Geophysical Research Abstracts
Vol. 12, EGU2010-3263-2, 2010
EGU General Assembly 2010

Grasping time scales from galactic life cycles to personal life projects at a linear scale of 1 mm per 100 years

Bo Holm Jacobsen
University of Aarhus, Earth Sciences, Aarhus C, Denmark (bo@geo.au.dk)

The ambition is to make the citizen (i.e. pupil/student/scholar/voter/journalist/politician) comprehend better and more scientifically all time scales from the lifespan of the universe to the personal life project by a consistent geographical mapping of time at a scale of 1 mm per 100 years.

The processes which change earth systems like life, climate, topography and plate tectonics operate at very different timescales. The understanding of these systems is essential not only for students and scholars of earth science but also for pupils, voters and politicians who make decisions of possibly significant consequence to climate and biodiversity not only for our generation but for thousands or even millions of years ahead.

With *a consistent linear mapping* of time to a scale of 1 millimetre per 100 years, historical time (<100 mm) fits on a credit card, the Quaternary fluctuations in climate cover 26 metre, dinosaurs disappeared at 650 m, fish went on land at 3.9 km, Earth originated at 46 km, and Big Bang marks the start of time 137 km away. Looking ahead, the citizen may expect future ice ages over perhaps the next several metres, very significant global warming 5 to 10 km ahead driven by the steady solar constant increase, and the end of the inner Solar system perhaps 50 km ahead. So at this scale the complete track of time is covered within the geographical area well-known to citizens, yet the major milestones of his or her life project are still visible with a simple magnifying glass within the 1 millimetre length of a typical healthy life. Similarly, political and technological milestones in climate/biodiversity remediation and energy system developments can be inspected by magnifier within the first millimetre into the future.

We shall see how these, in principle, well-known facts can become personal and integrated knowledge by *combination of several media*, including Google Earth, video-narratives, classical printed text, and a physical "NowGate" marking the present where citizens can meet face to face and discuss time and politics, and children and young of mind can test who can take the longest jump into the future.

An essential part of this general format of teaching scientific time is that the mapping of the "Track of Time" exploits a specific local geographical setting using landmarks well-known to the citizen.

A pilot study was performed near Copenhagen as part of the COP15 climate summit meeting, December 2009. Material from this pilot study is available from www.1mmper100y.dk.