TI(C)K TO(C)K: INTO THE GEOLOGIC CLOCK

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WHAT’S IN A FACEBOOK OR AN INSTAGRAM STORY? OR IN A TIKTOK VIDEO?

COMPLETE MEMORIES AND STORIES ALL TOLD IN A VERY SHORT TIME!

YOU MIGHT HAVE SEEN THESE VIDEOS SQUEEZED IN A MINUTE.

WHAT ABOUT THE EARTH’S ENTIRE HISTORY IN A MINUTE?

A BLINK OF AN EYE LASTS ABOUT 1/3 OF A SECOND, OR 0.55% OF A MINUTE. IF EARTH’S AGE IS CRAMMED IN ONE MINUTE, A BLINK OF AN EYE...

...IS ABOUT 25.3 MILLION EARTH YEARS! EARTH SCIENTISTS WORK ON THESE TIMESCALES, WAY BEYOND HUMAN HISTORY!

AND WITHIN A BLINK OF AN EYE...

WOAH!

...COUNTLESS VOLCANOES ERUPTED! EVEN THE ARCTIC FROZE AND THAWED MANY TIMES! CURIOUS TO CHECK THIS OUT AND GET CAUGHT IN THE GEOLOGIC CLOCK?

THEN, ARE YOU READY TO TRAVEL BACK TO ANY TIME IN THE EARTH’S PAST?

YES, IT WILL BE MILLIONS OF YEARS BACK! WAY, WAY BACK!

HUH!?!
REAdy or not, here we go!!

WOAH?! wait! is this really happening? where are you taking me? am i in the ocean?

AAAAAh!!!

the water is very warm!

...and yes, the phone is still working!

ADDDAHHH!!!

WOAH?! wait! is this really happening? where are you taking me? am i in the ocean?

BACK TO the MIDDLE MIOCENE CLIMATIC OPTIMUM?

Hmmm, looks like the atmospheric carbon dioxide is similar to the present day levels (450 parts per million), yet it became much warmer than the present?! That's why scientists are very curious about it!

WOAH! this part of the ocean is about 7°C warmer than the present day! that's why the water feels so warm!

LOOK, OVER THERE, WHALES!

These marine mammals started to become abundant and diverse during this time, and so are the fish, which also seem to be loving the warm water.

WAIT! SOMETHING'S FLOATING IN THE WATER! CAN YOU SEE IT?

WE SHOULD TURN THE PHONE'S CAMERA ON AND TRY THE AUGMENTED REALITY APP SO WE CAN SEE WHAT THEY ARE!

THIS COCCOLITHOPHORE GROUP, THE TINY RETICULOFOENESTRA, IS ABUNDANT DURING THE MIDDLE MIOCENE CLIMATIC OPTIMUM.

Scientists say that they can tolerate a wide range of temperatures, so they were doing fine while other coccolithophores were not surviving!

This makes them the main group of coccolithophores during this time! In fact, their relatives today are the most abundant coccolithophore group and can survive almost anywhere!

Talk about being persistent!
Oh no! Is my time running out? Wait!!
Nooo!!

I want to know more! A piece of the puzzle is still missing!

Being sucked up by the wormhole, she can see the whole west side of North America from above.
A large volcanic event is happening in the Northwest United States!

This eruption, the Columbia River basalts, could have released huge amounts of gases into the atmosphere!
The increase of these gases, like carbon dioxide, may have resulted in high temperatures during the Middle Miocene Climatic Optimum.
But this could be just one of the many factors... interesting!

Woah! That was amazing!
Never thought I could travel back to 16 million years in less than a minute!
The geologic clock sure knows how to warp!

To be continued...