The SimCLIM modelling system for climate impact and adaptation assessment**
Name of organization(s)	**CLIMsystems Ltd and CH2M Hill**
Business sector	Information Technology Services
Region(s) relevant to case study	☐ All regions ☐ Africa and the Arab States ☐ Asia and the Pacific ☐ Caribbean and Central America ☐ Europe ☐ Least Developed Countries ☒ North America ☐ Polar regions ☐ Small Island Developing States ☐ South America
Country(s) relevant to case study	United States of America
Adaptation sector(s) relevant to case study	☐ Business ☐ Education and training ☐ Food security, agriculture, forestry and fisheries ☐ Human health ☐ Oceans and coastal areas ☐ Science, assessment, monitoring and early warning ☐ Terrestrial ecosystems ☐ Tourism ☒ Transport, infrastructure and human settlements ☒ Water resources ☐ Other (please specify):
Adaptation activity	Future changes in climate and climatic risks have important implications for engineering design and infrastructure. In order to bridge the gap between climate science and adaptation activities such as those related to engineering, CLIMsystems Ltd has developed and markets the SimCLIM software modelling system for assessing impacts and adaptation to climate variability and change.

	In 2010, CLIMsystems Ltd entered into a strategic alliance with CH2M Hill, a company of 24,000 staff and a global leader in full-service engineering, construction and operations. The alliance was formed for the purpose of integrating climate adaptation and resilience across the range of CH2M Hill's multi-sector divisions. A major step forward in this process has been the provision of the SimCLIM software to CH2M Hill, the training of key staff in its use, and the initiation of case study applications. One such case study has been the infrastructure planning of storm sewers for Alexandria, Virginia, USA. Faced with severe and increasing flooding, the City of Alexandria retained CH2M Hill to assess its storm-water system, taking account of future sea-level rise and possible changes in the intensity of extreme rainfall events. The combination of the company's engineering expertise and SimCLIM allowed the impacts to be examined and the range of adaptation options to be quickly and efficiently evaluated under a range of climate and sea-level scenarios generated for the years 2050 and 2100.
Cost-benefit	This case study includes the mainstreaming of SimCLIM software tools into a large engineering consulting firm as well as their practical on-the-ground application. For the client, the case study demonstrates that pro-active adaptation is more cost effective than retrofitting. For the engineering consultant, it demonstrates that the SimCLIM modelling system can substantially cut the organization's time, and therefore the cost, of climate risk assessments required for adaptation evaluation and planning. These benefits apply generally and SimCLIM is now being used in multiple sectors in various regions throughout the world.
Click for further information on CLIMsystems Click for further information on CH2M Hill	

Source: CLIMsystems



Source: CLIMsystems

Storm Sewer Infrastructure Planning with Climate Change Risk - A Case Study of Alexandria, Virginia

- Assessed current problems of repeated and increasingly frequent flooding events
- Reviewed of stormwater design criteria
- For 2050 and 2100, assessed changes in sea level and extreme rainfall events
- Assessed impacts of climate changes
- Evaluated infrastructure adaptation options

…using SimCLIM

Hurricane Isabel flooding, September 2003
Photo Credit: Mark Young/The Journal Newspapers

CH2MHILL

Source: CLIMsystems