*Interview excerpted from: Putting Interpretation on the Map: An Interpretive Approach to Geography, Heidi Bailey, 2009, pp. 59-60.*

**How did you become interested in cartography?**

Shaded relief is my major interest in cartography, which began when I was a graduate student at the University of Hawaii in 1980 working on an atlas of American Samoa. One day a mailing tube arrived that influenced the course of my career. Inside was a sheet of drafting film covered with delicate graphite tones—a shaded relief depiction of the complex Samoan landscape. Using only modulated light and shadows, the drawing was easy to understand—and beautiful.

I was inspired to do similar work. After a couple of years of practice, I developed a knack for relief drawing and a style of my own. This arcane craft that I practiced mostly as a hobby eventually landed me a job with National Park Service in 1992, just as digital production was first becoming practical. Now digital techniques allow me to create relief maps in ways that I previously only imagined, mimicking the work of the best cartographic artists. The 391 national park areas are an ideal testing ground for these techniques.

I now work on many more types of maps, including bird's-eye views of historical sites, animations, interactive exhibits, and solid terrain models. The idea of "cartographic realism" guides my approach to map design. When appropriate, and in moderation, I add natural environment effects to a map, effects that people are familiar with and find pleasing—sun glints on water, warm illumination, organic textures, and natural colors.

My goal is to make maps that will attract and hold the attention of readers for as long as possible, encouraging visual exploration. This is what happened to me nearly three decades ago when I saw the shaded relief depiction of Samoa.

**What are some of the ways that maps can contribute to the visitor experience?**

For the first-time visitor, a map provides a spatial overview of the site. But the role of maps goes well beyond this. They can show information that is not readily apparent—for example, troop movements at a site that today looks more like a manicured park than a battlefield, geologic processes, environmental data, and so on.

Like all successful interpretation, maps can connect the tangible with the intangible allowing the visitor to make a "connection" with the park. Most parks occupy a chunk of geography that lends itself to map depiction. From orientation, to site navigation, to conveying interpretive messages, maps are integral to the visitor experience.

**How do you think visitor maps can be improved?**

Problematic visitor maps are those that do not focus on the needs of visitors, which is priority number one. One must resist the temptation to fill the limited space on a map with

superfluous information, such as administrative matters that are of concern only to those who manage a site.

With visitor maps, less is often more. Better still: A map jam-packed with relevant information that doesn't look like it is, which indicates good design. A site visit by the cartographer to meet with park staff and to observe visitors experiencing the park almost always results in better maps.

**How does the philosophy for designing interpretive maps differ from conventional cartography?**

I think of interpretive maps as a type of thematic map, but aimed at park visitors instead of readers of, say, National Geographic magazine or The Washington Post. The difference is the audience: Most park visitors are on vacation (and presumably less attentive than when at home), in an unfamiliar environment, and represent a diverse population, including many who lack map-reading experience. Universal design principles are crucially important for such an audience (which potentially includes every person in the world).

**What is the most challenging aspect of designing interpretive maps?**

Cartographic production is technical. Designing maps is artistic. Developing an interpretive message is pedagogical. Creating successful interpretive maps requires frequent switching between these very different modes of thinking.

**Which National Park Service map is your favorite and why?**

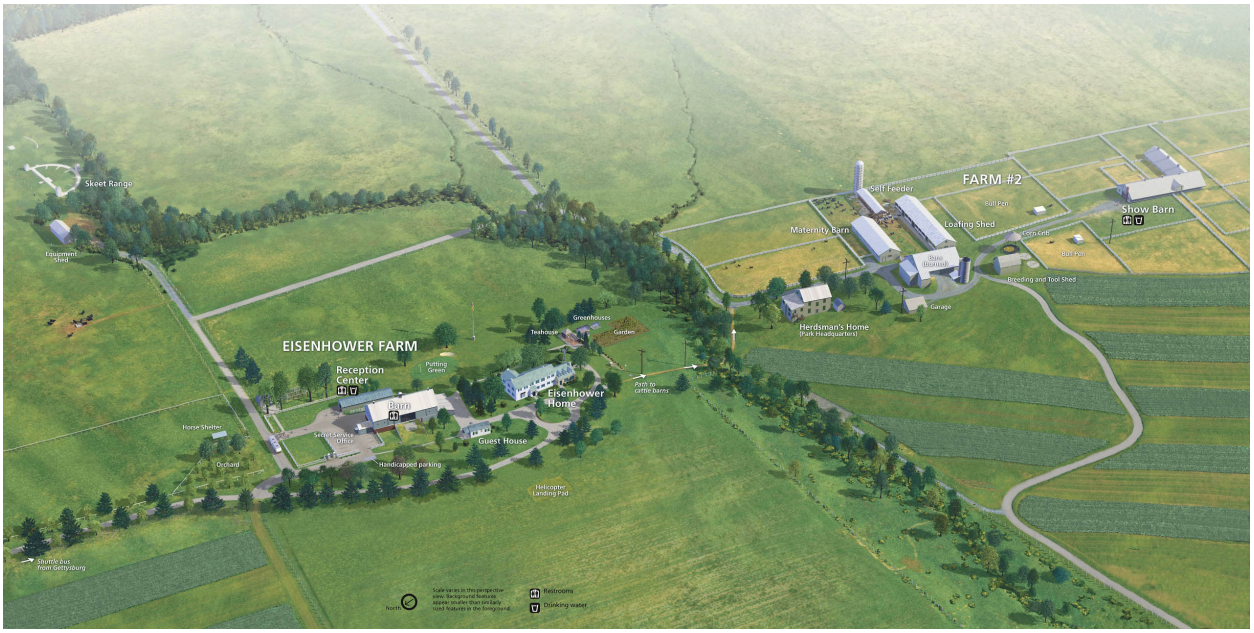
The map of Eisenhower Farm. For HFC, this map represents a major milestone in digital production and design. In the transition to digital mapping technology over the last dozen years or so, creating bird's-eye views of cultural sites with the detail and artistic flair found in manually produced pieces has been the greatest challenge.

Most computer-generated scenes containing buildings have either synthetic appearance, such as urban scenes in Google Earth, or the brooding ambience found in video games. The Eisenhower map breaks from this tradition. The colors are natural, illumination is warm, textures look real, and the entire scene has a plausibly realistic appearance. The park buildings occupy the highest visual level, helping with legibility.

The Eisenhower map functions as both a device for visitor orientation and as background art that depicts the landscape character. Making the map was painstaking. Everything on it is a three-dimensional wireframe object (draped with textures), including the buildings, trees, fences, and even the grazing cows. It pleases me that the technical underpinnings are completely hidden from view—the map simply looks like an interesting place to visit.

**Do you have any final thoughts to share?**

Seeing park visitors use the maps that I have made is highly rewarding. Today—for the first time—cartographers have the tools and data available to push the limits of map design with relative ease. Using new technology and data to design better maps for park visitors is, for me, irresistible.



*Eisenhower Farm map.*