

Visual design guide

SYMBOLS, COLORS, CARTOGRAPHY & TYPOGRAPHY

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SALO SCIENCES

Introduction

Salo Sciences is a conservation technology company. We analyze satellite imagery to identify conservation opportunities, monitor ecosystem health & predict environmental change, with a mission to promote sustainable ecosystem management by improving how landowners invest in development, conservation & monitoring.

As a company focused on environmental conservation, we create images, icons & symbols that capture patterns found in nature. We often use circular motifs: they capture both the shape of the Earth from space and the trajectory of satellites as they orbit about it. We use minimalist design themes for two reasons: simple symbols allow us to place clear emphasis on specific elements, and we are not good enough at art or design to do anything more complex.

Designing with data

Visual representations of evidence should be governed by principles of reasoning about quantitative evidence. For information displays, design reasoning must correspond to scientific reasoning. Clear and precise seeing becomes as one with clear and precise thinking.

Edward Tufte

Our identity as a company is defined by how we generate, analyze & visualize geospatial and ecological data. And to clearly envision and communicate information is to work at the intersection of image, word, number & art. Our instruments are those of writing and typography, of data management and statistical analysis, of line, layout and color. Our standards of quality should be derived from visual principles, which tell us how to put the right mark in the right place.

Below is a synthesis of the principles of information design. Reference them as you develop and design new figures from the perspective that information design should assist the thinking of both the producer and the consumer.

PRINCIPLES OF ANALYTIC DESIGN

Analytical presentations stand or fall based on the quality, relevance & integrity of their data.

- Show comparisons, contrasts, differences.
- Show causality, mechanism, explanation & systematic structure.
- Show multivariate data (or, more than one variable).
- Completely integrate words, numbers, images & diagrams.
- Thoroughly describe the evidence:
 - Provide a detailed title.
 - Document the data sources.
 - Show the measurement scales.
 - Point out relevant issues.

PRINCIPLES OF DIAGRAMMATIC MAPPING

- Focus on causality. Move beyond the evidence into what the evidence says.
- Use multiple sources and levels of data—whatever evidence it takes.
- Clearly annotate linking lines. Arrows should provide specifics: when and how the link operates; it's strength and persistence; the credibility of it's evidence.
- Annotate nouns; clarify their context.
- Design efficiently. Diagrams should be clear, undecorated, maplike. Their content should be intense, explanatory, evidential.
- Make visual distinctions as subtle as possible, but still clear and effective.
- Establish credibility. Give the viewer reason to believe.

INTEGRATING SCIENCE, REASON & DESIGN

Information displays should be documentary, comparative, causal, explanatory, quantified, multivariate & exploratory. We're committed to finding, telling & showing the truth.

- Document the sources and characteristics of the data.
- Enforce appropriate comparisons.
- Demonstrate the mechanisms of cause and effect.
- Express these mechanisms quantitatively.
- Recognize the multivariate nature of analytic problems.
- Inspect and evaluate alternative explanations.

DISPLAYING MULTIPLES

Multiple images reveal repetition and change, pattern and surprise—the defining elements in the idea of information. They:

- Directly depict comparisons.
- Enhance dimensionality, granting depth by arraying panels and slices of information.
- Create visual lists of objects, helping viewers analyze differentiate & decide (like nouns and verbs).
- Represent and narrate sequences.

Use multiples to amplify, intensify & reinforce the meaning of images.

Symbols

Our logo and icons consist of two elements - the circle and the center. The circle remains consistent across the logo and icons, but the center changes for each. The SALO SCIENCES type is custom artwork. The light weight is an homage to modern types popular in early 20th century architecture. The curved letter edges and bridge gaps mimic sci-fi typefaces.

Logo design

LOGO - HORIZONTAL



This logo is designed for use where vertical space is more restricted than horizontal space. This includes document headers and footers as well as web navigation bars. It's visible at small scales, unlike the stacked bar.

LOGO - STACKED



This logo is designed for use where horizontal space is restricted. The 3:1 aspect ratio is more compact, but the minimum size of the logo is limited by the visibility of the narrow width of 'SCIENCES.'

SYMBOL



The symbol is a global map projected as an azimuthal equal distance projection. This projection distorts area and direction but accurately preserves distance from the center point. It's supposed to invoke the sense that we see the earth from a unique perspective.

THE CIRCLE



The circle is our central design element. It encapsulates other text, icons & elements. Feel free to have design elements break the plane where the circle is already broken, but don't place elements on top of or behind the circle. Unless it's really cool.

Icons

Icons are styled after the logo symbol using the 1:1 ratio, circle-center style. They can be used to denote new sections in text, as cartographic symbols, or as secondary branding & communication tools.

IDENTIFY, MONITOR, PREDICT



PROJECT ICONS



CARTOGRAPHY ICONS



Color

When there are limited colors there is a perceived simplicity that belies the underlying complexity at work in the textures, structure, layers and form, all of which allows the content to be true to itself.

Marta Cutler & Vanessa Eckstein

Color is a powerful tool for analytic design; our eyes are able to distinguish between thousands of colors. Yet we're easily overwhelmed by intense, colorful displays. It turns out we can simultaneously distinguish between only 20-30 colors before we start losing track of them. This includes gradients within a single color. But the eye is not the limiting factor here; our visual memory can only hold so many colors in mind at once. As we work on analytical designs, we should be aware of this at all times.

Be mindful, intentional & precise when using color.

THE FUNDAMENTAL USES OF COLOR




To paint well is simply this: to put the right color in the right place.

Paul Klee

- To label (color as a noun).
- To measure (color as a quantity).
- To emulate reality (color as representation).
- To decorate (color as beauty).

Primary colors

The primary color palette uses three colors. Grey and white should be employed liberally as high-contrast elements. Red should be used sparingly to label and decorate symbols and information. We use this pink/red because it is more gender-neutral than the typically masculine color palettes of other space/geospatial-focused groups and it is distinct from the green/earth tones of conservation groups. It's also effective for drawing attention to specific elements.

Color	Name	Hex code	RGB
	Red	#b61458	182, 020, 088
	Grey	#333333	051, 051, 051
	White	#ffffff	255, 255, 255

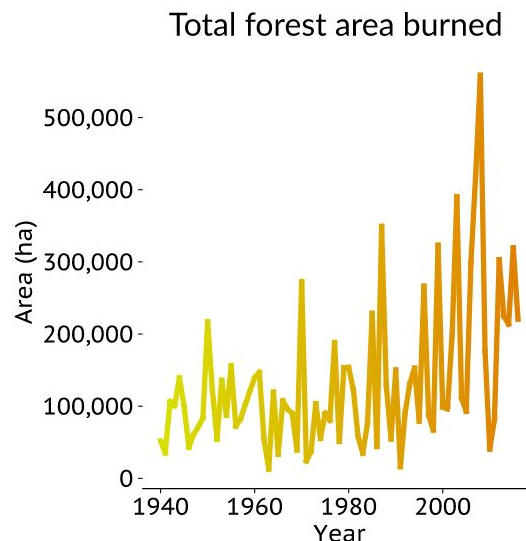
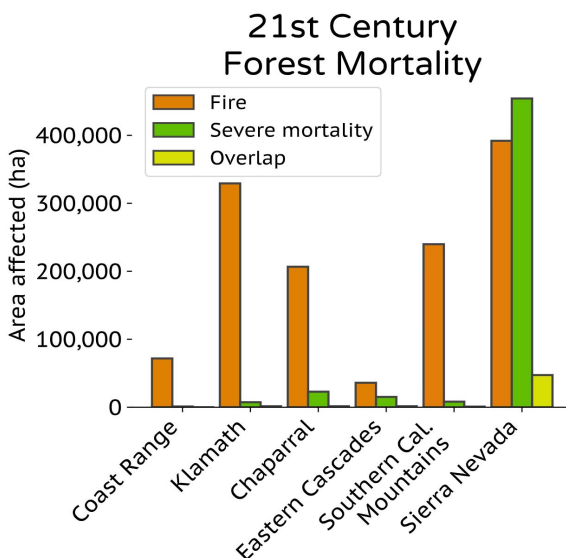
Secondary color palettes

We often produce content that cannot be easily represented by just three colors, such as maps and scientific figures. This content should use one of the following secondary color palettes.

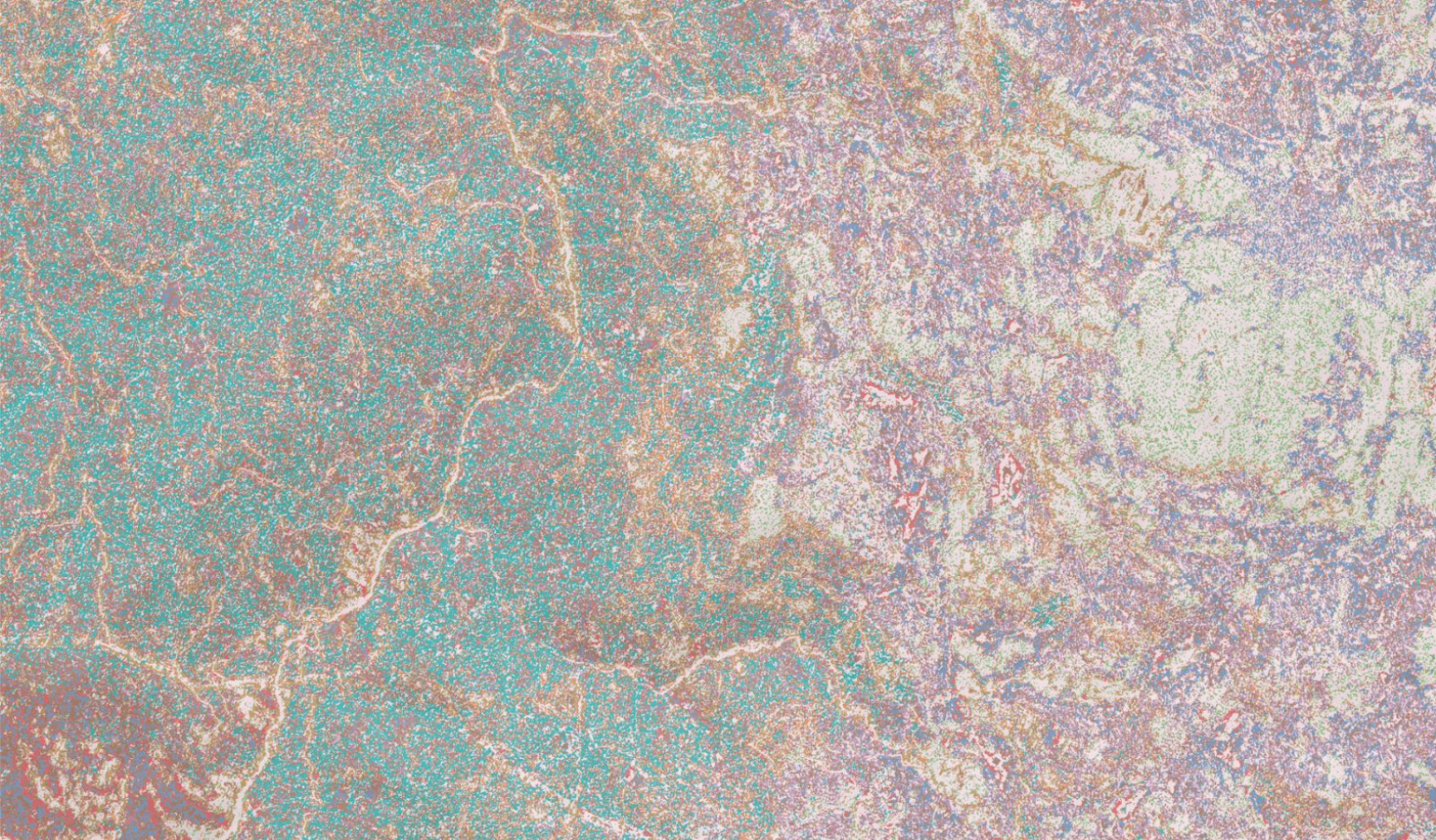
BOLD

These colors were selected because they are bright, easy to distinguish & semi-colorblind friendly. These tend to work better for graphs than for maps.

Color	Name	Hex code	RGB
	Red	#b61458	182, 020, 088
	Orange	#e08003	224, 128, 003
	Yellow	#d8df02	216, 223, 002
	Green	#61be03	097, 190, 003
	Blue	#0c69ad	012, 105, 173
	Purple	#6114ad	097, 020, 173
	Grey	#333333	051, 051, 051
	White	#ffffff	255, 255, 255









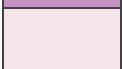


Color gradients cover a range of tonal variation. Two-color gradients are the simplest form, but should be restricted to pairs of similar colors (i.e. red-orange, yellow-green, blue-purple). Two-color gradients that use contrasting colors (i.e. yellow-blue, orange-green) should be avoided. These produce intermediate tones that are too dang ugly. Instead, use a divergent color gradient.



PASTEL

These colors were selected because they are subtle, unsaturated & easy to distinguish. These tend to work well for maps, where subtle transitions in colors help draw your eye across the map. Above is a 9-class species map from the southern Sierra Nevada using this palette.

Color	Name	Hex code	RGB
	Brown	#ab7967	171, 121, 103
	Red	#ec5f67	236, 095, 103
	Orange	#f99157	249, 145, 087
	Yellow	#e4bc6b	228, 128, 107
	Green	#7fc777	127, 199, 119
	Teal	#2ab3b3	042, 179, 179
	Blue	#6699cc	102, 153, 204
	Purple	#c594c5	197, 148, 197
	Pink	#f6e4eb	246, 228, 235



Cartography

The map is a graphic creation. Even when it is so highly conditioned by scientific purpose, it cannot escape graphic laws. In other fields, art and science may take different pathways. In the realms of cartography, however, they go hand-in-hand. A map will only be evaluated as good in the scientific and didactic sense when it sets forth simply and clearly what its maker wishes to express. A clear map is beautiful as a rule, an unclear map is ugly. Clarity and beauty are closely related concepts.

Eduard Imhof

We make a lot of maps. It's important we make them clear, diagrammatic, easy to read. This is often achieved through layering (of concepts, datasets) and through carefully selecting which information we visualize.

COLOR IN CARTOGRAPHY


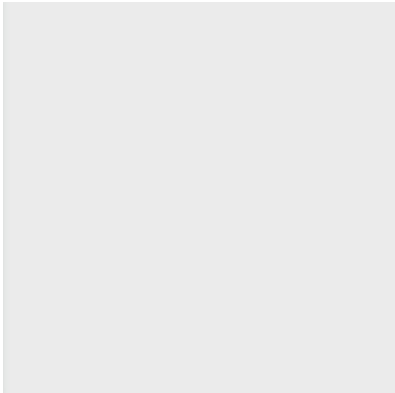
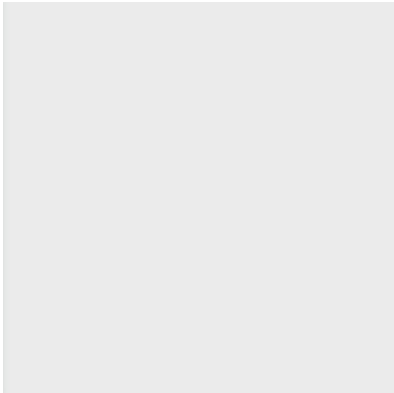





There are six rules guiding the use of color in map design:

- To draw a viewer's eyes across a map, use bright and strong colors sparingly over dull background tones. The shape of the earth tends to facilitate this. Extremes (like high and low temperatures) tend to enclose small areas. Limit the use of strong colors to these areas and beautiful, expressive patterns will emerge.
- Placing light, saturated colors directly adjacent to one another, especially over large areas, is unpleasant and should be avoided.
- Base and background colors should do their jobs quietly. Muted colors, mixed with greys, provide the best background for layering colors on top.

- An image falls apart if it contains two or more large, distinct & enclosed areas. But unity emerges when these colors intermix. These include peaks, valleys, islands. The intermixing facilitates disaggregation, interpretation & reiteration.
- Compositions should maintain a uniform, basic color mood. The colors of the landscape are unified or harmonized by sunlight. But this mood should not be unduly subdued; allow for just enough contrast between colored elements.
- Continually soften tones with shifts in terrain. The natural continuity of the earth demands similar continuity in its image.

Constructing the basemap

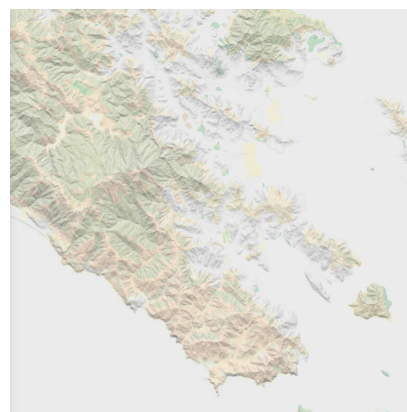
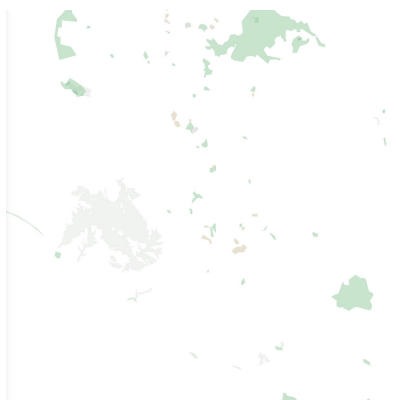
We used the principles above to design a general-use global basemap for web mapping applications. The goal of this map was to capture the complex shape of the earth—it's terrain, land surface properties & water features—as subtly as possible. Since other layers like roads, forests & species ranges will need to stack on top of and interact with these features, the basemap should do it's work quietly. The most expressive layer here is the topography dataset, which highlights dramatic shifts in terrain from far away, but these features soften at higher zoom levels. We use natural, unsaturated and distinctive colors for the land and water features to capture patterns expressed in nature that look good across the world.

Layer type	Colors	Layer display	Layered display
Background			
Topography	  		

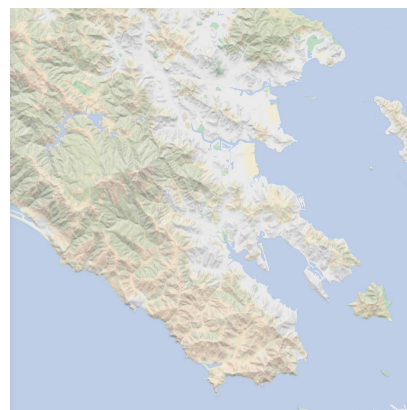
Land cover



Land use



Water



The Salo basemap with road, city & park layers from the California Forest Observatory.

Typography

Typefaces

Lato Lato *Lato*

ABCDEFGHIJKLMNOPQRSTUVWXYZ ! ? & \$
abcdefghijklmnopqrstuvwxyz 1234567890

PT Sans PT Sans *PT Sans*

ABCDEFGHIJKLMNOPQRSTUVWXYZ ! ? & \$
abcdefghijklmnopqrstuvwxyz 1234567890

Type guidelines

I recommend you set the style from this document as your default style in Google Docs.

Title text

Titles are in Lato 36 (light), black, should only capitalize the first letter of the title and any proper nouns (e.g. Salo) & should avoid punctuation marks. No line spacing before or after paragraphs.

SUBTITLE TEXT

Subtitles are in Lato 18 (light), Salo grey, and use all UPPERCASE capitalization. Italics are occasionally permitted for emphasis. Uses a space after paragraphs.

Heading 1 text

Heading 1 is in Lato 24 (light), black. Capitalization / italics match the title style.

Heading 2 text

Heading 2 is in PT Sans 14 (bold), Salo red. Uses spaces before and after paragraphs.

HEADING 3 TEXT

Heading 3 is in Lato 12 (light), black, and uses all UPPERCASE capitalization. Uses spaces before and after paragraphs.

Body text is in PT Sans 11 (normal), black. All body text is left justified. No indents are used to start new paragraphs. Uses spaces after paragraphs.