Glaciers – estimate for remaining tasks

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This first group of tasks is fairly well-understood. For task that I think will require multiple iterations (marked with "*") my estimate includes a guess at how many iterations will be required to complete the task.

Hours	Task
2	implement fix for negative x_terminus in ice thickness model
2	optimize performance of ice flow vectors, use 1D grid that matches ice thickness grid
5	*snowfall visualization
8	time-based charts (2 modes, historical vs current data, compress historical data)
4	model for movement of points in/on ice
3	make marker flags snap to ice surface and move downvalley
4	model borehole as a vertical column of points that move downvalley
2	visual representation of borehole
4	*user-interface for operating borehole drill (button? drill-when-released?...)
3	*final representation of mountains
3	*when main window is resized, replicate mountains and valley past x=80km
4	add pseudo-3D perspective
3	*add view of valley floor
2	clip equilibrium line to where it intersects the ice, extend across ice surface
4	remove tools by dragging them to the trashcan or toolbox
1	constraint dragging of tools so that they stay in the birds-eye view
2	add left and right arrows in zoomed view that move the viewport
3	snap ice measuring tool to the ice, make caliper resize to fit ice thickness
2	make mercury in thermometer grow/shink to match temperature
1.5	add Help menu that shows pictures of real glaciers
2.5	refactor "Basic" panel, add "Advanced" panel
8	refactoring to reduce duplicated code and improve maintainability
73	**SUBTOTAL**

These tasks are NOT well-understood; I need to discuss expectations and/or explore technical issues. For some of these that involved graphics representations, cost depends on how many iterations it takes to arrive at a representation that is acceptable (these tasks are marked with a "*"). These are purely "gut feeling" guesses.

Hours	Task
4	*show rivers on valley floor valley
8	*add debris that is picked up off valley floor and moves downvalley in and on glacier
6	make debris pile up to form terminus
6	*design and use different ice textures above/below equilibrium line, and in/on the ice
8	*morph ice textures so it appears to move downvalley at rate that corresponds to ice flow
8	change magnification of zoomed view
4	change aspect ratio of axes
16	climate experiments feature for "Advanced" panel (design? implementation?)
8	address performance issues
68	**SUBTOTAL**

' vectors