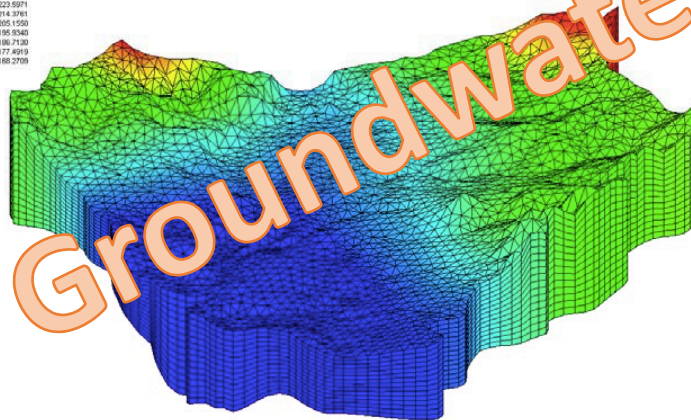
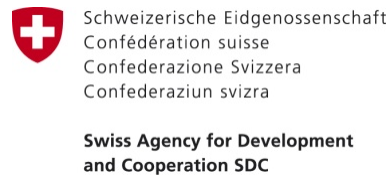


**Longhorn Army Ammunition Plant  
Groundwater Model**





# UNESCO-SADC Regional Training on Groundwater Modelling

Johannesburg, South Africa

20-22 March 2017

# Objectives of the training

**To build capacity of SADC countries experts in groundwater modelling including surface water-ground water interaction**

# How?

- **FREEWAT platform:** an open source and public domain GIS integrated modelling environment for the simulation of water quantity and quality in surface water and groundwater with an integrated water management and planning module.
- **Added value of FREEWAT:** integrates several existing free software modules (e.g. QGIS, MODFLOW, MT3DMS) in one single and user-friendly GIS environment.



**FREEWAT**  
Free and Open Source Software Tools for Water Resource Management  
EU HORIZON 2020 Project

# Structure of the training

- **Monday 20/03 morning:**
  - Assistance to participants for installing FREEWAT
  - Introduction to FREEWAT platform and presentation of the course (*Mr Rudy Rossetto, Sant'Anna University*)
- **Monday 20/03 afternoon:**
  - Introduction to groundwater flow modelling (*Mr Shaminder Puri, International Association of Hydrogeologists*)
  - Exercises

# Structure of the training

- **Tuesday 21/03 (all day):**
  - Exercises
- **Wednesday 22/03 (morning):**
  - Exercises
- **Wednesday 22/03 (afternoon):**
  - Training on data management → Introduction to the UNESCO-IHP Water Information Network System (IHP-WINS) (*Mr Tales Carvalho Resende, UNESCO-IHP*)



Before starting...

# Questionnaire 1

Name:

Organisation:

Department or Section:

Position in the Department or Section:

Main responsibilities that have been assigned to you:

*In order for us to tailor the presentations it would be useful to have an idea of the depth of knowledge and experience you have in hydrogeology and groundwater modelling. Please could you answer the following in brief.*

- 1) Understanding of groundwater flow mechanics
- 2) Analysis of pumping tests in wells and boreholes
- 3) Understanding of groundwater hydrogeochemistry
- 4) Calculations of groundwater flow balances, estimation of volumes and quantities of groundwater flows
- 5) Are you familiar with groundwater modelling
- 6) Have you used groundwater modelling codes such as MODFLOW, or FEFLOW
- 7) Have you run any simple or complicated simulation of groundwater systems
- 8) Please set out what you hope to gain from attending this course or explain any specific issue you wish to resolve through modelling

# Questionnaire 2

Survey on need and priorities with software capability for water management:

<https://geoservice.ist.supsi.ch/limesurvey/index.php/934721?lang=en>