**Mission Statement:**

To utilize the GLEON network for the development and application of ecosystem models and enable GLEON scientists to simulate lake and watershed processes.

**Proposed activities to reach goals:**

*The core group will*

- plan (within 6 months, before G11) a technical workshop guided by the interests of the scientists

- convene (within 1 year) the technical workshop to expand ecosystem modelling science and plan a future workshop for the user group

- use GLEON cyberinfrastructure to develop, exchange, run, and test models

- generate webinars and How-To guides for preparing data for modelling a lake and watershed which will be implemented for the user group with access to ecosystem models

*The user group will*

- be enabled by the core group to simulate the lake or watershed system of their choice through training workshops (within 1.5 years), instructional materials, and documentation

- provide feedback on models through beta-testing of models under development

- showcase models used

- expand the successful use of numerical models among GLEON members

- have opportunities for GLEON site exchanges to institutions that are actively developing models or modelling

**Proposed leadership:**

CDI group and some user group representatives

**Funding Requirements:**

Funding for core group and user group workshops

## A few science questions (examples):

What are the key physical and biological factors driving spatial and temporal heterogeneity of biophysical parameters within and between lakes globally?

How well can models capture spatial and temporal variation?

How can models best be applied to manage and improve water quality within lakes?

What is the current state of the art of modelling science and what can we expect of current models?

How do different model results (eg. ELCOM vs GETM) compare based on similar inputs and calibration effort/parameterisation within the same system?

How do we best estimate/calibrate models parameters and produce reliable model scenarios?