EGU General Assembly 2022

@SinkGraphics

Introducing ....

s-lnk .org

A community portal for sharing quality science graphics

EGU General Assembly 2022

@SinkGraphics

Fabio Crameri

Undertone.Design, CH

@fcrameri

Grace E. Shephard

Uni. Oslo, NOR

@ShepGracie

Eivind O. Straume

UTIG, USA

@EivindStra

s-lnk

s-lnk

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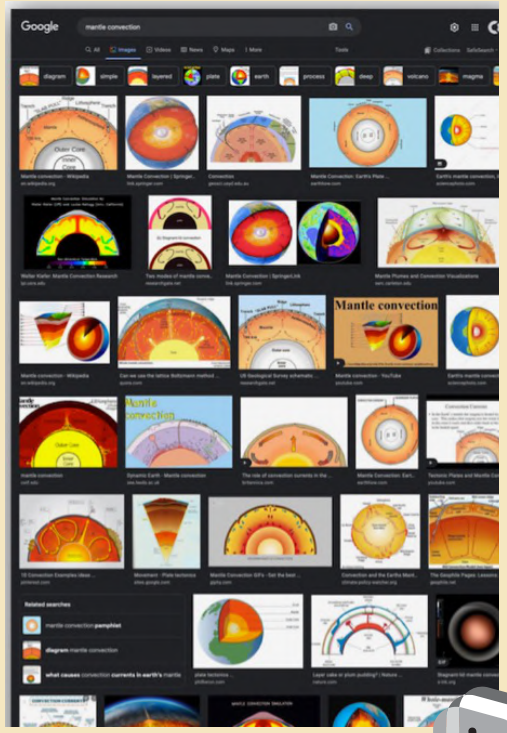
Have you ever found yourself…

Making last minute presentations?

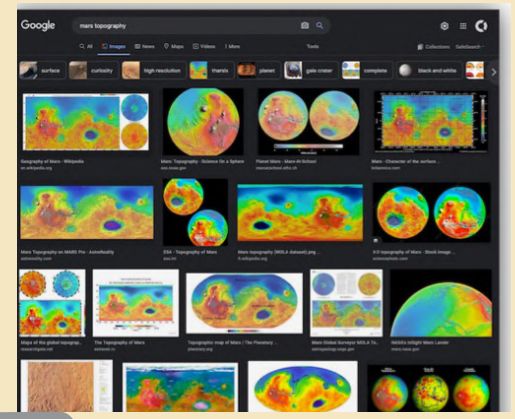
- Google search for an image
- Don't want to reinvent the wheel
- Not ideal… artistic or scientific quality
- Promised yourself to find better on next time?

Have you ever found yourself…

Mantle convection



Mars topography



Tired of seeing the same image?

- Process, label etc that you don't agree with
- Rainbows everywhere?

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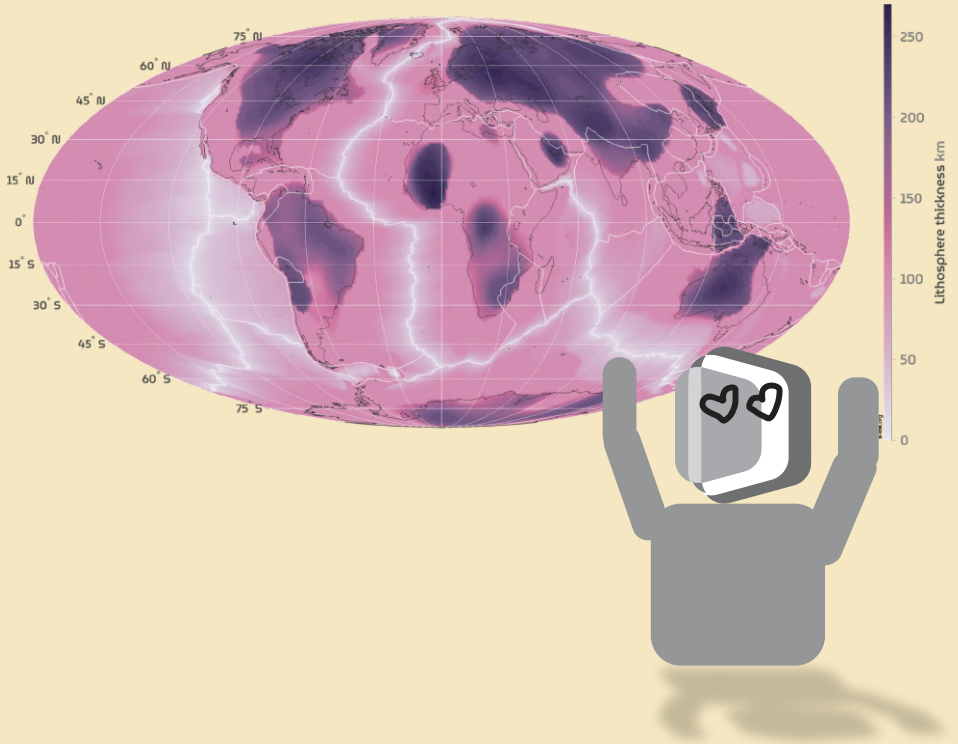
Have you ever found yourself…

Spent time making a nice graphic?

- Want to share it and for it to be used
- Appreciate some attribution
- But where will it be found?



Earth's heat flow (Conrad and Lithgow-Bertelloni, 2006)
Adapted by Fabio Crameri via s-Ink

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s-Ink · Science Graphics Collec

s-ink.org

s-Ink

s-Ink gallery contribute about

s-Ink · Science Graphics Collection

Making up-to-date and high-quality science graphics accessible.
Read about it in Crameri et al. (2022)

Science-proof

Quality checked by the s-Ink scientist team. Reviewed by the entire scientific community.

Eye-catching

Created and refined by the s-Ink graphic designer team. Supported by digital artists around the world.

Accessible

One collection. Fully colour-blind friendly. Easily reachable via an effective FM search engine.

Open and free

Exclusively open-access graphical products. Provided for free as a community contribution.

SEARCH GRAPHICS

101 Modelling Atlantic Bathymetry Climate Color Color map Colour Continent Continental plate Core Earth Earth oceans Elevation Geodynamic modelling Geodynamics Lithosphere Mantle Mantle convection Mantle dynamics Mantle flow Mantle plume Map Numerical modeling Numerical modelling Ocean

Latest science graphics by s-Ink

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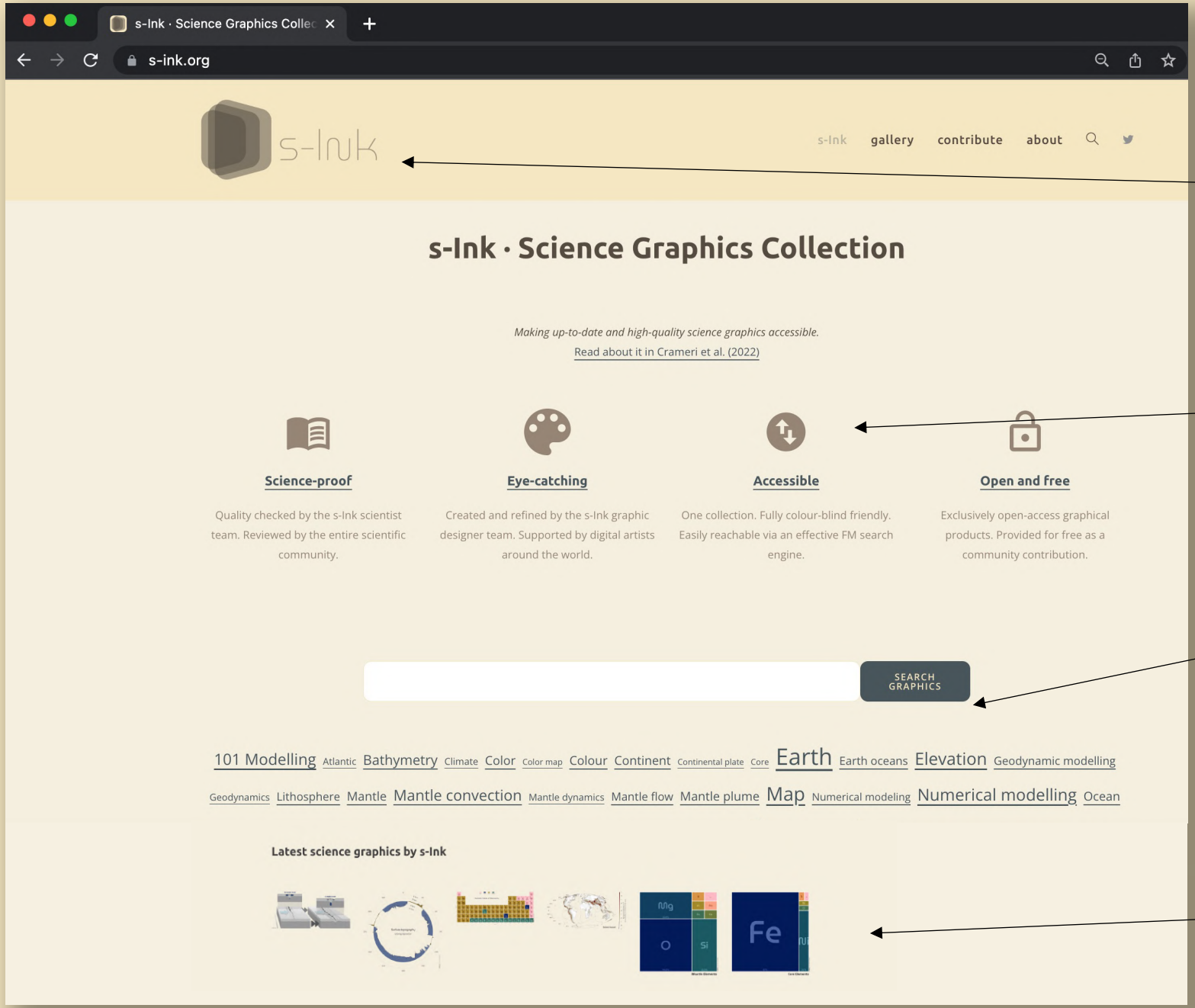

Play on “Source to (S)ink”

Highlight good data viz. practices

Structured and searchable via text, keyword, or category

Latest contributions

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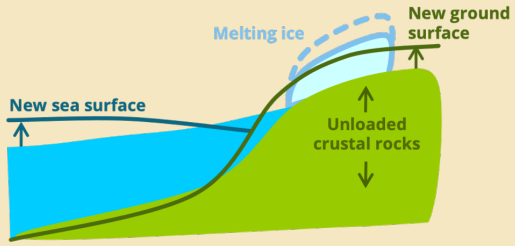
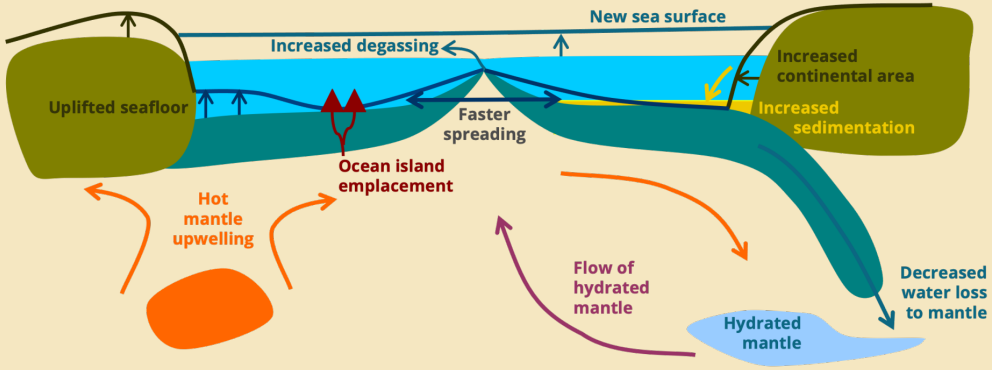
Types of content:

- Conceptual illustrations
- Data visualisations
- Animations
- Artistic impressions
- Icons, Logos
- Posters, Graphical templates
- Instructions
- Graphical tools



Elastic time scales
instantaneous

Post-glacial rebound time scales
1 ka – 100 ka



Mantle convection time scales
1 Ma – 1 Ga

Sea-level change mechanisms based on Conrad (2013)
By Clint Conrad via s-Ink

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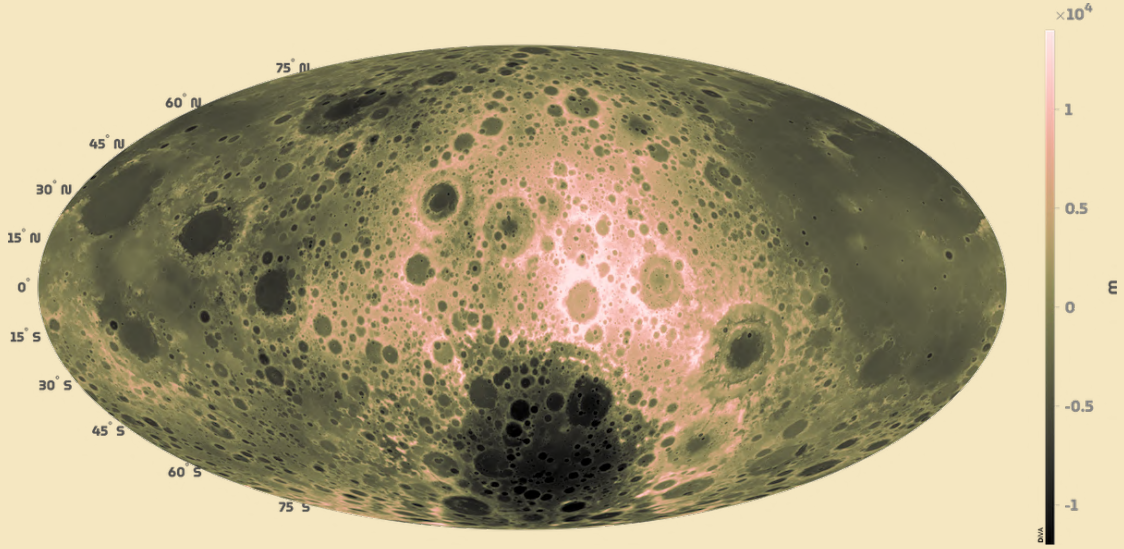

Moon topography (LOLA; Tooley et al., 2010)
Adapted by Fabio Crameri via s-Ink

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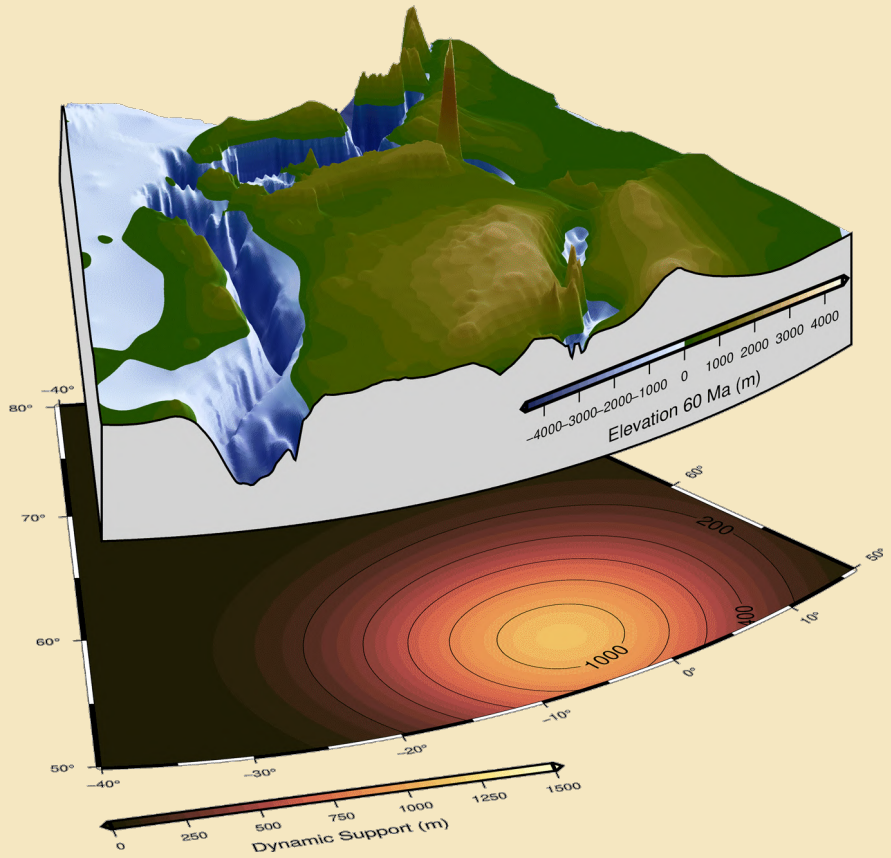

North East Atlantic ocean circulation (Straume et al 2022)

By Eivind Straume via s-Ink

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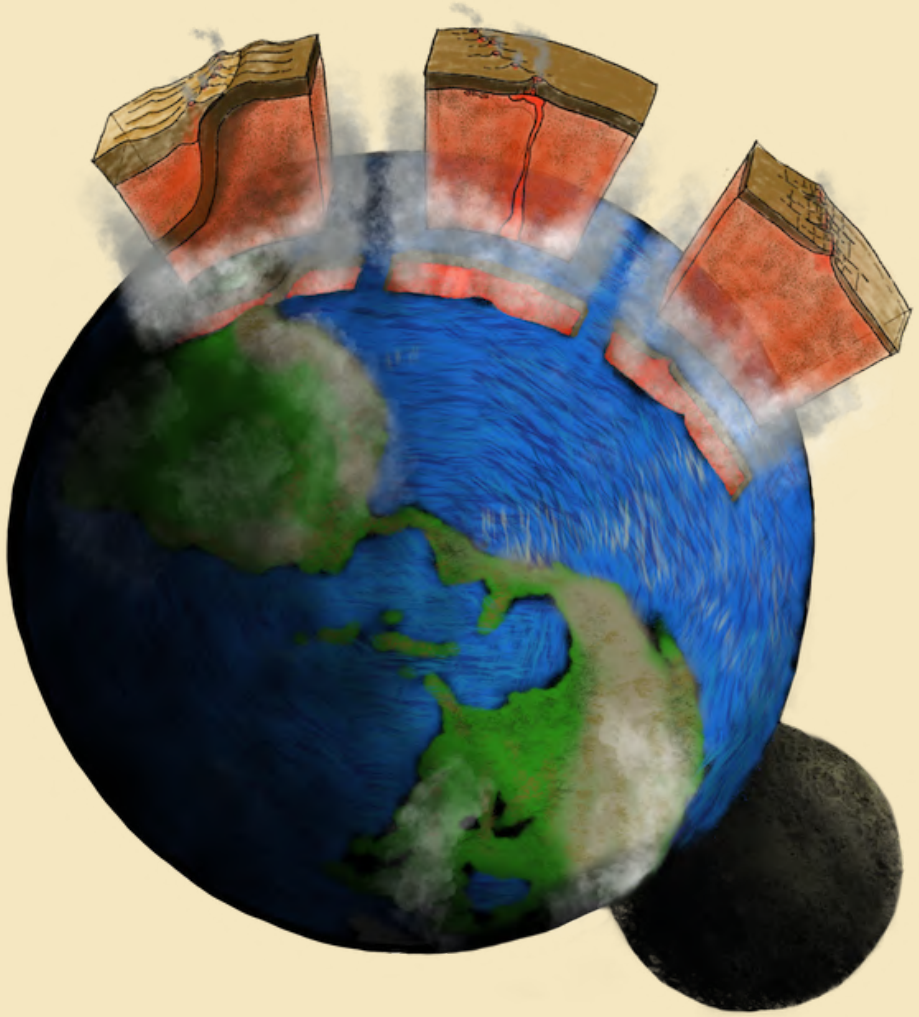

Dynamic Planet Earth

By Fabio Crameri via s-Ink

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s-Ink and scientific colours logo

By Fabio Crameri via s-Ink

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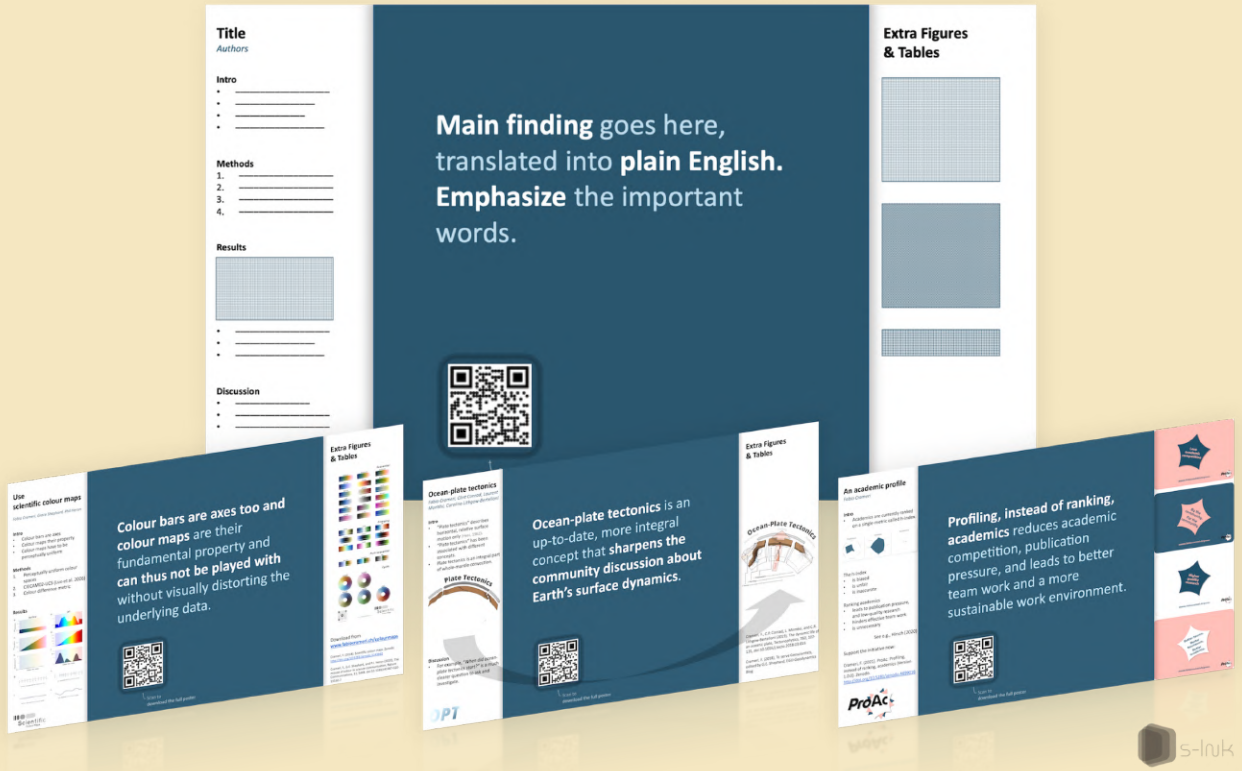

Better Poster Design by Mike Morrsion

Adapted by Fabio Crameri via s-Ink

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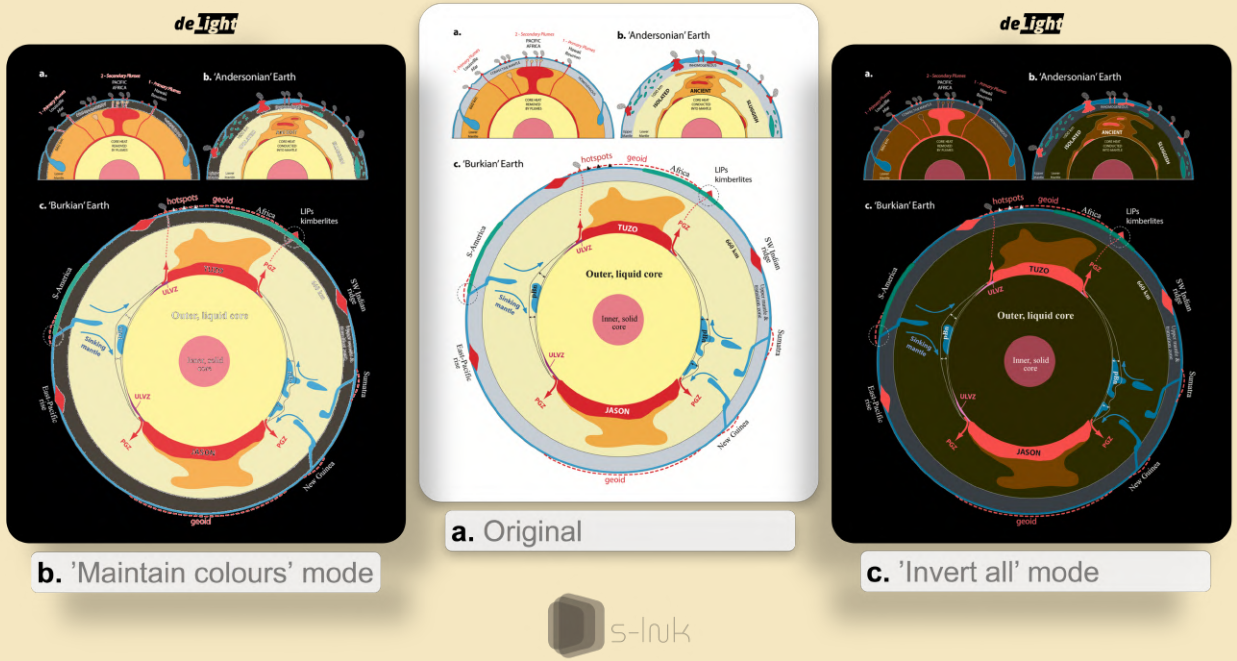

DeLight code by Fabio Crameri via s-Ink

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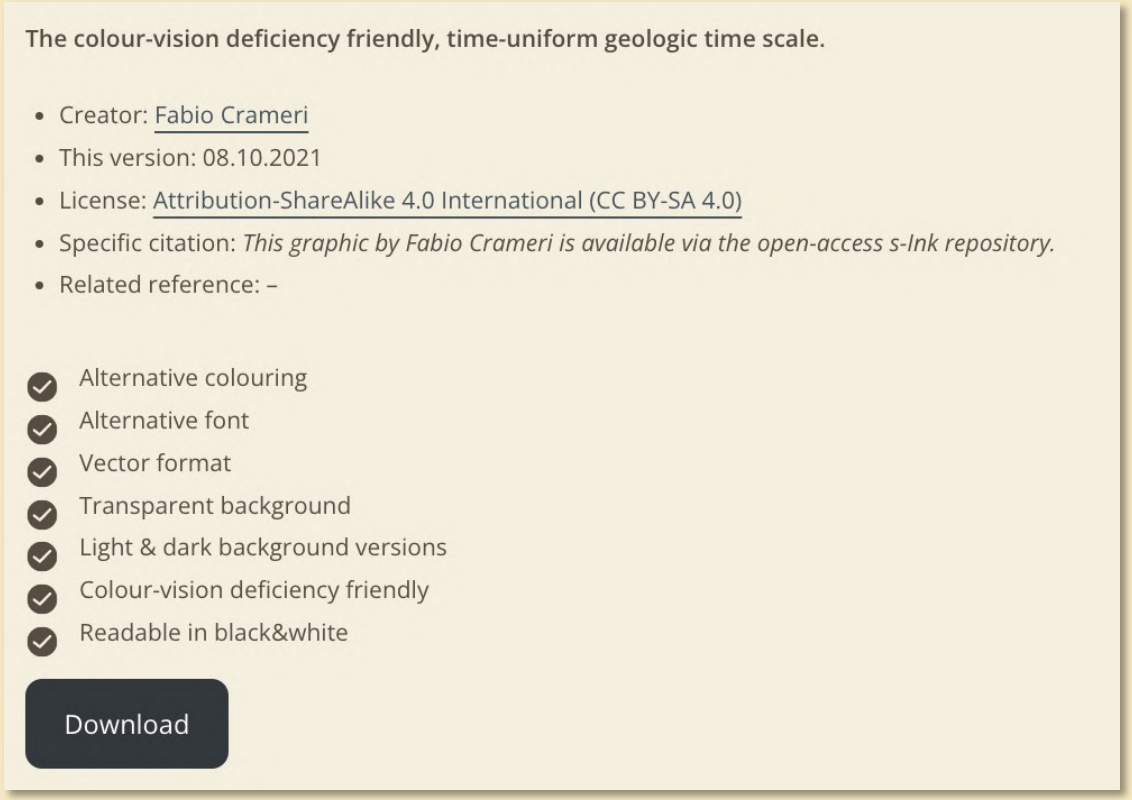
License/attribution:

- CC BY-SA 4.0
- “This graphic by [NAME] is available via the open-access s-Ink repository”
- Can credit creator and data source(s)
- If published – modify, check ©



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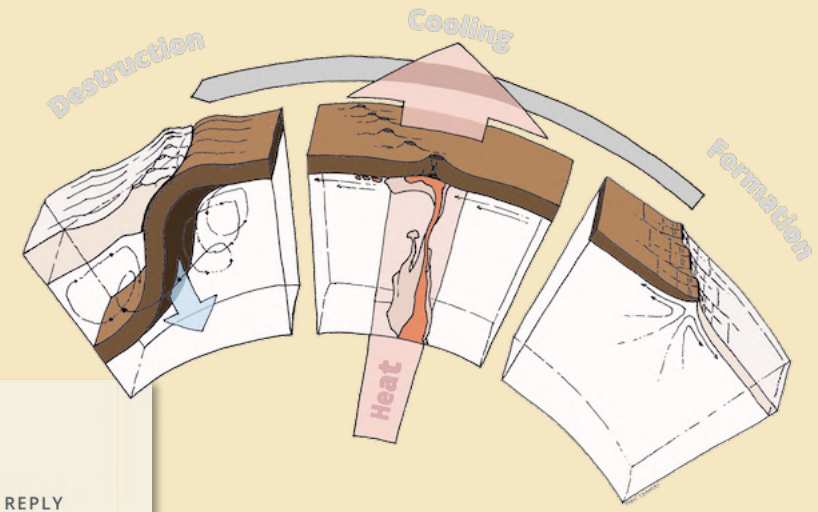
Feedback:

- Comments from community welcome



THIS POST HAS 2 COMMENTS

Stéphane Labrosse 10 MAR 2022 REPLY

Nice figure and great site, with a lot of useful ressources!
I do have a criticism about this particular figure, regarding the heat arrow. It's great to link mantle dynamics to heat transfer, from the core to the surface, with an increasing amount through the mantle owing to its radiogenic contribution but it is unfortunate that its position coincides with the

Fabio Crameri 15 MAR 2022 REPLY

Thank you, Stéphane. We think your suggestion makes sense and would clarify the global heat transfer mechanism in relation to the mantle and mantle convection. Updating this figure is now added to our to-do list, but if someone else out there is quicker and wants to help out, let us know (-> https://s-ink.org/contribute)! 👍

★ Like

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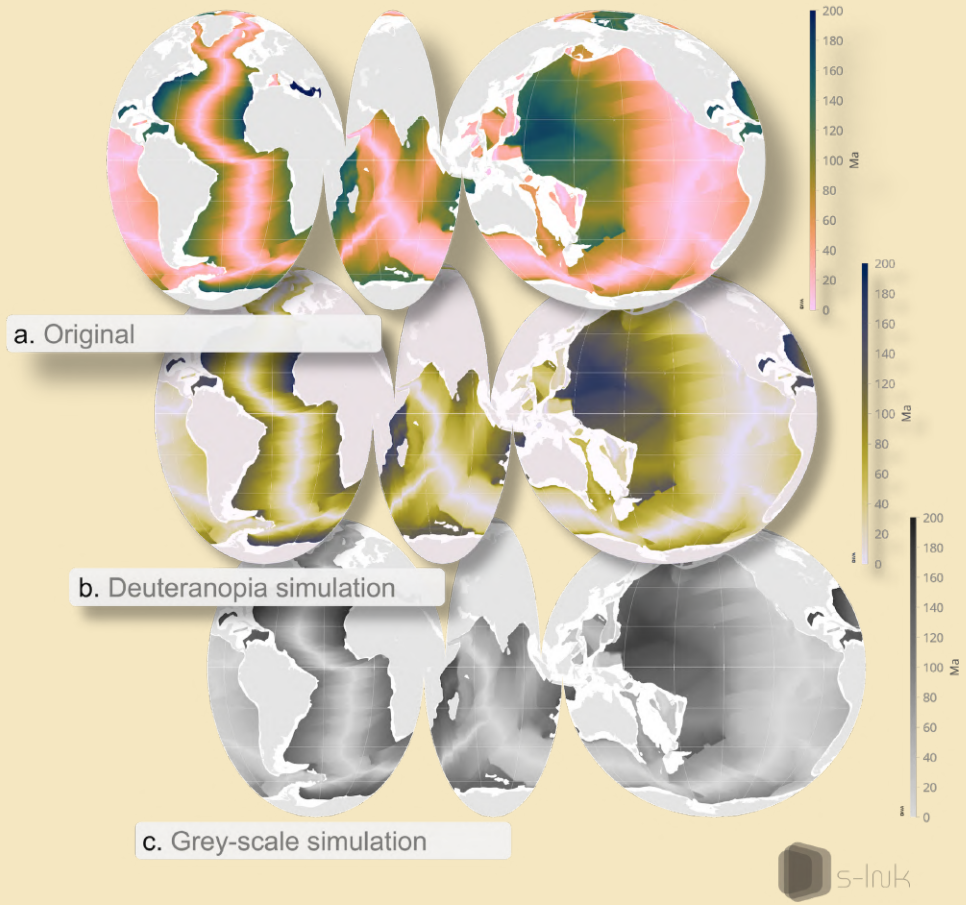
Figure considerations:

- Colour-vision friendly
- Black and white printable
- Legible, clear design
- Asthetically appealing
- Modifiable
- Caption, alt-text
- Attribution and key references



Oceanic age grid by Müller et al. 1997
Adapted by Fabio Crameri via s-Ink

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See also:
The misuse of colour in science communication

Crameri, Shephard, Heron (2020)
Nature Comms.

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See also:
Fabiocrameri.ch/colourmaps

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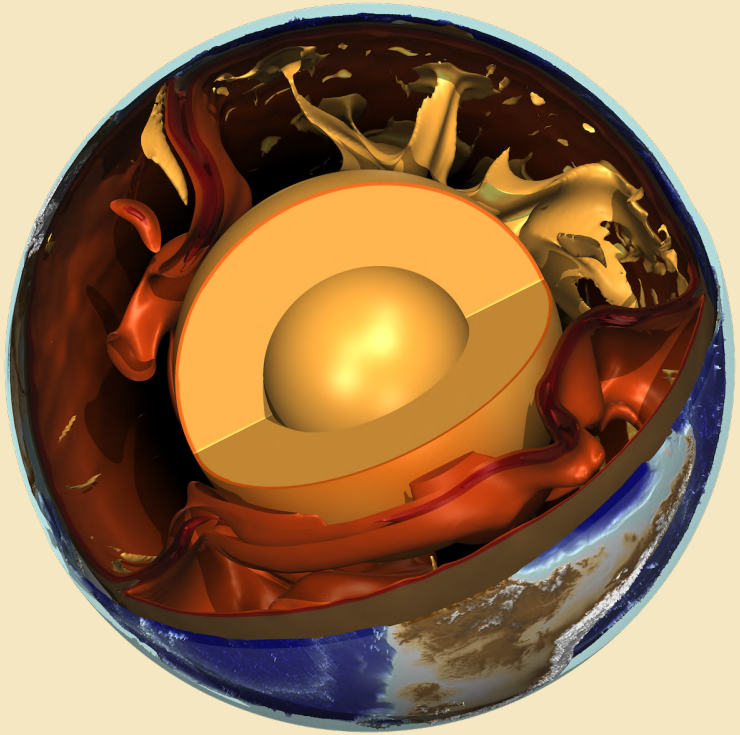

Earth Interior model
Crameri and Tackley (2017)
Adapted by Fabio Crameri via s-Ink

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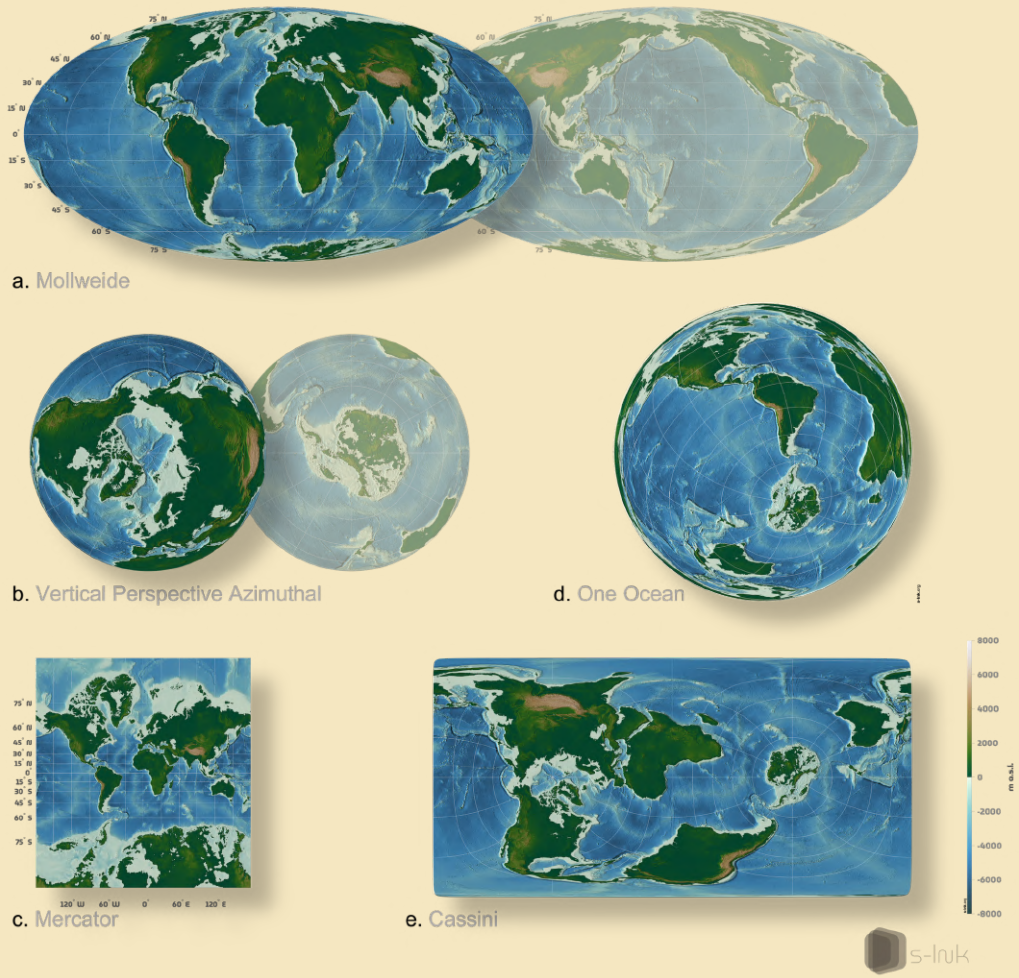

ETOPO1 (NOAA and Amante and Eakins 2009)
By Eivind Straume via s-Ink

e.g. content (map projections)

Also language, vector/raster format, transparent background, content, colour, labels, font etc.

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Simplified model of the Earth interior and its global dynamics featuring a solid inner and a fluid outer core, a viscous partially molten but not fluid mantle, with hot material rising from the core-mantle boundary and cold material, including oceanic surface plates, sinking back into the mantle. The dynamics in the Earth interior crucially shapes the rocky surface of the planet, creating mountain ranges and deep-sea trenches.

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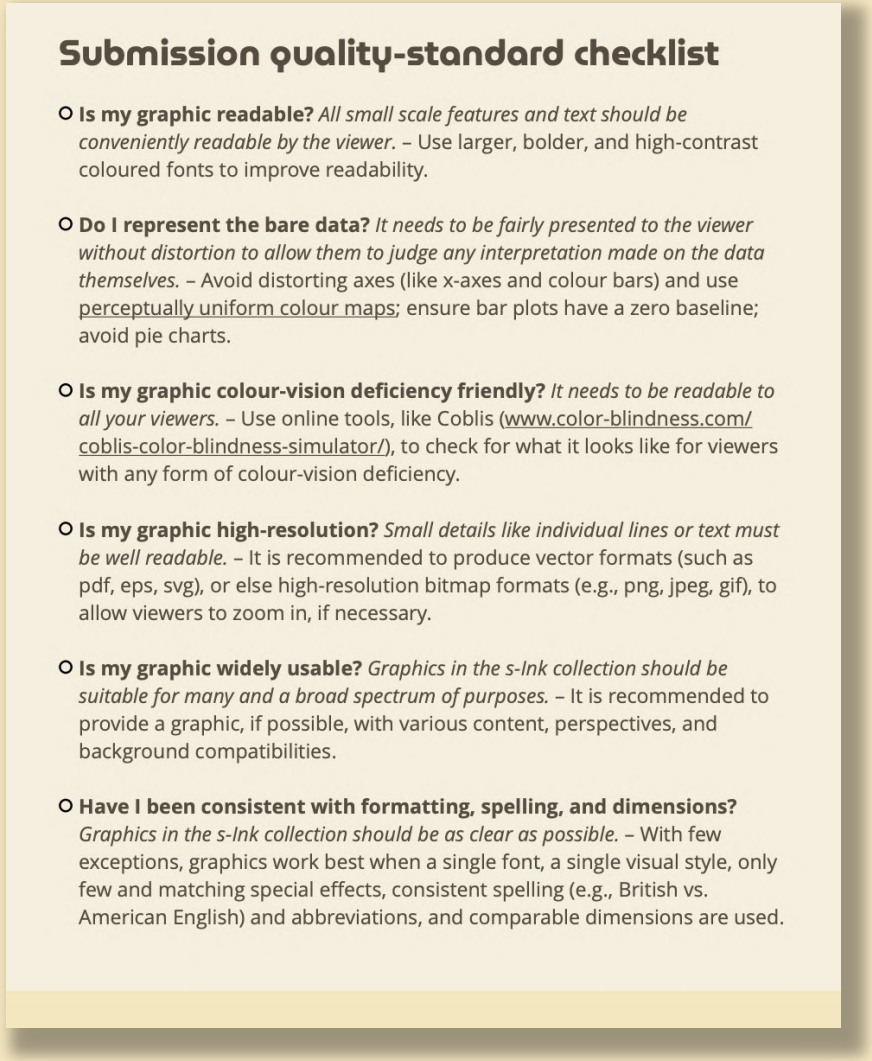
To submit

- Check what may already be there
- Look at guidelines
- **Create!**
- Write caption
- Fill in sInk form
- Attach or provide link
- Update as necessary



Submission quality-standard checklist

- **Is my graphic readable?** *All small scale features and text should be conveniently readable by the viewer.* – Use larger, bolder, and high-contrast coloured fonts to improve readability.
- **Do I represent the bare data?** *It needs to be fairly presented to the viewer without distortion to allow them to judge any interpretation made on the data themselves.* – Avoid distorting axes (like x-axes and colour bars) and use perceptually uniform colour maps; ensure bar plots have a zero baseline; avoid pie charts.
- **Is my graphic colour-vision deficiency friendly?** *It needs to be readable to all your viewers.* – Use online tools, like Coblis (www.color-blindness.com/coblis-color-blindness-simulator/), to check for what it looks like for viewers with any form of colour-vision deficiency.
- **Is my graphic high-resolution?** *Small details like individual lines or text must be well readable.* – It is recommended to produce vector formats (such as pdf, eps, svg), or else high-resolution bitmap formats (e.g., png, jpeg, gif), to allow viewers to zoom in, if necessary.
- **Is my graphic widely usable?** *Graphics in the s-Ink collection should be suitable for many and a broad spectrum of purposes.* – It is recommended to provide a graphic, if possible, with various content, perspectives, and background compatibilities.
- **Have I been consistent with formatting, spelling, and dimensions?** *Graphics in the s-Ink collection should be as clear as possible.* – With few exceptions, graphics work best when a single font, a single visual style, only few and matching special effects, consistent spelling (e.g., British vs. American English) and abbreviations, and comparable dimensions are used.

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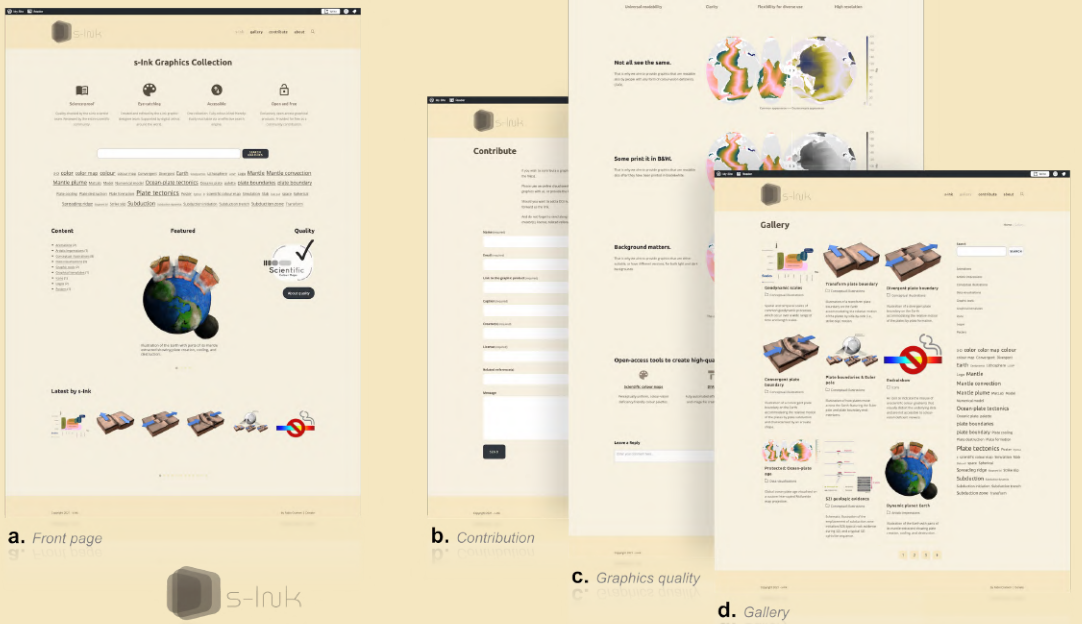
Get involved:

- **Take a look** at s-Ink.org
- **Submit** content
- **Use** content
- **Spread** the word
  - *We're on Twitter*
- **Give feedback** on our pre-print
  - *Crameri et al. EarthArXiv*



a. *Front page* b. *Contribution* c. *Graphics quality* d. *Gallery*