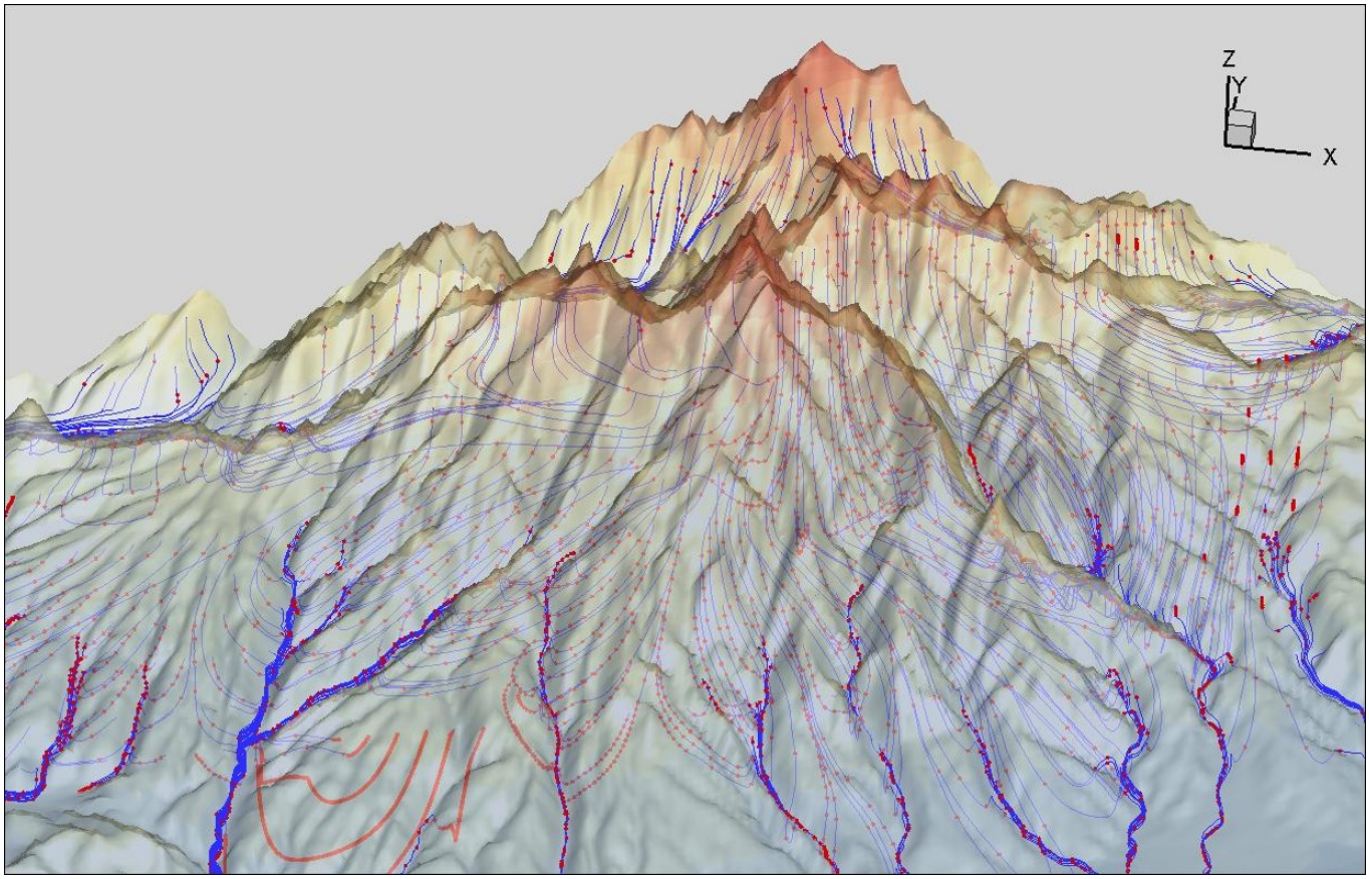
Bosai Solution ID : JBP00016

3 Dimensional Integrated Water Cycle Simulation Model (GETFLOWS)

Multiphase and Multicomponent Fluid Flow System



Hazard

Flood

Solution Purpose

Prevention & Mitigation

Solution Theme

Research & Investigation Risk Assessment Disaster Prevention Plan Infrastructure Technology Building Technology Information & Communication Technology Education & Training

Technology Subject

Technical Research & Development Feasibility Study Hazard Identification Hazard Simulation Risk Monitoring Impact & Damage Simulation Legislation & Technical Regulations Mitigation Plan River & Basin Dam & Reservoir Coast Urban Facility for Disaster Prevention Information Analysis & Judgement Human Resource Development Educational Publication Training & Exercises

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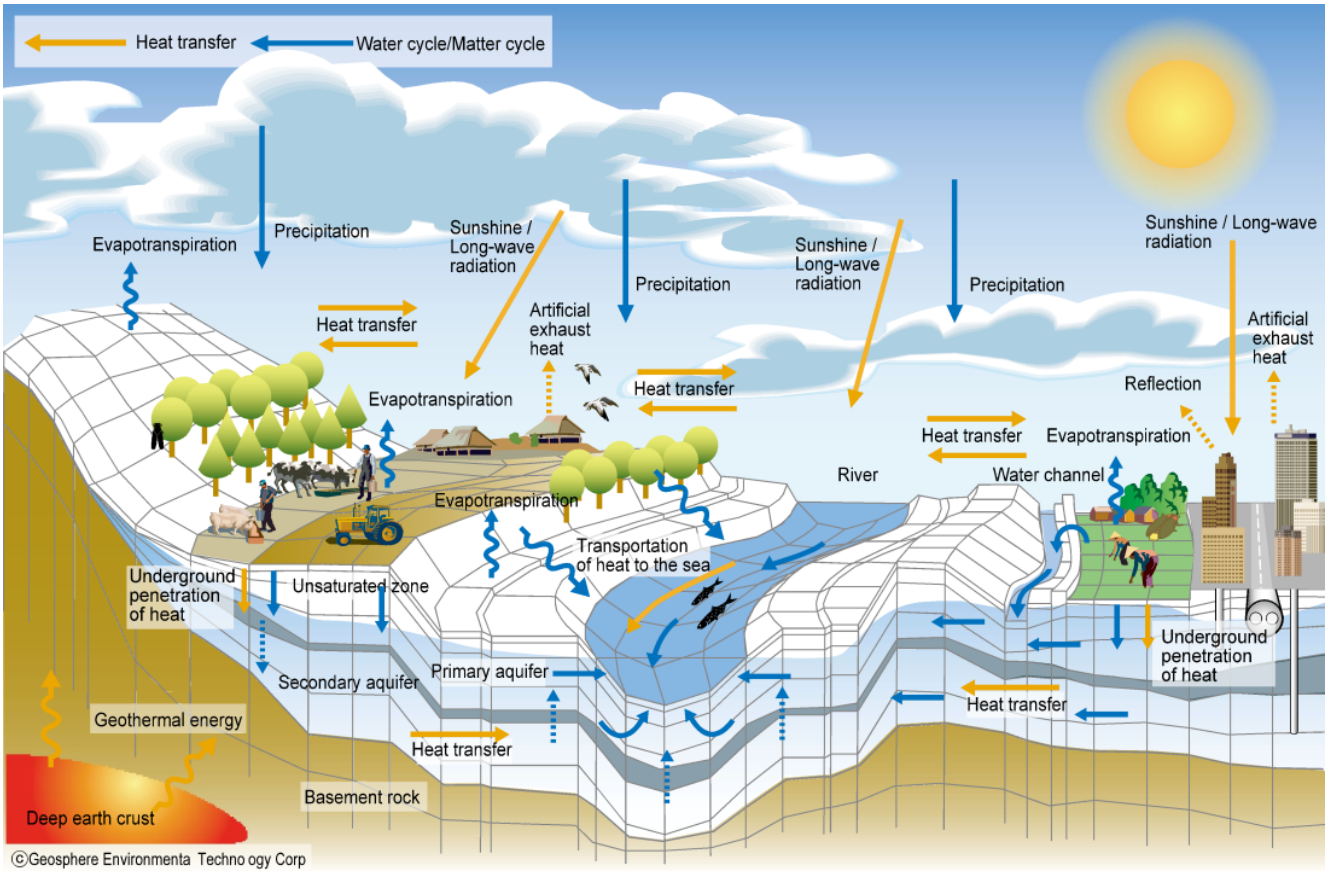
Advantages

3 Dimensional Integrated Water Cycle Simulation Model (GETFLOWS®) can simulate multiphase & multicomponent flouid flow and can reproduce actual environment with incorporating various data such as meteorological conditions in atmosphere, landuse and landcover on ground surface and geological structure in sub-surface.

*GETFLOWS is a registered trade mark of Geosphere Environmental Technology Corporation.
The developer of GETFLOWS: Geosphere Environmental Technology Corporation.
www.getc.co.jp/en

Solution Illustrated

Concept of 3 Dimensional Integrated Water Cycle Simulation Model



Background

The world faces water crisis ever experienced due to rapid population grouwth and indurstrial development, climate change indueced by global warming etc.
Water crisis varies depending on local environment and water use by nations and reguions. Therefore, strutcure of water cycle shall be grasped and analyzed spesifically by region in order to make solution tfor water issues.

Exposition of the Solution

Features of GETFLOWS

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1. Three-dimensional modeling of complicated topography and geologic structure can be made.
2. Interaction between surface and subsurface fluid flow are seamlessly modeled without any a priori conditions.
3. Whole water cycle consisting surface and sub-surface water can be grasped visually.
4. Influence of climate change can be considered.
5. Artificial water use which have an influence on water circulation can be incorporated in the model.
6. Qualitative change in surface flow water and groundwater can be predicted such as water quality, water temperature, etc.

Achievements of Examples

- Kumamoto Cty and Surrounding Area
- Abukumagawa River Basin and Surrounding Areas
- Satagawa River Basin
- Kumagawa River Basin
- Yoshinogawa Upper River Basin
- Honmyogawa River Basin
- Beppu Bay Area

Corporate Profile

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