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<http://www.bgs.ac.uk/staff/profiles/2010.html>

The Anthropocene: an overview of geological assessment to date

This presentation outlines the work of the Anthropocene Working Group in gathering evidence to assess the Anthropocene as a potential new formal chronostratigraphic unit within the Geological Time Scale. The presentation concentrates upon:

- 1) the appearance and rapid dispersal of many new mineral forms (including metals, plastics and industrial fly ash), rock types (including concrete) and sediment bodies including artificial ground, together with sediments released by land use changes;
- 2) chemostratigraphic evidence including concentrations and isotope patterns altered by perturbations to the carbon, sulphur, nitrogen and phosphorus cycles at rates and magnitudes unprecedented in Quaternary times, atmospheric gas changes preserved in ice, disseminated metal and persistent organic pollutant and artificial radionuclides traces, many of which are novel signatures;
- 3) recent climate and sea level trends which are outside the Holocene trajectory, though global temperature and sea level are still within the Quaternary interglacial envelope;
- 4) and biostratigraphic evidence including the consequences of extinctions, geologically unprecedented species invasions and marked assemblage changes, especially through domestications.

Anthropogenic influence on stratigraphic signals commenced thousands of years ago, but the most pronounced inflection in most trends away from Holocene patterns is in the mid-20th century. Attempts at definition through the selection and detailed multiproxy analysis of candidate GSSP ('golden spike') sections, with potential candidates in marine anoxic basins, corals, lakes, peats, glacial ice, speleothems and trees will be introduced.

Amaëlle Landais, chargée de recherche CNRS, Laboratoire des Sciences du Climat et de l'Environnement

Lauréate de la médaille Nicholas Shackleton de l'INQUA (International Union for Quaternary).

http://www.lsce.ipsl.fr/Phocea/Vie_des_labos/Fait_marquant/index.php?id_news=3434

La dynamique du climat du Quaternaire enregistrée dans les carottes de glace

Les carottes de glace polaire sont des archives privilégiées du changement climatique et environnemental des derniers 800 000 ans. En effet, elles permettent de décrire le changement climatique passé à une très haute résolution (annuelle au Groenland) et fournissent un enregistrement unique de l'évolution passée de la composition atmosphérique. Je présenterai des résultats récents documentant la dynamique du climat à partir des carottes de glace en me concentrant sur les variations climatiques abruptes à l'échelle de quelques années et l'enregistrement des périodes plus chaudes que l'actuel dans les carottes de glace.