

Prehistorische landschappen in onze Noordzee: een nooit eerder getoonde reis in de tijd

Maikel De Clercq

Universiteit Gent





Department of Geology Research Group Renard Centre of Marine Geology This presentation contains a watermark due to preparations for scientific publication. Please do not use these images freely, ask the author for permission!

Deze presentatie bevat een watermerk ter voorbereiding van een wetenschappelijk artikel. Gebruik deze afbeeldingen enkel ter goedkeuring van de auteur!

> For questions please mail to: Bij vragen stuur naar:

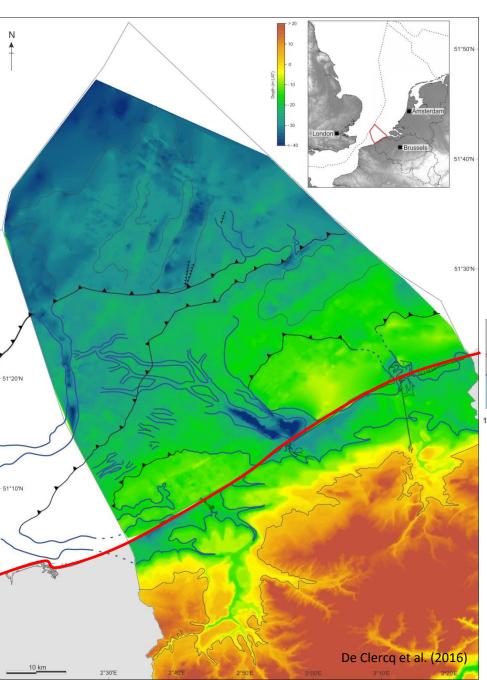
> Maikel.DeClercq@UGent.be

- 1. Landschapsreconstructies: 180.000 jaar heden
 - met focus op België en Nederland
 - fossiele vondsten
- 2. Wat is er bewaard gebleven van deze landschappen?

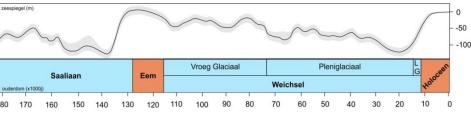
3. Waar zit het archeologisch potentieel?

4. Hoe het archeologisch potentieel in kaart brengen?

1. Landschapsreconstructie: Top-Paleogeen oppervlak

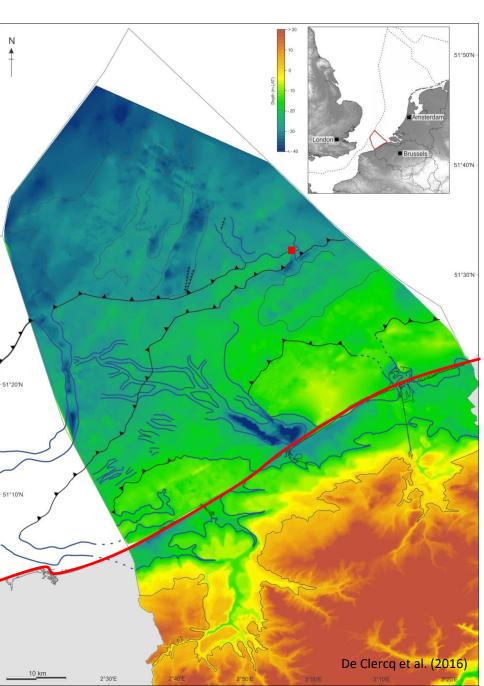


- Fundering van het landschap
- Sterk verbouwd
- IJstijden en tussenijstijden
- Zeespiegelschommelingen





1. Landschapsreconstructie: Top-Paleogeen oppervlak



Fossielen 1.8 – 2.4 Ma

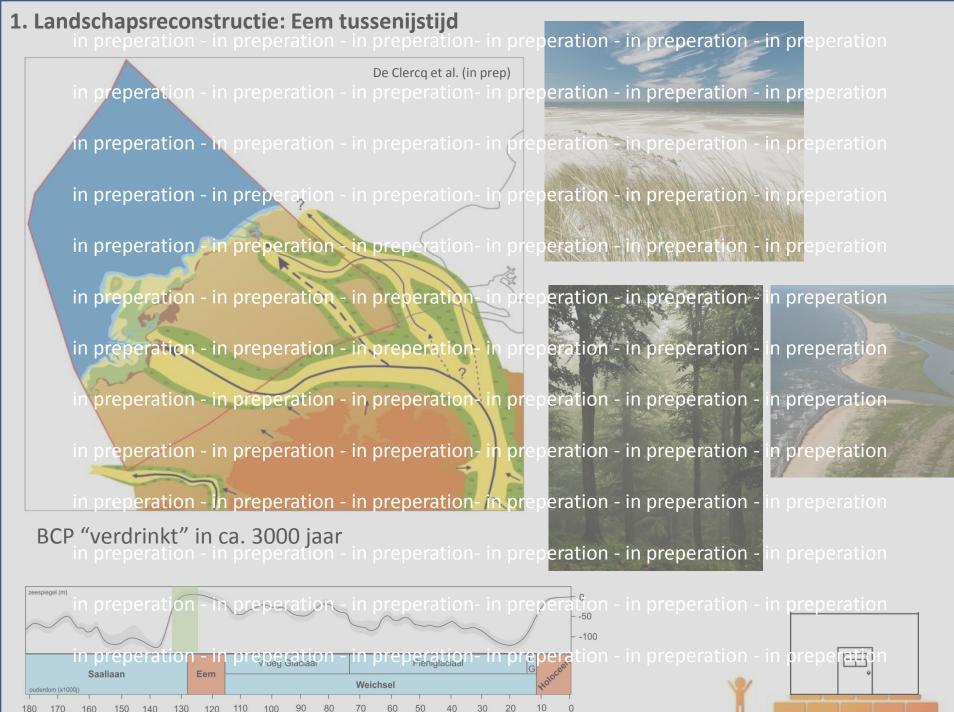








1. Landschapsreconstructie: Saale ijstijd in preperation - in preperation - in preperation- in preperation - in preperation - in preperation BCP: De Chercq et al. (in prep.), DCS: Peeters et al. (2016) in preperation - in preperation - in preperation - in preperation - in preperation Proglaciaal meer: afsmeltende ijskap Nin-preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation Holland lake in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in prependicion in prependion - in preperation - in prependion 1. Landschapsreconstructie: Saale ijstijd in preperation - in preperation - in preperation- in preperation - in preperation - in preperation BCP: De Clercq et al. (in prep.), DCS: Peeters et al. (2016) in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation (a) in preperation n preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation Meer loopt leeg via het Kanaal in preperation - in preperation Equivalent van zeespiegeldaling in preperation - in preperation - in preperation - in preperation - in preperation preperation - in preperation - in preperation- in preperation - in preperation - in preperation reperation - in preperation - in preperation - in preperation



1. Landschapsreconstructie: Eem tussenijstijd in preperation - in preperation - in preperation- in preperation - in preperation - in preperation De Clercq et al. (in prep) in preparation - in preparation - in preparation- in pre peration - in preperation - in preperation in preperation - in preperation - in preperation- in pr peration - in preperation - in preperation in preparation - in preparation - in preparation- in preparation - in prep peration - in preperation - in preperation in preparation - in preparation - in preparation- in pre peration - in preperation - in preperation in preperation - in preperation - in preperatio preperation - in preperation in preperation - in preperation - in preperation- in pre peration - in preperation - in preperation in preperation - in preperation - in preperation-in pre peration - in preperation - in preperation in preperation - in preperation in preperation³- in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperati<mark>on - in preperation - in preperation- in preperati</mark>on - in preperation - in <u>preperation</u> in prepenation- in preperation - in preperation - in preperation

1. Landschapsreconstructie: Eem tussenijstijd in preperation - in preperation - in preperation- in preperation - in preperation - in preperation De Clercq et al. (in prep) in preparation - in preparation - in preparation- in pre peration - in preperation - in preperation in preperation - in preperation - in preperation- in p peration - in preperation - in preperation in preperation - in preperation - in preperation- in p peration - in preperation - in preperation in preperation - in preperation - in preperation- in pre peration - in preperation - in preperation in preperation - in preperation - in preperation reperation - in preperation in preperation - in preperation - in preperation- in pre peration - in preperation - in preperation n preperation - in preperation - in preperation- in pr peration - in preperation - in preperation in preperation - in preperation - in preperation in pre peration - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperati<mark>on - in preperation - in preperation- in preperati</mark>on - in preperation - in <u>preperation</u> n prepenation in preperation - in preperation - in preperation

1. Landschapsreconstructie: Eem tussenijstijd

in preperation - in preperation

in preparation - in pre

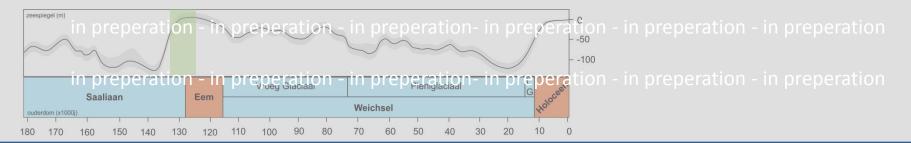
in preperation - in preperation - in preperation- in preperation - in preperation - in preperation

in preperation - in preperation

in preperation - in preperation

in preperation - in preperation - in preperation - in preperation - in preperation

in preperation - in preperation - in preperation - in preperation - in preperation



1. Landschapsreconstructie: Eem tussenijstijd in preperation - in preperation - in preperation- in preperation - in preperation - in preperation BCS: De Clercq et al. (in prep); DCS: Peeters et al. (2016) in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation in preperation - in preperation in preparation - in preparation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation n preperation - in preperation - in preperation - in preperation

1. Landschapsreconstructie: Weichsel ijstijd: Vroeg Glaciaal in preperation - in preperation - in preperation- in preperation - in preperation - in preperation BCS: De Clercq et al. (in prep); DCS: Peeters et al. (2016) in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation in preperation - in preperation in preperation , i n preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation

1. Landschapsreconstructie: Weichsel ijstijd: Vroeg Glaciaal BCS: De Clercq et al. (in prep); DCS: Peeters et al. (2016) in preparation - in preparation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation in preparation, in preparation - in preparation - in preparation - in preparation - in preparation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation

1. Landschapsreconstructie: Weichsel ijstijd: Pleniglaciaal BCS: De Clercq et al. (in prep); DCS: Peeters et al. (2016) in preperation - in preperation - in preperation- in preperation - in preperation in preperation - in preperation in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation reperation - in preperation in preperation in preperation - in preperation in preperation n preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preparation, in preparation - in preparation - in preparation - in preparation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation

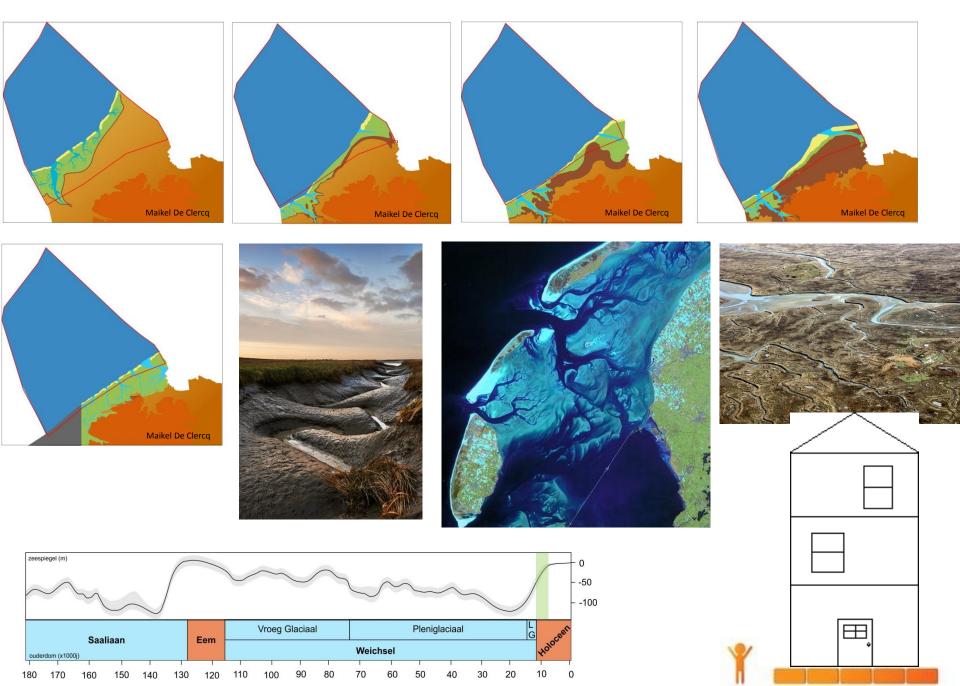
1. Landschapsreconstructie: Weichsel ijstijd: Pleniglaciaal BCS: De Clercq et al. (in prep); DCS: Peeters et al. (2016) in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation in preperation - in preperation reperation - in preperation in preperation in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation, in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation

1. Landschapsreconstructie: Weichsel ijstijd: Laat Glaciaal BCS: De Clercq et al. (in prep); DCS: Peeters et al. (2016) in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preparation - in preparation in preperation - in preperation - in preperation - in preperation - in preperation reperation - in preperation in preperation in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation

n preperation - in preperation - in preperation - in preperation

1. Landschapsreconstructie: Weichsel ijstijd: Laat Glaciaal BCS: De Clercq et al. (in prep); DCS: Peeters et al. (2016) in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation in preparation - in preparation in preperation - in preperation - in preperation - in preperation - in preperation preperation - in preperation in preperation in preperation - in preperation - in preperation in preperation - in preperation in preparation - in preparation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in prepenation- in preperation - in preperation - in preperation

1. Landschapsreconstructie: Holoceen tussenijstijd



2. Wat is er bewaard gebleven en waar? in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation • Rivierterras: Maas en later ook de Rijn preperation - in preperation - i • Rivierafzettingen Schelde in preperation - in preperati in preperation - in preperation - in preperation in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation preperation - in preperation - in preperation- in preperation - in preperation - in preperation n preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation De Clercq et al. (2016) in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation Vroeg Glaciaal Eem

2. Wat is er bewaard gebleven en waar? in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation in preperation- in preperation - in preperation - in preperation in preperation - in preperation • Estuarien en ondiep marien - kustnabij in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation preperation - in preperation n preperation - in preperation - in preperation- in preperation - in preperation - in preperation n preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preparation - in preparation De Clercq et al. (2016) responsible in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation Vroeg Glaciaal Eem

2. Wat is er bewaard gebleven en waar? in preparation - in pre in preperation - in preperation in preperation - in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation preperation - in preperation n preperation - in preperation in preperation - in preperation - in preperation-in preperation - in preperation in preparation - in preparation De Clercq et al. (2016) in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation Vroeg Glaciaal Eem

2. Wat is er bewaard gebleven en waar? in preperation - in preperation - in preperation- in preperation - in preperation - in preperation reperation - in preparation - in prepara in preperation - in preperation in preperation in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation preperation - in preperation - in preperation- in preperation - in preperation - in preperation n preperation - in preperation. in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preparation - in preparation De Clercq et al. (2016) in preperation - in preperation - in preperation- in preperation - in preperation in preparation - in preparation Vroeg Glaciaal Eem

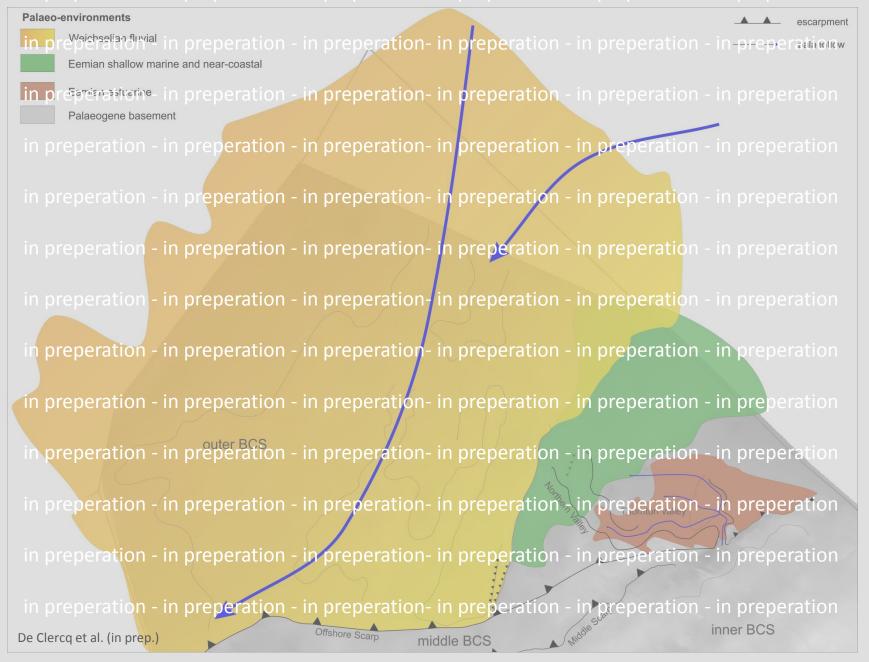
2. Wat is er bewaard gebleven en waar? in preparation - in pre in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation preperation - in preperation - in preperation- in preperation - in preperation n preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preparation - in preparation De Clercq et al. (2016) in preperation in preperation - in preperation- in preperation - in preperation - in preperation n preperation - in preperation - in preperation- in preperation - in preperation - in preperation Eem

2. Wat is er bewaard gebleven en waar? in preparation - in pre in preperation - in preperation in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation preperation - in preperation - in preperation- in preperation - in preperation - in preperation n preperation - in preperation in prep<mark>eration - in preperation - in prep</mark>eration- in preperation - in preperation - in preperation in preparation - in preparation - in preparation - in preparation - in preparation De Clercq et al. (2016) in preperation - in preperation - in preperation- in preperation in preperation - in preperation in preperation - in preperation n preperation - in preperation - in preperation- in p Eem

3. Waar zit het archeologisch potentieel?
Renalen archeologisch notentieel is een grote uitdaging
 Bepalen archeologisch potentieel is een grote uitdaging
- Kwaliteitslabel bewaarde landschappen
Vraag: Wat is bv. de kans dat OCE bewaard blijft in rivierafzettingen?
- Een landschap is opgebouwd uit kleinere milieus elk met een ander potentieel
- Wat is het cumulatief effect van "opgestapelde" landschappen?
- Mate van natuurlijke bescherming door afdekking (bv zandbanken)?
- Wat met herwerkt materiaal?

4. Voorbeeld: noordelijk deel van het BCP; estuarien + rivierenlandschap

in preperation - in preperation - in preperation- in preperation - in preperation - in preperatior



4. Archeologische potentieelkaart: work in progress

in preperation - in preperation - in preperation- in preperation - in preperation - in preperatior

in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation in preparation - in preparation De Clercq et al. (in prep.)

4. Archeologische potentieelkaart: work in progress

in preperation - in preperation - in preperation- in preperation - in preperation - in preperatior

in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation in preparation - in preparation in preperation - in preperation De Clercq et al. (in prep.)

4. Archeologische potentieelkaart: work in progress

in preperation - in preperation - in preperation- in preperation - in preperation - in preperation

in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation - in preperation- in preperation - in preperation - in preperation in preperation - in preperation in preperation - in preperation - in preperation - in preperation - in preperation in preparation - in preparation in preperation - in preperation - in preperation - in preperation - in preperation De Clercq et al. (in prep.)