Cambio a Flor de Piel

which roughly translates from Spanish into English as “Changing the flower’s skin”, is a short movie explaining how the science of the past can help us achieve a better future. The movie uses a unique media format to transmit science – the mixture of bodypainting, music, and poetry – transforming science into emotions and appealing to our artistic sides. The movie is directed by Graciela Gil-Romera (@gilromera) and Alejandra Vicente de Vera (@jani_vdv), part-time artists as well as scientists in the Palaeoenvironments and Global Change group at the Pyrenean Institute of Ecology (IPE-CSIC) (@PaleoIPE). Watch the video, with multilingual subtitles: youtube.com/watch?v=rnRfbOZ-ui0

Weathered History

is a digital exhibition showing the material side of past climate change. Climate history is visualized using objects from 12,000 years of human history. On display are diverse testimonies from a wide range of countries, from cave paintings to sometimes curious technical inventions, such as the “dandy horse”, and weather reports on cigarette packets from Hong Kong. The exhibition, which is available in German and English, was created by the Leibniz Institute for the History and Culture of Eastern Europe (GWZO), in cooperation with PAGES’ Climate Reconstruction and Impacts from the Archives of Societies (CRIAS) working group: pastglobalchanges.org/crias. Watch Weathered History: artsandculture.google.com/exhibit/weathered-history/hwJiMeBgl6ZDLg?hl=en

For further insights into some scientific research topics, exhibitions, books, and videos, go to the Outreach section of the Institut de recherche en sciences de l’environnement (IPSL) website: ipsl.fr/en/Outreach

RESOURCES AND REFERENCES

Mills and Jones (pp. 4-5)
1. UN SDGs
2. Intergovernmental Panel on Climate Change Assessment Reports

Oldfield (pp. 6-8)
3. Real Climate: A useful and authoritative website covering all aspects of climate change, including modeling
4. Nature Climate Change: Up-to-date accounts from primary sources, often with more accessible editorial summaries of important issues. Original articles can also be accessed online
5. Intergovernmental Panel on Climate Change (IPCC): It is important to make yourself aware of the reports issued by the IPCC
6. NASA: Summaries of evidence for, and the nature of, climate change
7. Carbon Brief: A useful introduction to climate models is provided by the Q&A “How do climate models work?”
8. Tree rings: A clear and relatively simple explanation of the use of tree rings to reconstruct climate (dendroclimatology)

Hernández-Almeida and Saavedra-Pellitero (pp. 9-11)
1. Florisphaera: Check out the original publication to learn about past ocean productivity using Florisphaera profunda
2. EarthLabs: Phytoplankton - The Ocean’s Green Machines
3. ESA: Twenty years of ocean primary productivity, as seen from space

Courtillat (pp. 12-15)
1. Blog: The expedition describing day to day life on board with a lot of illustrations (in French)
2. Video: Made by Vivien Cumming during the expedition, this video explains the scientific project in detail (in English)
3. Video: Also made onboard, this report explains diatoms and their role in the reconstruction of Antarctic history (in English)
4. Website: Karen Romano Young was the artist on board during the expedition

Sefton and Tan (pp. 16-19)

Hunt et al. (pp. 36-37)
1. Blog: Read about our recent fieldwork in Uganda
2. Video: Watch an interview with Tessa Driessen about her research and photography
De Porras et al. (pp. 44-48)
2. Villavicencio NA et al. (2019) In: Cartes L et al. (Eds) Avances en Paleontología Chileno, Instituto Antártico Chileno, pp. 296-298
3. Maldonado A et al. (2016) PAGES Mag 24: 56-57

Olatoyan (pp. 49-51)
7. Food and Agriculture Organization (FAO) (2010) Forestry Paper, Ch. 2
8. Shi N et al. (1998) Veg Hist Archaeobot 7: 127-140

Glossary (pp. 54-55)
1. Age models: On this website, under "Software and animations", you can see an animation of how fast sediments deposit and how the depth-age model is therefore built.
2. Radiocarbon: Here’s an interesting article in The Conversation about how radiocarbon dating works

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Sefton and Tan (pp. 16-19)
Symbols are attributed to Biorender, Canva and ian.umces.edu. Styling attributed to Canva.

Frisia et al. (pp. 30-33)
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De Porras et al. (pp. 44-48)
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