

data. He then runs them through a program written in Processing<sup>1</sup> to quickly generate a map based on this large set of input points. His technique has a couple of important advantages: it is much more automated than the one proposed above, and it generates a more complete terrain profile, being based on a larger set of elevation points than a manual selection technique. It does, however, require a prior trip along the route with a GPS unit.

### Summary

Regardless of the technique used, the proposed symbology offers a simple and effective way to show map readers the character of the terrain they will be facing on a route by encoding elevation with line width. Readers can quickly understand changes in elevation and derive the slope and aspect information necessary

to help them make decisions along the route. It is visually simpler than encoding slope and aspect directly and is not so abstract that it cannot be easily understood as representing a landscape. It is also compatible with current cycling maps—it still allows the depiction of road networks, which can be color-coded based on such things as traffic conditions or shoulder width. The technique simply uses up a portion of the “visual variable space” that is currently not being employed on most road maps. It offers a way for more—and highly useful – information to be added to route maps where terrain is important, to the benefit of bicyclists and runners.

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<sup>1</sup>Processing is an open source programming language and environment for people who want to program images, animation, and interactions.

## Visual Fields

Mollymaps started in my journal pages while studying abroad in central Asia. They were a way to recount a day's wanderings on foot. When I successfully got out of helping to write a group research project in exchange for drawing all the maps, I learned maps could be used as barter. I spent the entire year after college traveling around the world and, oddly enough, trading maps for room and board. Mollymaps has since developed into a small freelance business, celebrating the places that matter to people.

I still get nervous showing final products to clients—maybe because I am truly aiming to make the map that is in their heads, from their experience. And that's impossible, but I have to try anyway. When they look at the map, I want them to see their experiences. I want the map to be a place where a few shared memories can live. I don't always reach these goals but that is my aim.

I'll probably always make maps for whomever asks. But I'm a little tired of my 'happy pastures' maps—those that make landscapes look perfect, quaint and static. The hand-drawn message can do much more

than appease our need for idyllic landscapes. Maps can draw attention to the tragedies and unsettling changes in our landscapes through the tragic beauty of irony, and the sobriety and sway of pen-to-paper expression. My project now is to take my skill set and apply it to environmental risks and injustices such as mountaintop removal, climate change vulnerabilities, point source pollution, irresponsible development; the list is rich with stories of real places and communities. Maps can draw us together to embrace or to revolt. All too quickly we are accepting the creation and use of slick, repeatable maps (“starbucks maps” as John Fels called them) and while they may be participatory, ubiquitous and novel, are they compelling? There will always be a need for the storyteller, reminding us again and again of the exacting beauties and tragedies of individual human experience.

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For more information about Molly Holmgren's work, see [www.mollymaps.com](http://www.mollymaps.com)



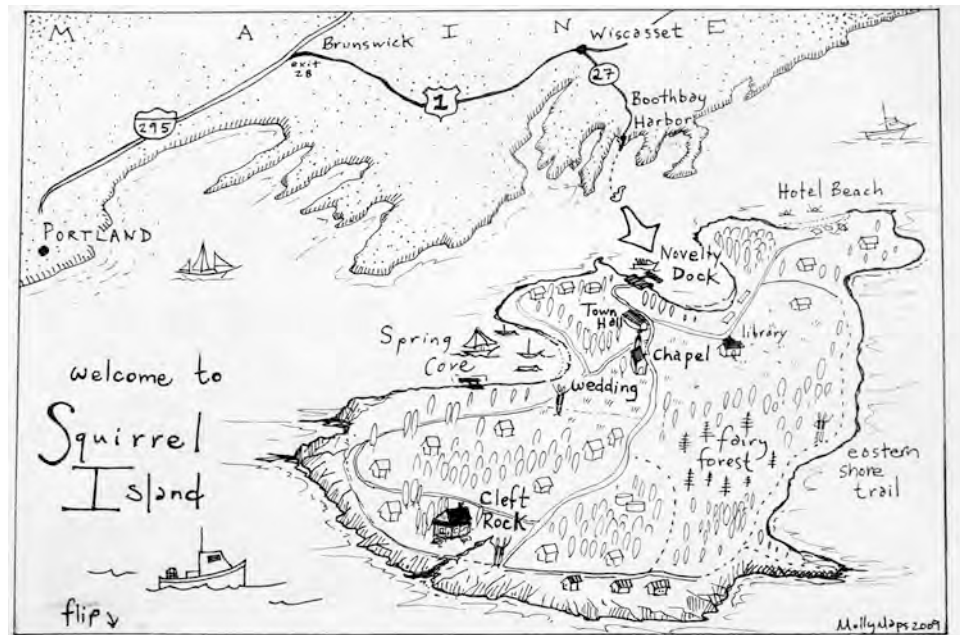
The poster map for the Bangor Land Trust shows all of the parks and open space in the city in order to encourage people to get out and enjoy them. It took about three weeks to research all the parks on bike and foot.



Map of Llachon, a peninsula on Lake Titicaca, Peru. For two weeks I lived with a family who was building a small, community-based tourism business. I returned three years later to find a successful home-stay program and the original map still on the wall.



Map of generalized climate change predictions for New England based on analysis by the Union of Concerned Scientists. Developed for Artist As Citizen ([artistscitizen.org](http://artistscitizen.org)).



One of several wedding maps I've done, this one was on Squirrel Island, off the coast of Maine.