

Environmental software

António Câmara
Theo Fernandes

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Environmental software

Water

Wastewater

Air

Solid waste

Hazardous waste

Environmental impact analysis

Urban planning

Ecological design

Environmental compliance

Water

Water quality

[SWAT](#) (Texas A& M)

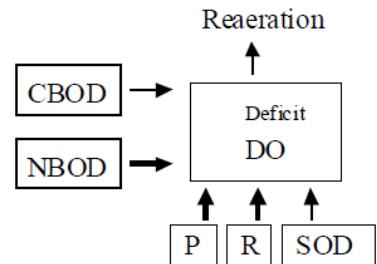
[Delft 3D](#)

[QUAL 2E](#)

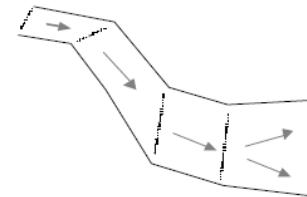
Gaultieri and Lopez,

[“River water quality management”](#), 2012

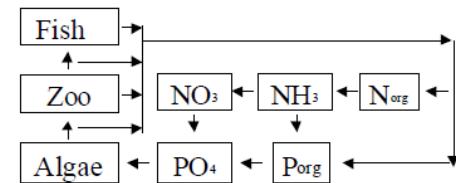
1925- 1960. Streeter and Phelps
Problems: primary effluents
Contaminants: DO/BOD
Systems: Channels, estuaries, rivers, 1D
Kinetics: Linear, first order
Solutions: Analytic



1960- 1970. Computers
Problems: primary and secondary effluents
Contaminants: DO/BOD
Systems: Channels, estuaries, rivers, 1D/2D
Kinetics: First and second order
Solutions: Numerics



1970- 1977. Biology
Problems: eutrophication
Contaminants: nutrients
Systems: Channels, estuaries, rivers, lakes, 1D/2D/3D
Kinetics: Non linear
Solutions: Numerics



1977- Now. Toxic Effluent-Sediment
Toxic Effluent- Sediments
Contaminants: Organics, Heavy Metals
Systems: Water-Sediment Interaction
Trophic chains
Lakes, estuary, rivers
Kinetics: Non linear,
Solutions: Numeric and analytical

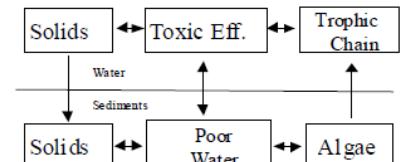


Figure 1. DO Models evolution. Adapted from Chapra, 2006.

Water

Hydrological models

Table 1. Characteristics of three models.

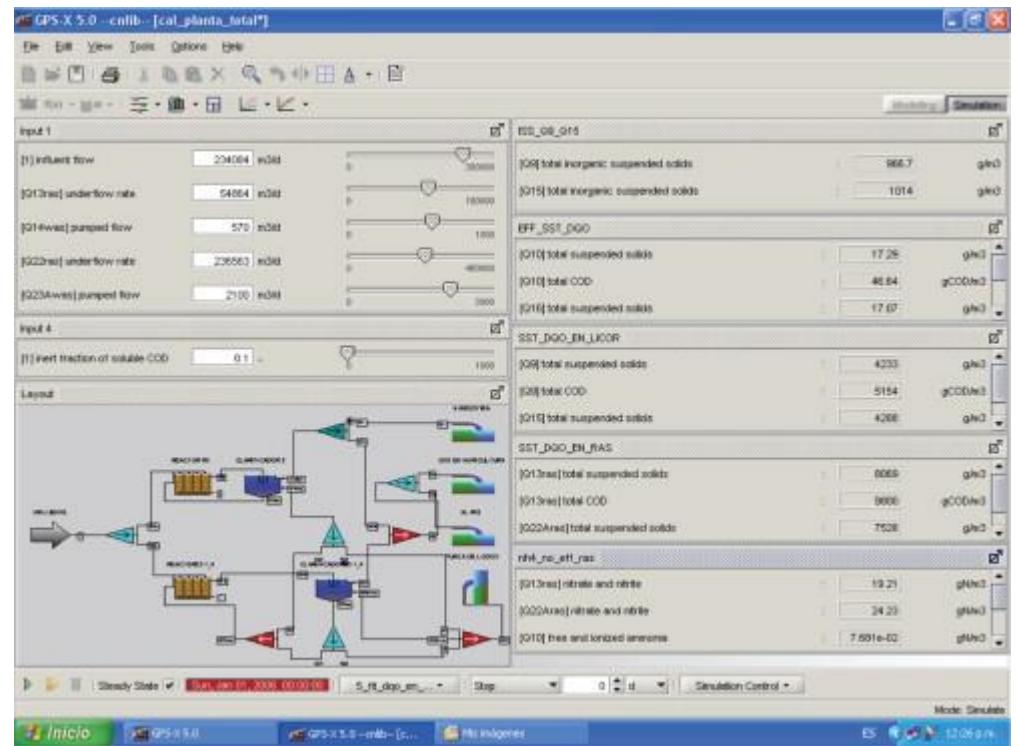
Empirical model	Conceptual model	Physically based model
Data based or metric or black box model	Parametric or grey box model	Mechanistic or white box model
Involve mathematical equations , derive value from available time series	Based on modeling of reservoirs and Include semi empirical equations with a physical basis.	Based on spatial distribution, Evaluation of parameters describing physical characteristics
Little consideration of features and processes of system	Parameters are derived from field data and calibration.	Require data about initial state of model and morphology of catchment
High predictive power, low explanatory depth	Simple and can be easily implemented in computer code.	Complex model. Require human expertise and computation capability.
Cannot be generated to other catchments	Require large hydrological and meteorological data	Suffer from scale related problems
ANN, unit hydrograph	HBV model, TOPMODEL	SHE or MIKESHE model, SWAT
Valid within the boundary of given domain	Calibration involves curve fitting make difficult physical interpretation	Valid for wide range of situations.

K. Gayathri et al,
[A Review of Hydrological Models](#), 2015

Wastewater

[GPS-X](#)

[STOAT](#) (open source)



Solid waste

TOP WASTE MANAGEMENT SOFTWARE				SORT ▾
	Trash Flow	7.9	8.1	 Compare
				95
	Waste Logics	7.5	5.9	 Compare
				95
	Haul-IT	9.4	7.7	 Compare
				91
	InteleX	9.5	8.6	 Compare
				91
	RouteOptix	9.1	8.0	 Compare
				86
	WasteWORKS	7.8	8.7	 Compare
				82
	Dakota's Waste Management	8.9	8.2	 Compare
				67
	WebaspX Waste Manager	7.6	8.4	 Compare
				53
	Soft-Pak	7.5	8.4	 Compare
				45

[Waste management software](#)

Hazardous waste

hazardous waste management software



Hazardous Waste Management

Automate tracking of hazardous materials down to individual containers throughout your operations to improve the efficiency of your waste management program. IHS provides the information you need to safely store, transport and use regulated chemicals, while maintaining compliance with regulations worldwide.

By [IHS Markit](#) based in Englewood, COLORADO (USA), from [IHS Environmental Performance Solution Software line](#)



TDXConnect - Hazardous Waste Managing Software

Terralink, the first company to deliver a Windows-based solution for managing hazardous waste, introduces TDXConnect, a Web application making access to profiles, manifests and reports easier than ever. While desktop solutions remain important, there is a clear trend toward applications accessed through a Web site. By having Internet access to a

By [Terralink Systems Inc.](#) based in Portland, MAINE (USA)



EnviroWare - Robust Hazardous Waste Management Software

EnviroWare provides an enterprise-wide management solution designed specifically for companies treating, storing and disposing of special waste materials, such as hazardous waste. EnviroWare helps these companies streamline their operations by automating many of the repetitive tasks necessary to process waste. EnviroWare also vastly improves ...

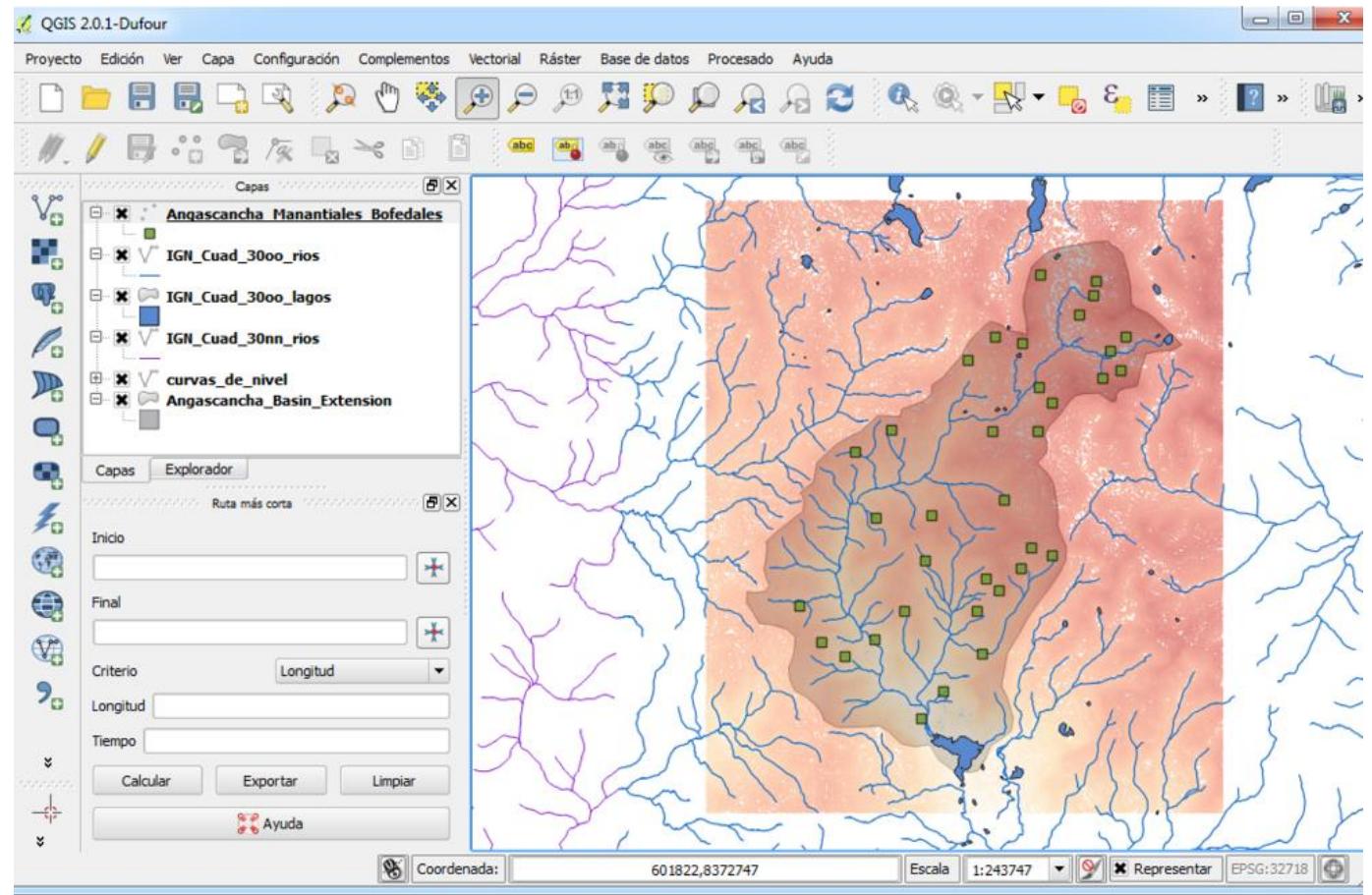
By [Contemporary Software, Inc.](#) based in Wexford, PENNSYLVANIA (USA)

Hazardous waste management software

Environmental impact analysis

Environmental Impact
Assessment (EIA) Software

Envigo



Urban planning

Urban planning and design software



SketchUp

★★★★★ (436) 4.4 out of 5

Entry Level Price: \$695

SketchUp is one of the most popular 3D modeling and design tools in the world. Here at Trimble, our mission is to help make our users better, smarter, and more successful through the use of state of the art software and hardware. Trimble is an exciting, entrepreneurial company, with a history of exceptional growth coupled with a disciplined and strategic focus on being the best. While GPS is at our core, we have grown beyond this technology to embrace other sophisticated positioning technology... [Show More](#)

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Compare

[Get a quote](#)



Lumion

★★★★★ (42) 4.4 out of 5

Lumion is Architectural Software. Make an image, a video or a 360 panorama, which you can view with VR glasses. Render ultra fast. Make changes all the time. Upload a 3D design (made with Revit, SketchUp Rhino, Archicad or many other 3D modelling programs) and upload your design into Lumion. Lumion includes a large library with beautiful materials and objects. Dress up your model with sky, grass, glass, materials, people, lighting, furniture, cars etc. and add effects. Feel the space. It's e... [Show More](#)

[Read Lumion Reviews](#)

Compare

[Get a quote](#)



CityEngine

★★★★★ (20) 4.1 out of 5

Optimized for quick response

Esri CityEngine is 3D modeling software for quickly creating large urban environments. The environments you choose to create can be based on real-world data or can be completely conceptual. CityEngine saves you time by using rules to automatically create the urban environment based on your input. You can import 3D models you've created in other software to create context around them and export your entire environment into visualization tools, game engines and VR experiences.

[Read CityEngine Reviews](#)

Compare

[Get a quote](#)



ArcGIS Urban

★★★★★ (1) 4.0 out of 5

ArcGIS Urban is an immersive 3D experience designed to improve urban planning and decision-making. Quickly visualize projects in your local context and leverage location intelligence to drive better decisions. Be more proactive and less reactive in your planning process. Simplify project collaboration across internal agencies and public stakeholders.

Ecological design

Eco-design tools



Granta Design Solutions

→ Granta Design solutions include GRANTA MI:Product Intelligence – tools to apply a comprehensive database of materials engineering, process, and eco data in order to assess environmental impact and risks in products and product designs.

Provider

→ Granta Design



Makersite

→ **Makersite** is the largest, integrated product management platform on the web. That includes all-in-one data, apps and community for eco-design and product stewardship. Made for entrepreneurs, engineers and product teams. Join for free if you make, buy, sell or research products.

Provider

→ Makersite



EcodEx

→ **EcodEx** is an eco-design software that allows food companies to improve the sustainability of their new products or existing portfolio, in a cost-effective and simple way. EcodEx allows product developers to easily make a sustainability assessment of a product, based on the evaluation of carbon footprint, water use, energy use, land use and other criteria.

Provider

→ Selarant



One Click LCA

One Click LCA is the only LCA software to ever receive a Mat 01 100% rating For BREEAM and is compliant with more than 20 other Green Building certifications, including LEED, DGNB, and Energie Carbone. Thanks to our easy to use interface and BIM automation, you can calculate your building's Life-Cycle Assessment in one hour.

Provider



Paper Metrics®

→ **Paper Metrics®** is an IT application developed by Ecofolio, the French Paper PRO (Produce Responsibility Organisation), a non-profit private company entrusted by French authorities. Ecofolio is responsible for paper recycling in France. Suppliers of printed products traditionally include information on quality, cost and deadlines on their quotations. Thanks to Paper Metrics®, the quotations will now also feature the



Air.e HdC

→ **Air.e HdC** is a professional software tool designed for Carbon Footprint experts to help them in calculating and assessing GHG emissions of organizations, products, services, events, and projects using a life cycle approach. Air.e HdC has been developed to follow international standards such as ISO 14040, PAS 2050, GHG Protocol, ISO 14064, ISO 14064 and ISO 14069.

Environmental compliance

Environmental compliance software



Add to compare

Environmental Management Software 

by Cority
 (69 reviews)

Cority Environmental Suite helps centralize and streamline key environmental compliance, incident and data management processes. The software helps companies meet ISO 14001 Environmental Management Systems (EMS) requirements. Developed in collaboration with environmental professionals, the environmental health and safety software tools offered in this suite can be used out-of-the-box or can be easily configured to adapt to your organization's unique standards and processes. [Learn more about Environmental Management Software](#)

[VISIT WEBSITE](#) 



Add to compare

cc_environmental services 

by COSMO CONSULT SI
 (0 reviews)

The ISV solution ccenvironmental services is an integrated solution for waste management, recycling, reverse logistics and environmental service organizations. Built on Microsoft Dynamics 365 for Finance and Operations, the solution enables all core processes found in the industry, such as: managing agreements, tracking container, monitoring transport and execution. The solution combines COSMO CONSULT's industry experience of more than 15 years with projects around the world. [Learn more about cc_environmental services](#)

[VISIT WEBSITE](#) 



Add to compare

Gensuite 

by Gensuite
 (67 reviews)

Gensuite Environmental Management software suite helps organizations manage all air, water, and waste processes for environmental compliance. Since 1997, Gensuite's environmental and sustainability software solutions have been helping organizations automate data collection and compliance, and ease identification and issue remediation of environmental waste. Discover how Gensuite is the perfect solution for your organization to remain viable in today's changing regulatory climate. [Learn more about Gensuite](#)

[VISIT WEBSITE](#) 