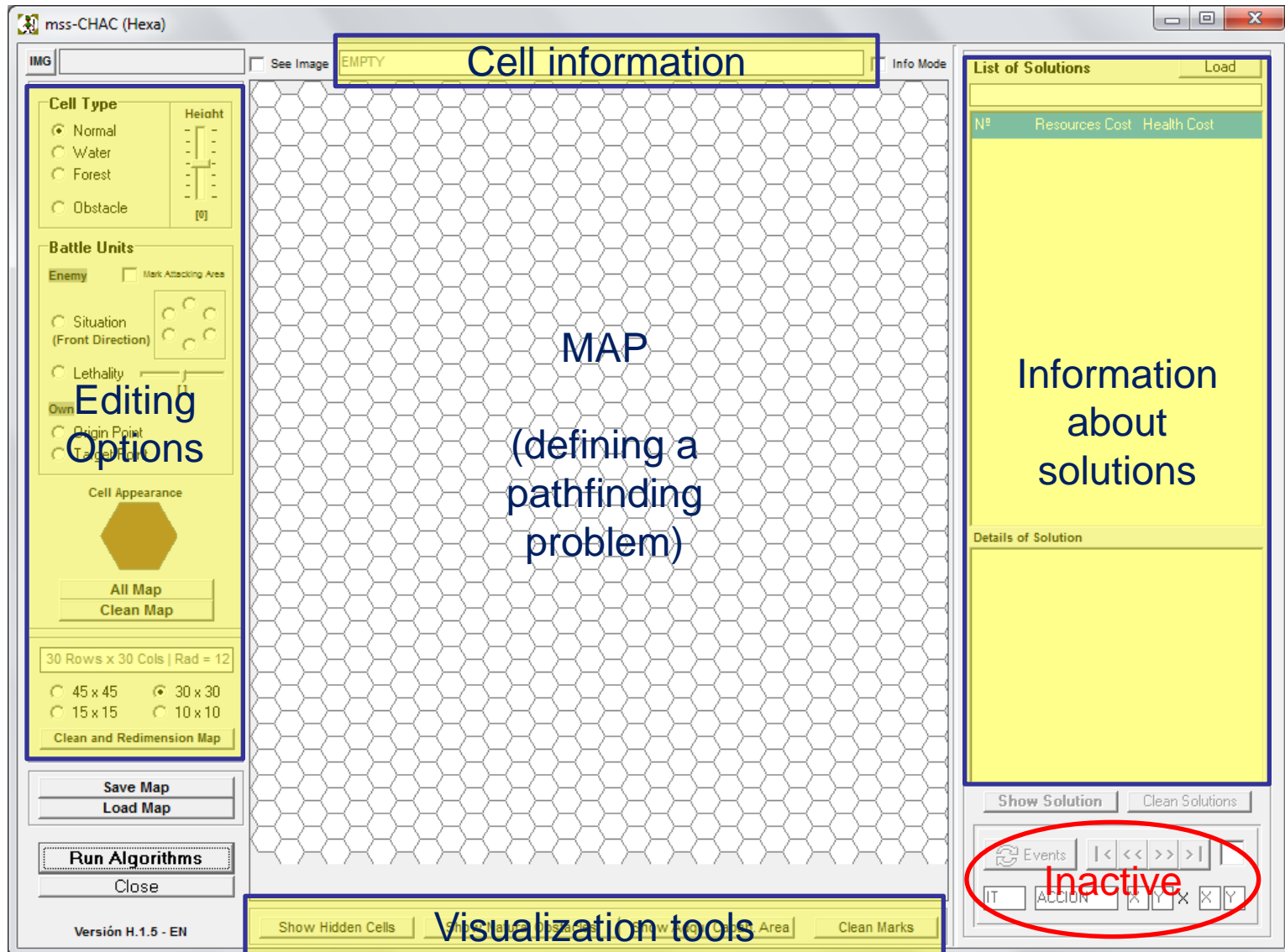
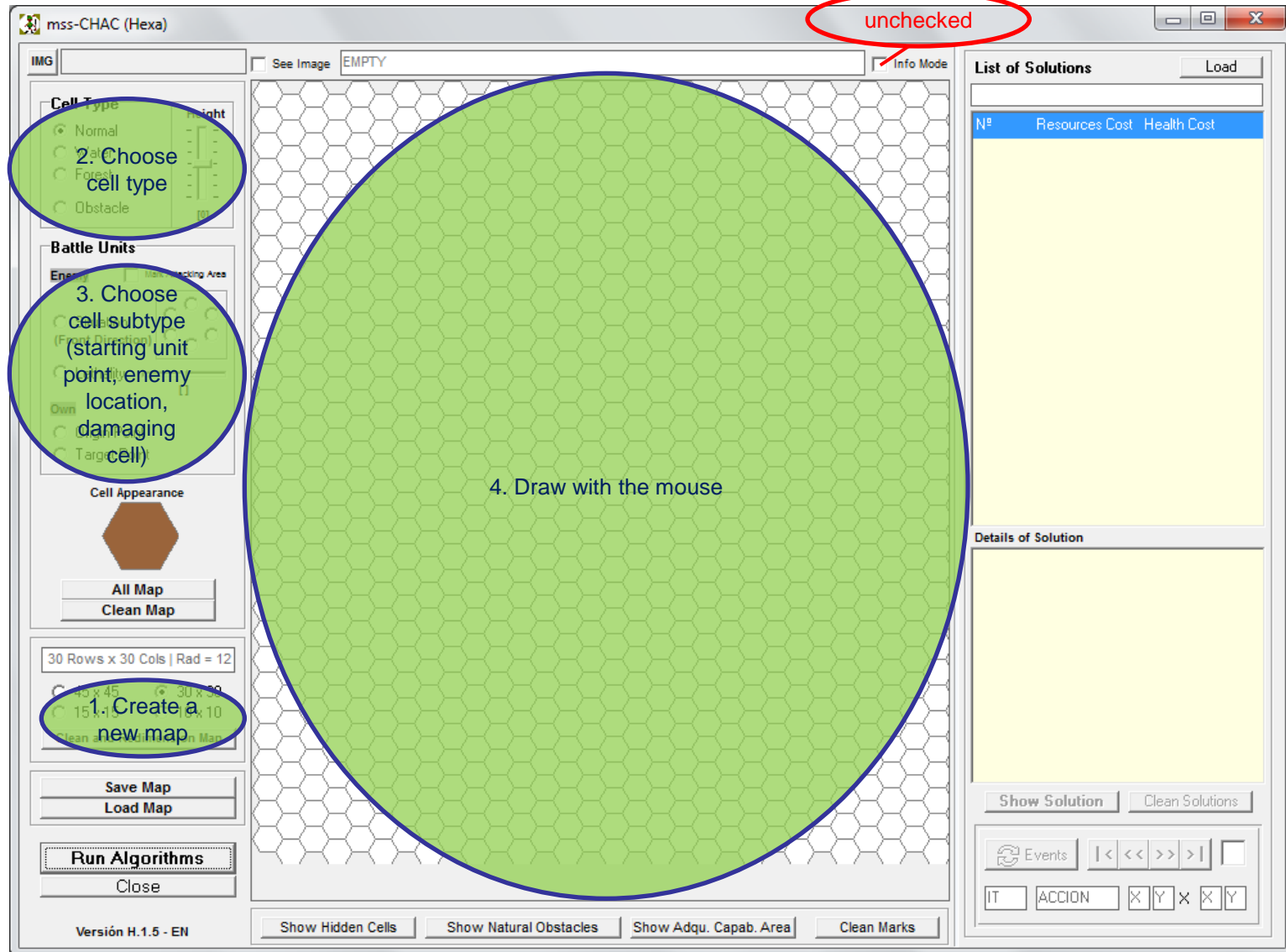


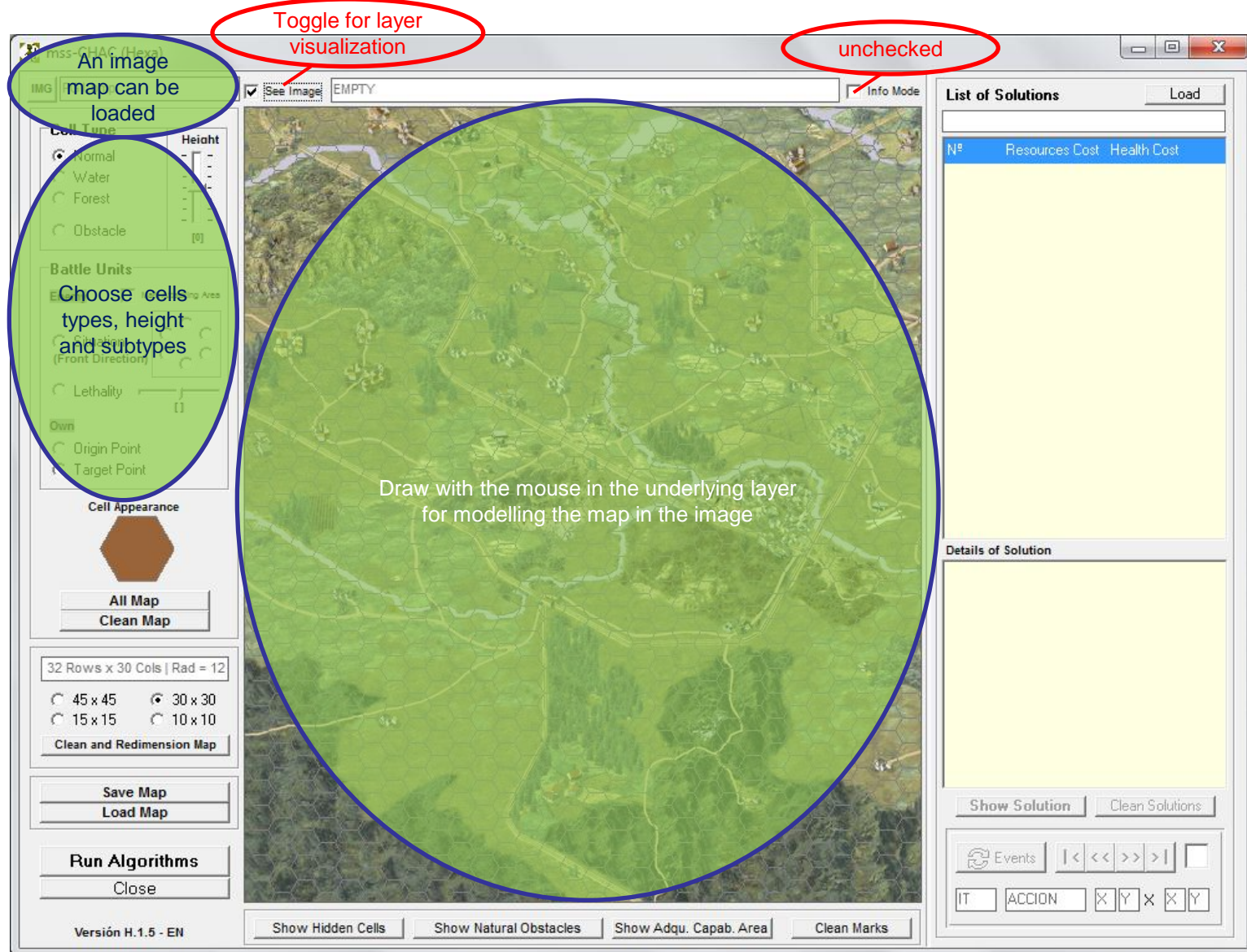
mSS-CHAC English Version

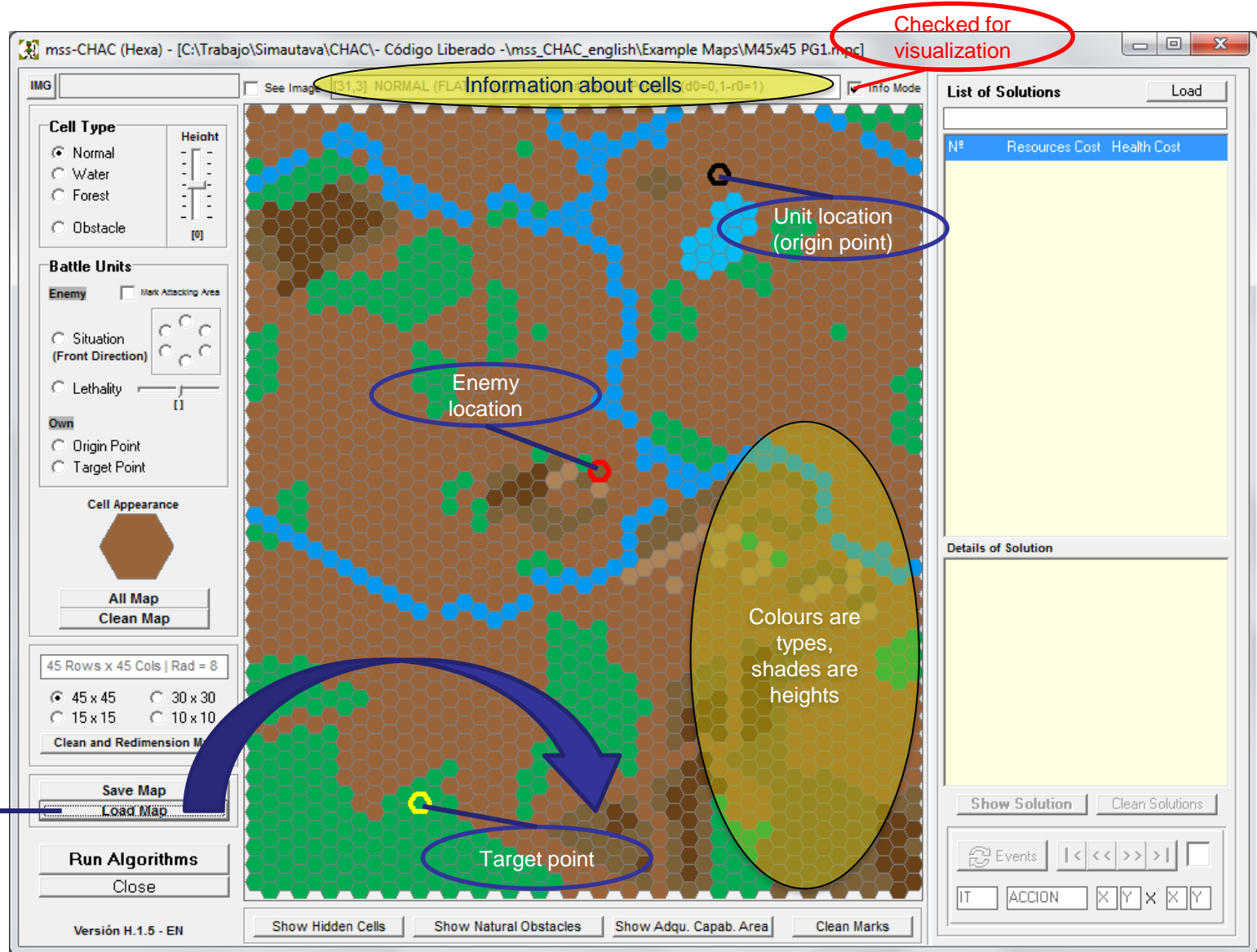
Cheatsheet

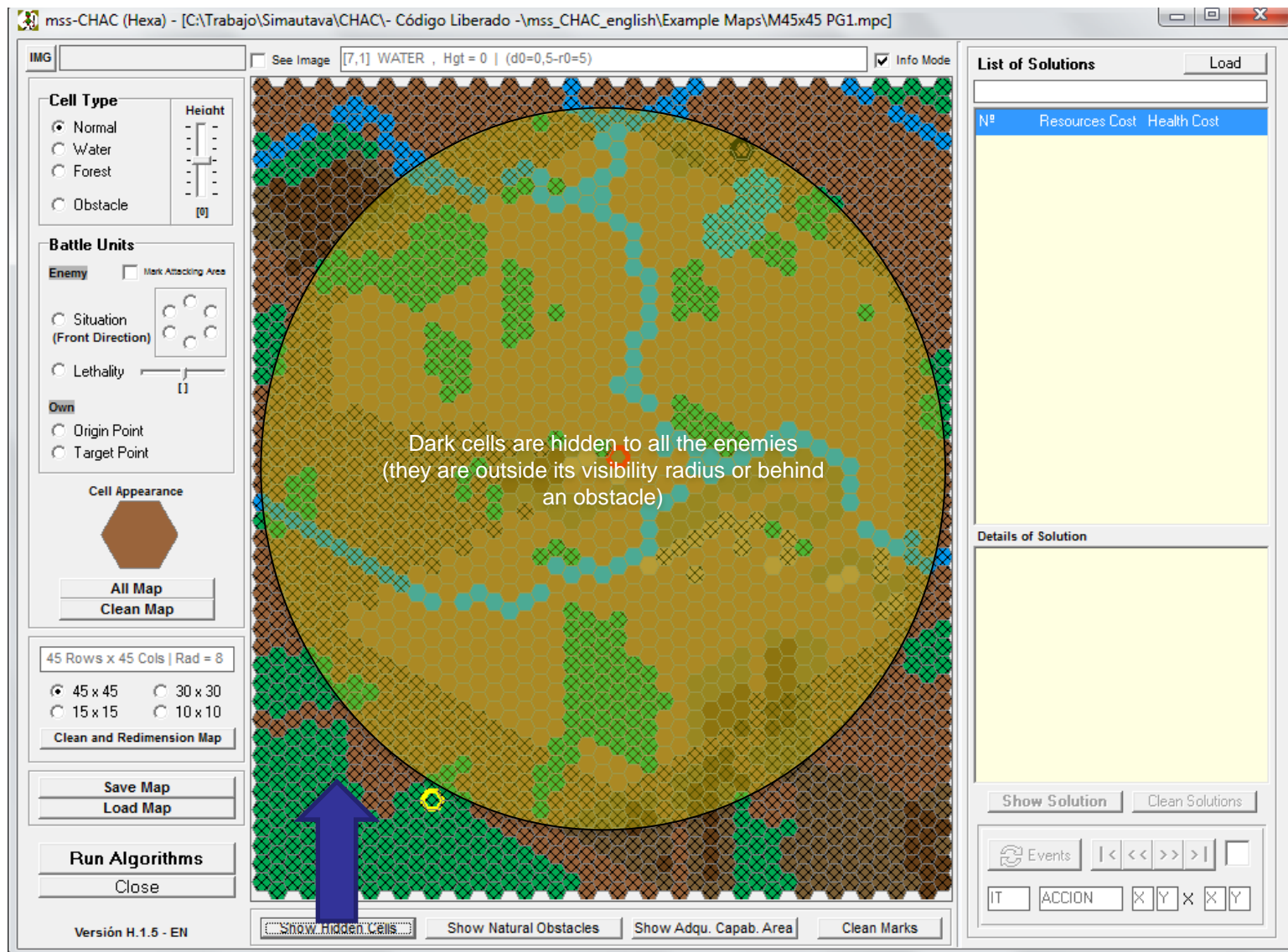
Antonio M. Mora



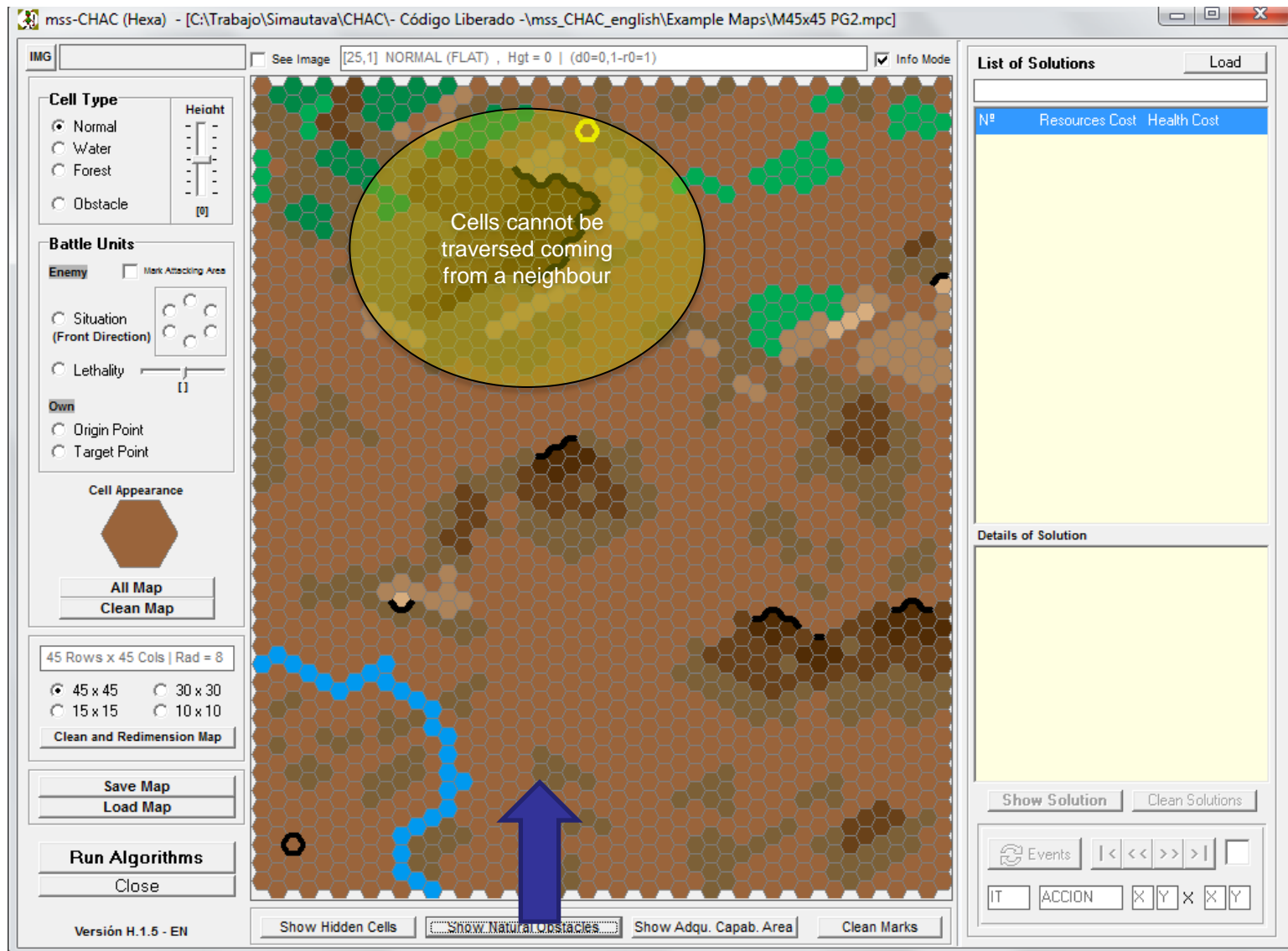




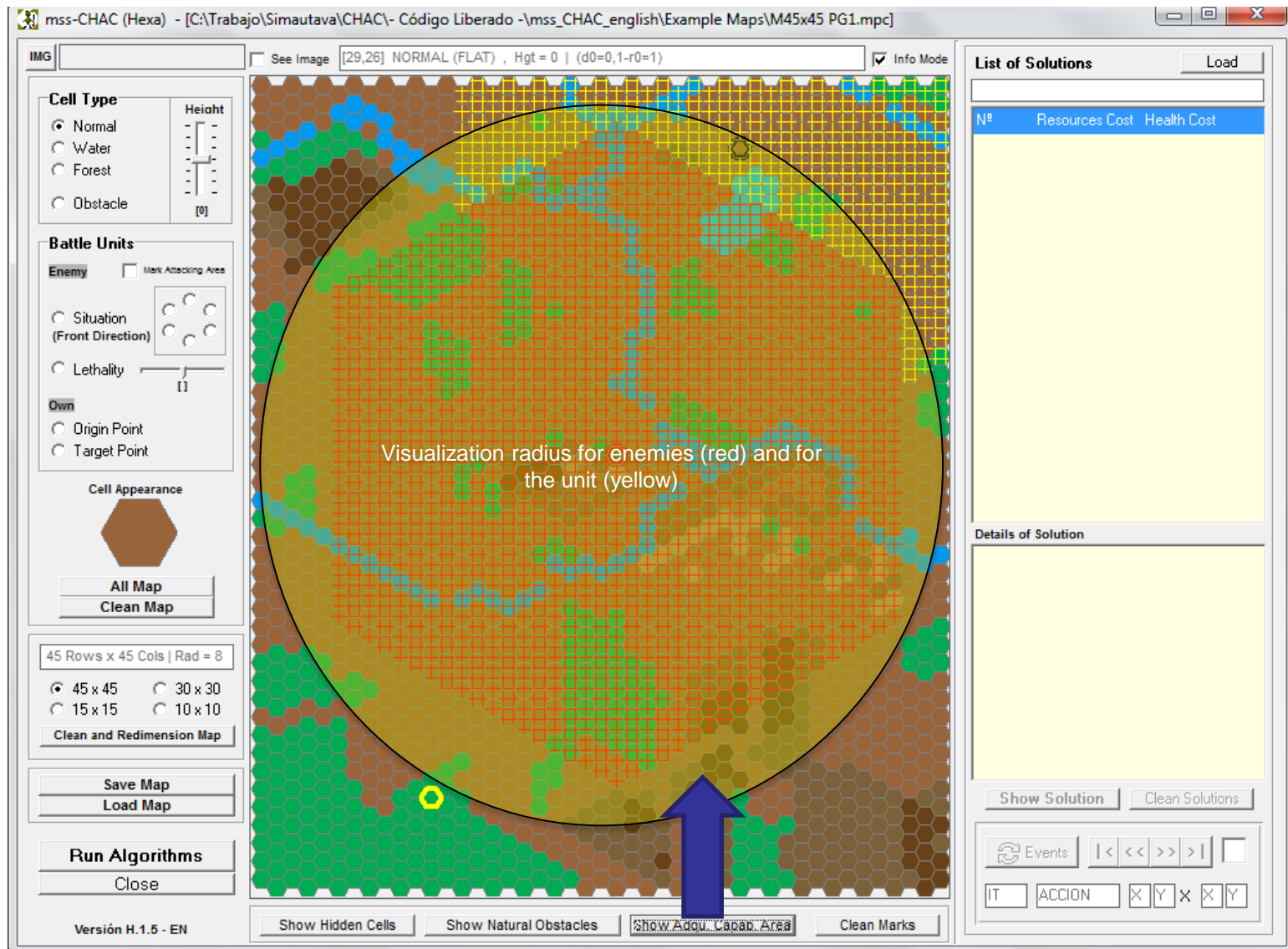




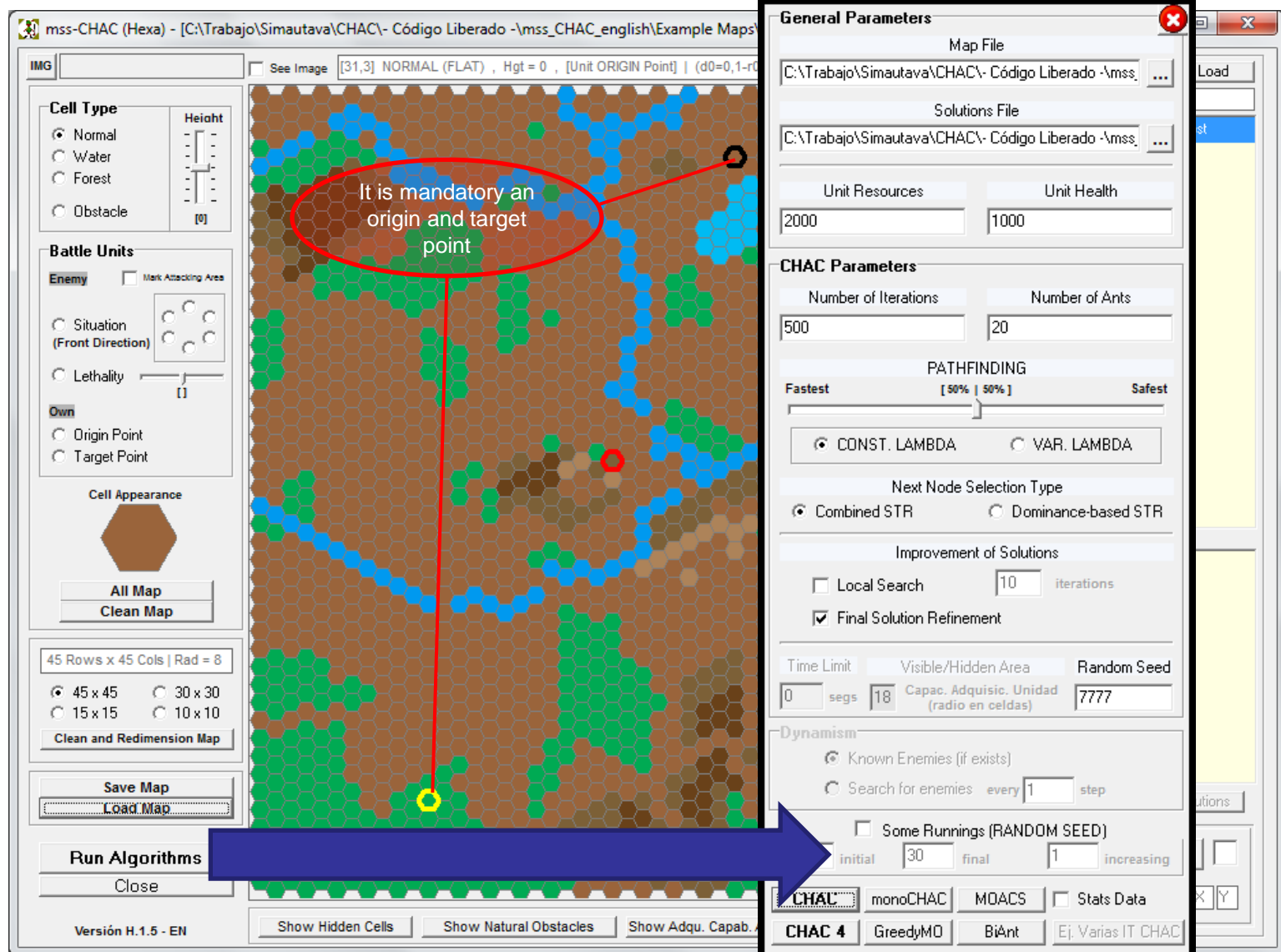
Visible and non-visible cells for the enemies. There is a visibility radius (adquisition capability)



Cells borders which cannot be traversed, due to a difference in height too high for the unit.



Visualization radius for enemies and for the unit



Solving the defined pathfinding problem using a MOACO (Multi-Objective Ant colony Optimization) algorithm

mSS-CHAC Cheatsheet

Run Algorithms

In order to understand these parameters any of the related articles should be read:

“hCHAC: A family of MOACO algorithms for the resolution of the bi-criteria military unit pathfinding problem”, Computers & Operations Research Journal, 2011.

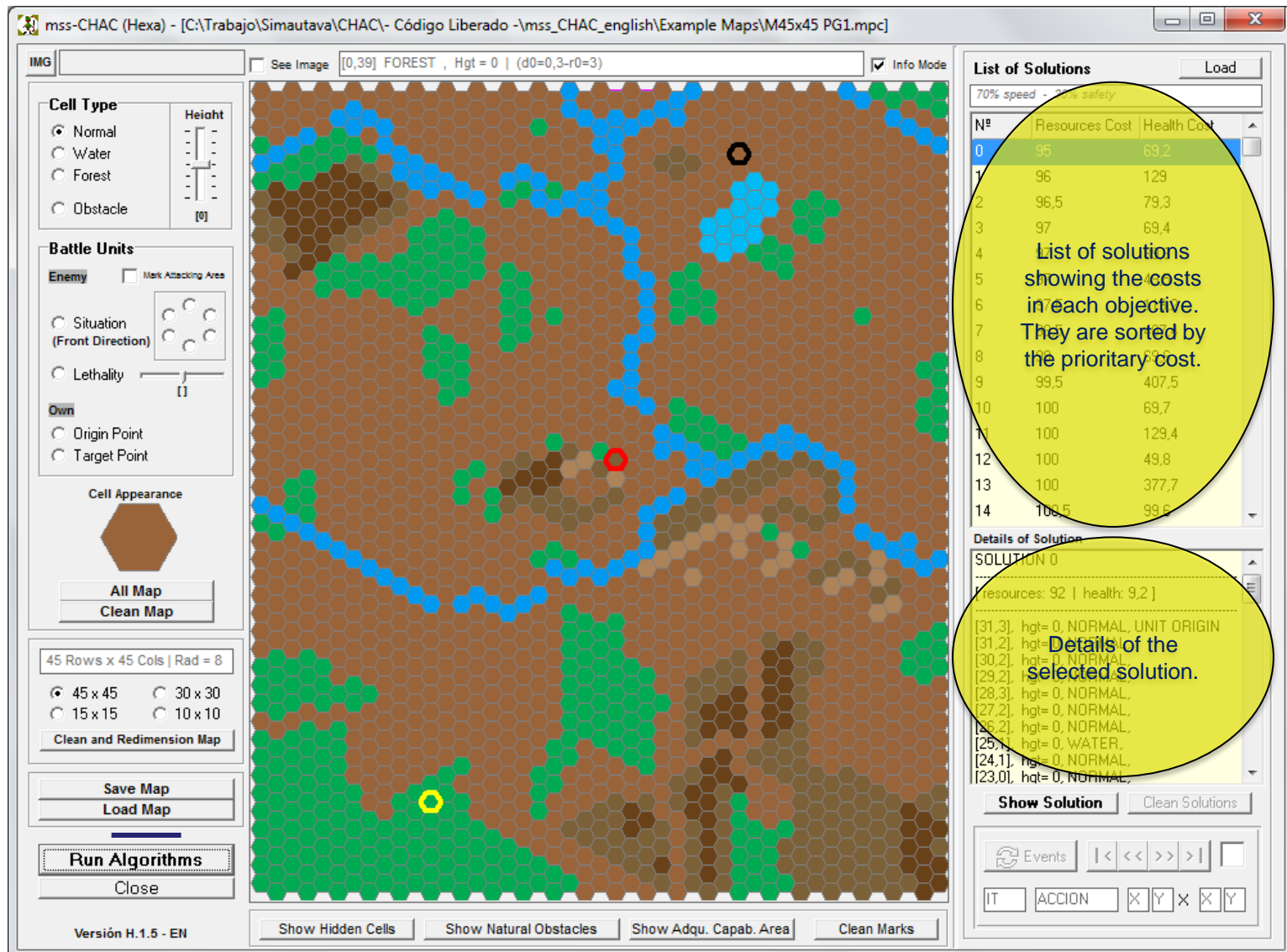
Objective priority

The options and parameters can remain as default, but at least the objective priority should be adjusted as desired.

Not all the parameters affect all the algorithms.

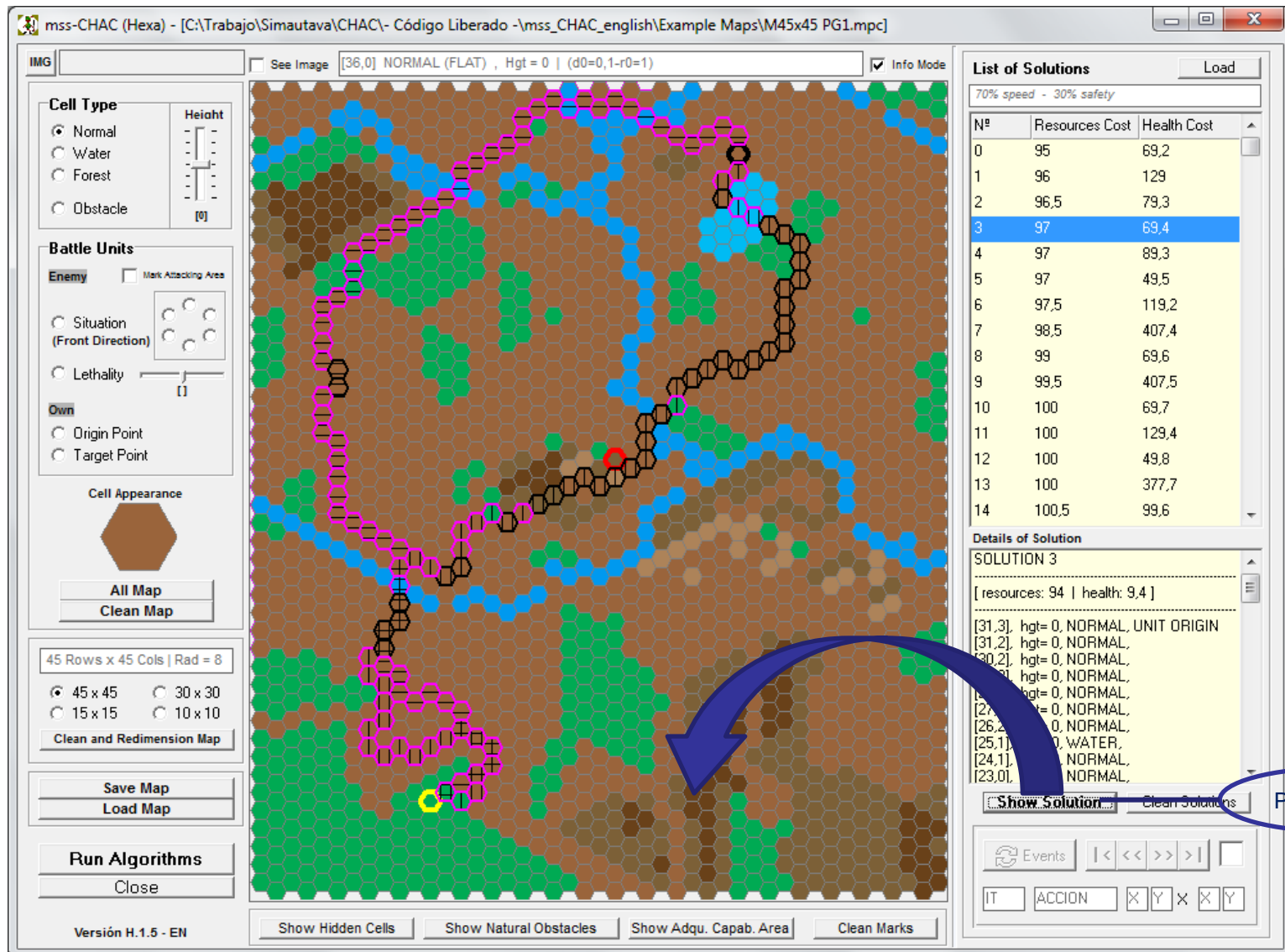
Algorithm to run (just one)

	Close once the processing has finished
	Unit properties/restrictions
	Algorithm main parameters
	LAMBDA Application mode
	State Transition Rule type
	Solution refinement type
	Restrictions and Random seed
	Inactive
	Multirun options
	and statistical data generation



There can be several solutions, since obtaining a wide spread set of them is the aim of multi-objective algorithms





More than one solution can be plotted in order to visually compare them

- There are lots of hints in the application, please, place the mouse over those elements or parameters you have any question about.
- The solutions can be non-straight paths. If there are several superfluous cells, maybe the algorithm needs a higher exploitation factor (more iterations for instance).
- Safest solutions should contain several hidden cells, since visibility is highly penalized in the safety objective (health cost).
- In order to understand and profit this application, the related publications should be read, at least the two main articles:
 - "CHAC. A MOACO Algorithm for Computation of Bi-Criteria Military Unit Path in the Battlefield: Presentation and First Results", International Journal of Intelligent Systems, 24(7), 2009.
 - "hCHAC: A Family of MOACO Algorithms for the Resolution of the Bi-Criteria Military Unit Pathfinding Problem", Computers & Operations Research, 2011.
Online: <http://www.sciencedirect.com/science/article/pii/S0305054811003406>
- There also can be consulted some of our on-line presentations at Slideshare:
 - ECAL 2007 conference: <http://www.slideshare.net/Slidemora/chac-algorithm-ecal07-presentation>
 - NICSO 2010 conference: <http://www.slideshare.net/Slidemora/hchac-lambda-nicso-2010>
 - Or my thesis presentation (in Spanish): <http://www.slideshare.net/Slidemora/presentacin-de-tesis-am-mora>