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Revealing the role of GEOSS as the default digital portal for building climate change adaptation & mitigation applications

2<sup>nd</sup> Stakeholder  Meeting of Pilot 1:  
Water & Land-Use Management

**Hands on Pilot 1 tools seminar (hybrid)**

**When? March 25, 2024 | 14:00- 17:00 pm**  
**Where? In de Tassenfabriek**



 @eiffel4climate  
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19 partners


8 European countries




This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 101003518

# WP7 EIFFEL Pilot demonstrations and impact assessment

## T7.2 Pilot 1 Water and Land Use Management, Regional scale and Cross-border





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
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Prof dr ir Jetse J. Stoorvogel  
Dr ir Angelique Lansu  
Borjana Bogatinoska MSc, PhD-researcher  
Environmental Sciences Group  
Open University  
(Heerlen, The Netherlands)

[www.eiffel4climate.eu](http://www.eiffel4climate.eu)

REVEALING THE ROLE OF GEOSS AS THE DEFAULT DIGITAL PORTAL FOR  
BUILDING CLIMATE CHANGE ADAPTATION & MITIGATION APPLICATIONS



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# Water and land use management

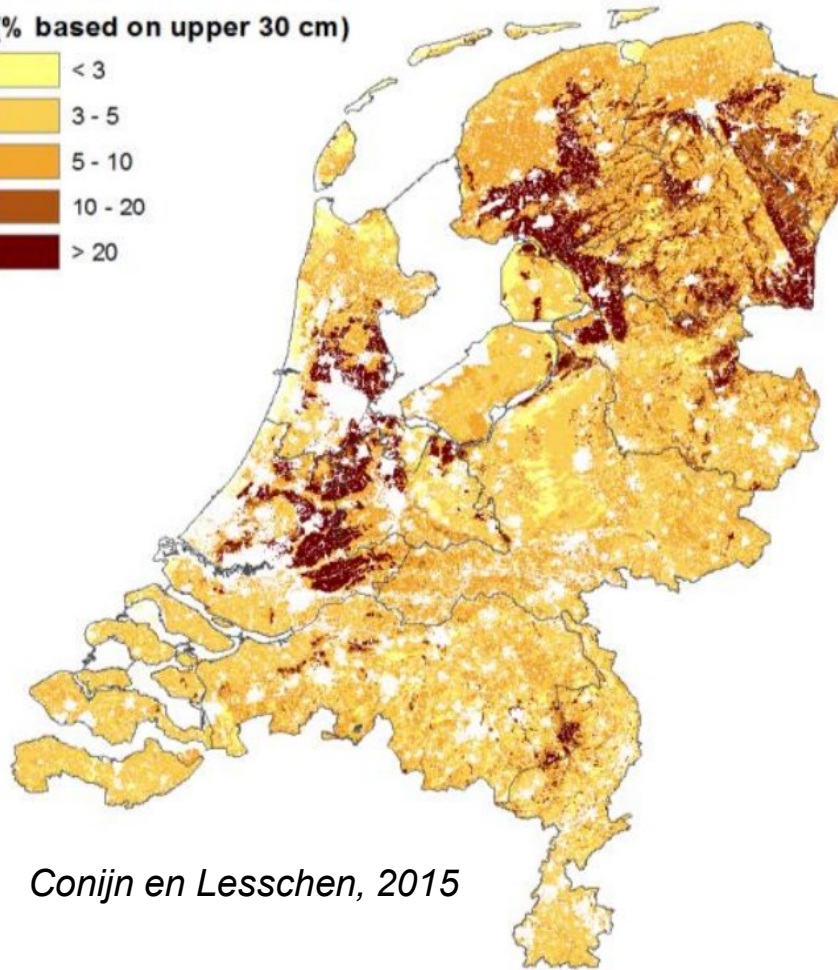
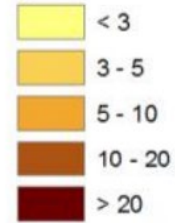


Increased runoff  
Reduced transpiration

Increased flooding  
Increased droughts

# Soil organic matter

Soil organic matter content  
(% based on upper 30 cm)



*Conijn en Lesschen, 2015*



- Water holding capacity
- Infiltration capacity
- (Carbon sequestration)

# Nature based solutions for flooding/drought



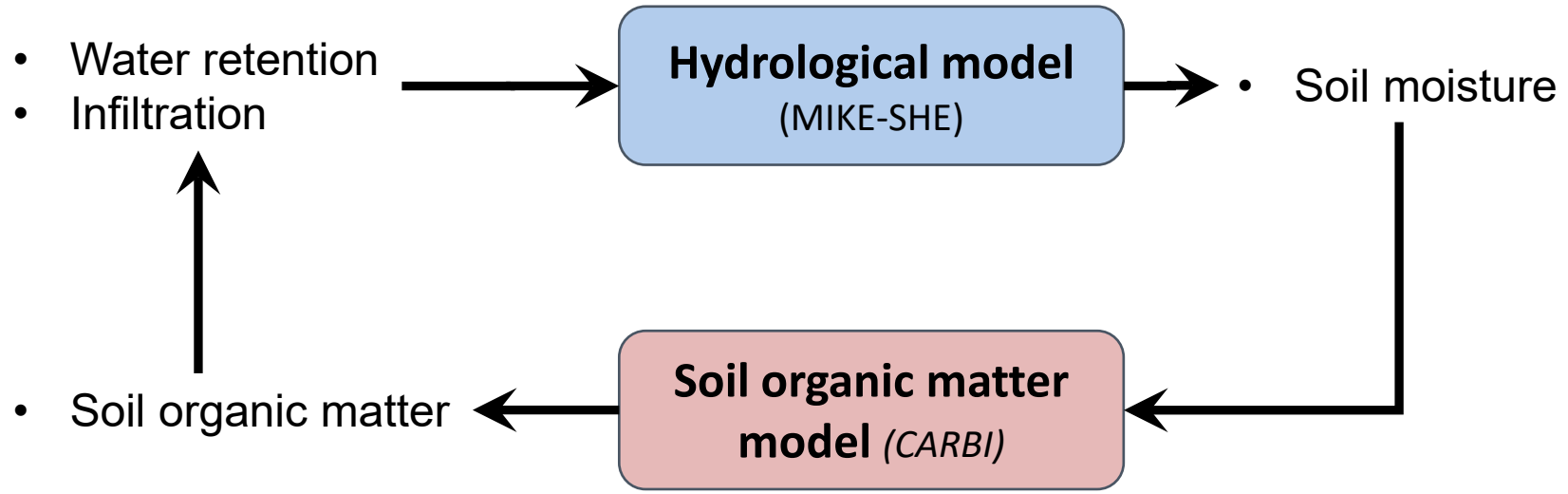
Changes in land use  
& land management

Changes in soil  
organic matter



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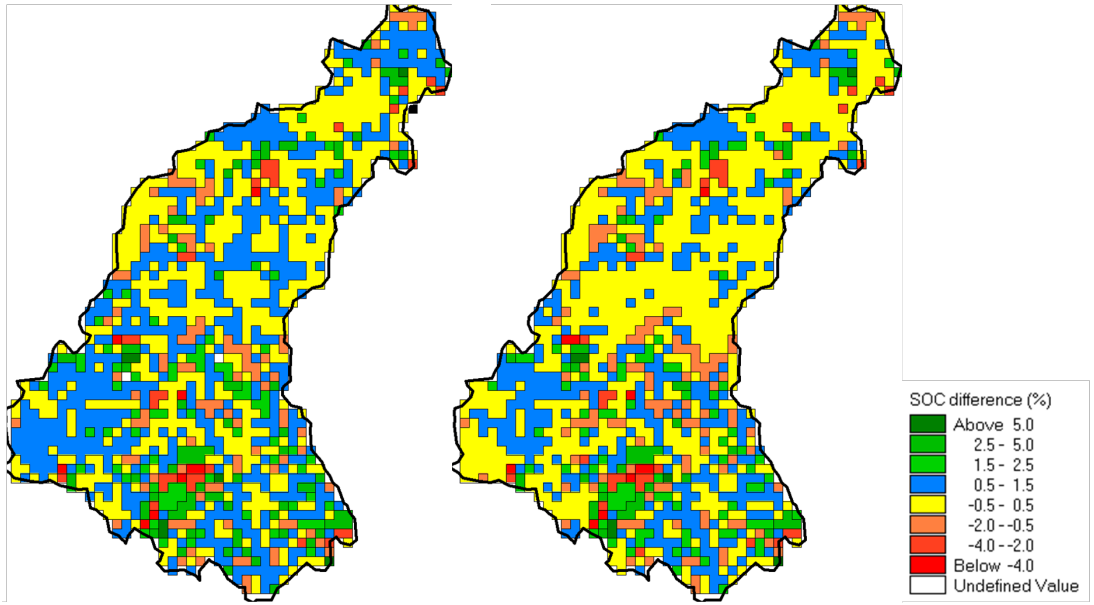
# Modelling the interactions between hydrology and soil organic matter



# Results from the coupled SOC-hydrological model on reforestation

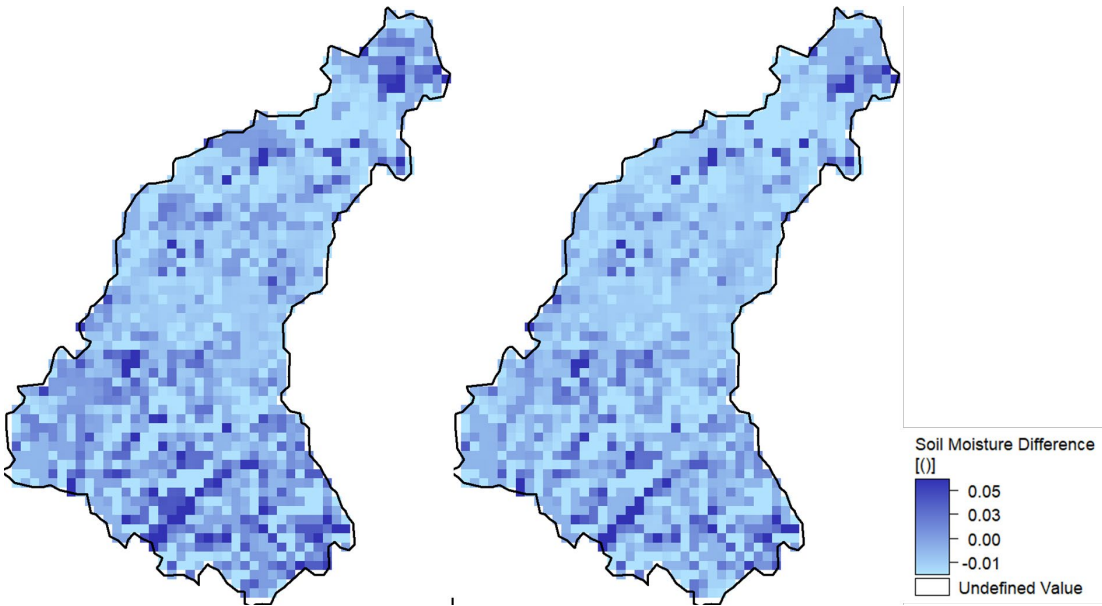
Mean and standard deviation values for the modelling steps and current and alternative land use

	Current Land Use		Alternative Land Use	
	SOC [%]	Soil Moisture $\theta$ [()]	SOC [%]	Soil Moisture $\theta$ [()]
<b>Step 1</b>	2.00 (0.86)	0.31 (0.05)	2.00 (0.86)	0.29 (0.05)
<b>Step 2</b>	3.36 (1.13)	0.33 (0.05)	3.46 (1.10)	0.33 (0.05)
<b>Step 3</b>	3.48 (1.40)	0.34 (0.06)	3.51 (1.40)	0.38 (0.03)
<b>Step 4</b>	3.48 (1.50)		3.89 (1.40)	



Effect of the land use change on SOC sequestration

Effect of the land use change on droughts



T7.2 2<sup>nd</sup> Stakeholder Meeting Pilot 1  
 WP7 EIFFEL Pilot demonstrations and impact assessment  
 Breda, 25 March 2024



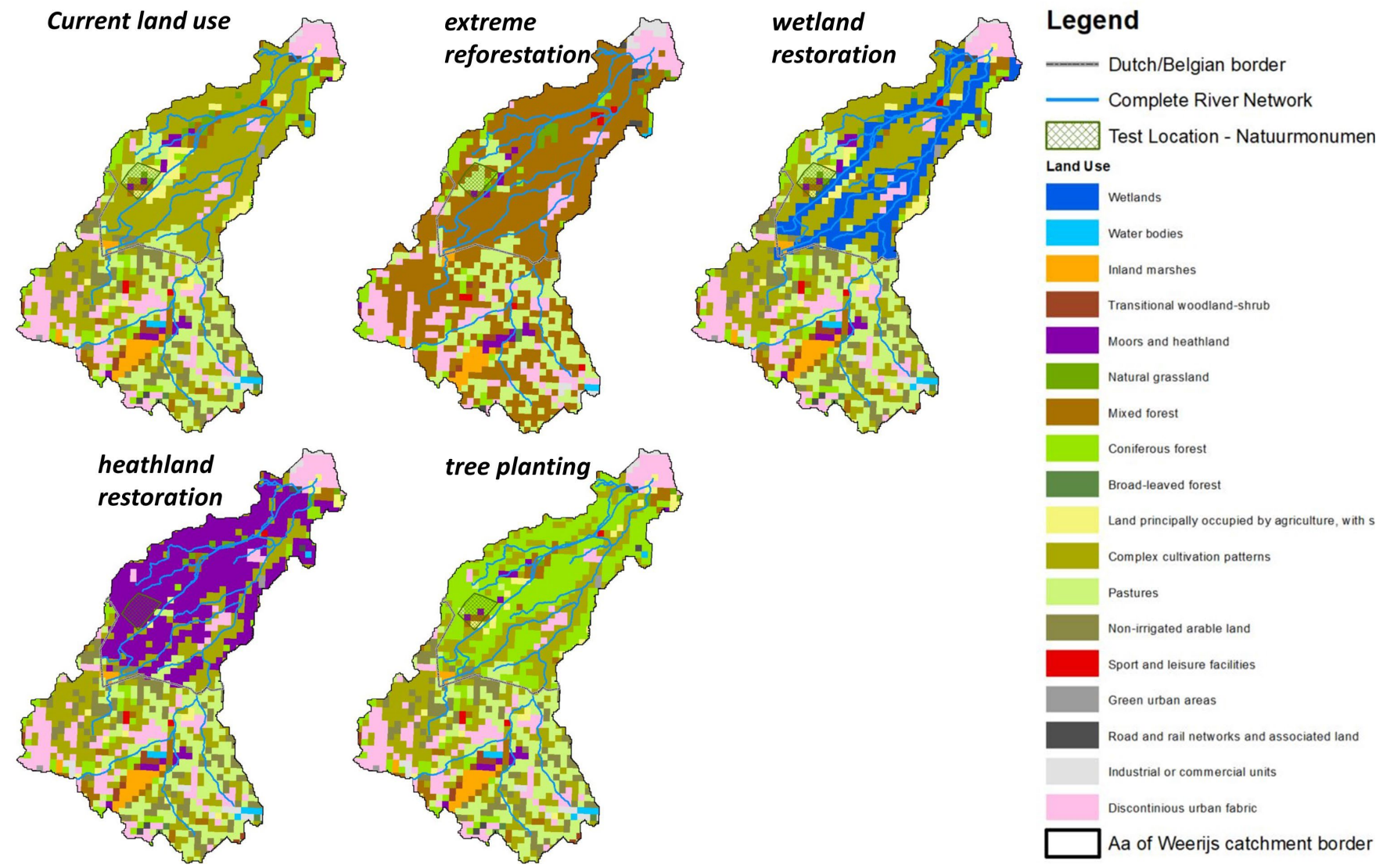
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# Modelling to support stakeholder discussion

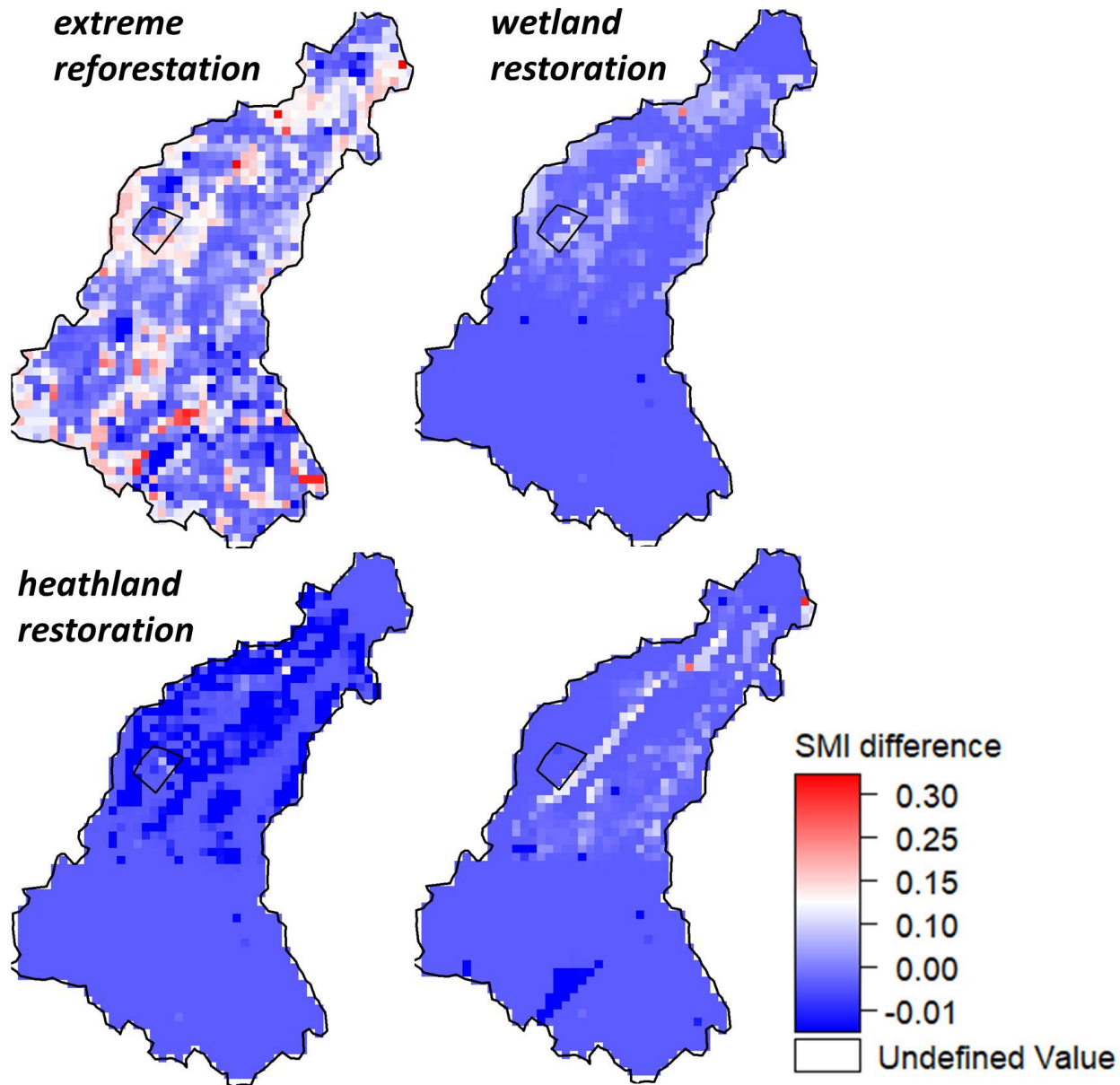






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# Impact on drought



# Modelling contributions

- What is the potential impact?
- Where can I make the largest difference?
- Evaluate a specific intervention at a specific location
- What is the most effective intervention at a specific location



**Q&A**

## The EIFFEL Consortium



Prof dr ir Jetse J. Stoorvogel ([jetse.Stoorvogel@ou.nl](mailto:jetse.Stoorvogel@ou.nl)); Dr ir Angelique Lansu ([angelique.Lansu@ou.nl](mailto:angelique.Lansu@ou.nl))  
Borjana Bogatinoska, MSc ([Borjana.Bogatinoska@ou.nl](mailto:Borjana.Bogatinoska@ou.nl))

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