

NCR Lectures

A collection of recorded lectures given at the Netherlands Centre for River studies

▶ Start video

Annual Report 2021

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Date 15 December 2021 | 13:00 - 13:50
Lecturer Melissa Latella
Topic From point clouds to vegetation biomass for riparian mapping and river modelling

From point clouds to vegetation biomass for riparian mapping and river modelling

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Date 27 October 2021 | 13:00 - 13:50
Lecturer Emma Avoyan
Topic Exploring different paths to successful collaborations in flood defense projects

Exploring different paths to successful collaborations in flood defense projects

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Date 26 May 2021 | 13:00 - 14:00
Lecturer Frans Buschman
Topic The fate of plastic litter in rivers and estuaries: a monitoring based approach

The fate of plastic litter in rivers and estuaries: a monitoring based approach

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Date 14 April 2021 | 13:00 - 14:00
Lecturer Muriel Brückner
Topic Stabilization and destabilization in rivers and estuaries – How mud and organisms determine our landscapes

Stabilization and destabilization in rivers and estuaries – How mud and organisms determine our landscapes

Annual Report 2021

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1 Introduction

1.1 Objective of NCR

NCR was founded as a formal cooperation between several Dutch institutions. On October 4, 2012, the partners of the 'Netherlands Centre for River studies' (NCR, Dutch: 'Nederlands Centrum voor Rivierkunde (NCR)') formally renewed their cooperation within NCR.

The objective of NCR is:

Doelstelling van het NCR is een samenwerking tot stand te brengen tussen de belangrijkste kennisgebruikers en kennisontwikkelaars in Nederland op het gebied van rivieren met als uiteindelijk resultaat een versterking van het kennispotentieel, de profilering van de (inter)nationale positie van het Nederlands rivieronderzoek en het versterken van het onderwijs en het wetenschappelijk onderzoek aan de Nederlandse Universiteiten ten behoeve van een betere inrichting en beheer van de Nederlandse rivieren.

This translates to:

The objective of the NCR is to establish cooperation between the major knowledge suppliers and knowledge users in Netherlands in the field of river studies, with the ultimate aim of reinforcing the knowledge potential, promoting the international position of Dutch river research and strengthen the education & scientific research at Dutch universities, to better design and manage Dutch rivers.

1.2 Domains

NCR encompasses all disciplines relevant to river studies as practices by its institutional partners. They include:

- Hydrodynamics
- Sediment transport and morphology
- Fluvial geomorphology and sedimentology

- River ecology, restoration and water quality
- Governance and spatial planning
- Modelling, serious gaming and digital twins

1.3 NCR Organisation

NCR has four main bodies. The mandates for all except Young NCR (YNCR) are documented in the "Overeenkomst Nederlands Centrum voor Rivierkunde 2012".

- **Programme Secretary (Dutch: Programmasecretaris)**
Safeguards the continuity of NCR activities, secretary to SB and PC; monitors of agreed actions by the SB and PC; reports of NCR finances; management of all NCR communications.
- **Supervisory Board (Dutch: Commissie van Toezicht)**
Supervises the implementation of the cooperation agreement, settles disputes and approves the scientific programme.
- **Program Committee (Dutch: Programmacommissie)**
Determines the scientific programme, stimulates and initiates proposals for activities and integration of knowledge, ideas, experiences and results.
- **Young NCR (Dutch: Jong NCR)**
Established in December 2020, YNCR strives to strengthen the network of young/early-career scientists within NCR.

1.4 Institutional partners

The partners of NCR are: Rijkswaterstaat (RWS), IHE-Delft, Universiteit Twente (UT), Radboud Universiteit Nijmegen (RUN), Deltares, Universiteit Utrecht (UU), Technische Universiteit (TUD) and Wageningen University & Research (WUR).

Each partner contributes in-kind to realise the annual programme. Deltares and Rijkswaterstaat additionally contribute in-cash to fund the office of the programme secretary and NCR services.

1.5 Accountability

NCR activities are annually documented in an annual programme, annual report and annual budget. The annual programme and budget are approved by the Supervisory board.

2 Boards

2.1 Board membership

NCR partners nominate members for the various boards. Multiple members are allowed per partner, though only the most senior partner present has voting rights during meetings. The boards nominate their own chair. Current chairpersons are prof. dr. Jaap Kwadijk (Supervisory board), drs. Matthijs Boersema (Programme committee) and Clàudia Ylla Arbós MSc (Young NCR).

2.2 Board meetings

The supervisory board meets at least once a year to approve the annual programme. The programme committee meets three times per year. The programme secretary takes minutes of these meetings. Young NCR meets monthly and is administered by the vice programme secretary. Once a year a joint meeting of the boards is called during the NCR Days.

Table 2.1: The composition of NCR Boards in 2021. Persons marked with * are chair persons.

Person	Partner institution	Email
Programme Secretary		
dr. ir. Koen Berends*	Deltares	koen.berends@deltares.nl
ir. Anna Kusters	Deltares	anna.kusters@deltares.nl
Supervisory board		
prof. dr. Jaap Kwadijk*	Deltares	jaap.kwadijk@deltares.nl
prof. dr. Hans Middelkoop	Utrecht University	h.middelkoop@uu.nl
prof. dr ir. Wim Uittewaai	Delft University of Technology	W.S.J.Uittewaai@tudelft.nl
prof. dr. Ton Hoitink	Wageningen University & Research	ton.hoitink@wur.nl
prof. dr. Suzanne Hulscher	University of Twente	s.j.m.h.hulscher@utwente.nl
drs. Monique Busnach-Blankers	Rijkswaterstaat	monique.busnach-blankers@rws.nl
dr. Wilco Verberk	Radboud University Nijmegen	w.verberk@science.ru.nl
prof. Mario Franca	IHE Delft	m.franca@un-ihe.org
Programme committee		
drs. Matthijs Boersema*	Rijkswaterstaat	matthijs.boersema@rws.nl
dr. Ralph Schielen		ralph.schielen@rws.nl
dr. Jill Slinger	Delft University of Technology	j.h.slinger@tudelft.nl
dr. Laura Stancanelli		L.M.Stancanelli@tudelft.nl
dr. Alessandra Crosato	IHE Delft	a.crosato@un-ihe.org
dr. Gertjan Geerling	Deltares	Gertjan.Geerling@deltares.nl
dr. Rob Lenders	Radboud University Nijmegen	r.lenders@science.ru.nl
dr. Menno Straatsma	Utrecht University	m.w.straatsma@uu.nl
dr. Jord Warmink	University of Twente	j.j.warmink@utwente.nl
dr. Kryss Waldschläger	Wageningen University & Research	kryss.waldschlager@wur.nl
Young NCR		

Table 2.1: The composition of NCR Boards in 2021. Persons marked with * are chair persons.

Person	Partner institution	Email
Clàudia Ylla Arbós MSc*	Delft University of Technology	c.yllaarbos@tudelft.nl
ir. Anna Kusters	Deltares	anna.kusters@deltares.nl
Emma Avoyan MSc	Radboud University Nijmegen	emma.avoyan@ru.nl
Patricia Buffon MSc	Delft University of Technology, IHE Delft*	P.Buffon@tudelft.nl
Jana Cox MSc	Utrecht University	j.r.cox@uu.nl
dr. Matthijs Gensen	University of Twente	m.r.a.gensen@utwente.nl
Iris Niesten MSc	Wageningen University & Research	iris.niesten@wur.nl
Niek van der Sleen MSc	Rijkswaterstaat-WVL	niek.vander.sleen@rws.nl

3 Activities

3.1 Event types

3.1.1 NCR Days

The NCR DAYS is the annual meeting of the NCR network. It is a two-day conference organised by one of the partners. The organising partner is fully responsible for the organisation of the event. The programme secretary maintains an organiser toolkit to help with the planning and budgeting of this event.

3.1.2 Seminars

Seminars (*Themadagen*) are single or half-day events focussed on a single topic or theme, e.g. *Remote sensing of rivers*. NCR aims to offer seminars free-of-charge to participants.

3.1.3 Lectures

Lectures are online events where a single speaker presents a topic of interest. Lectures are recorded and made available on the NCR vimeo platform ([link](#)). The standard NCR lecture is hosted by a senior member within the NCR network and consists of a 25 minute presentation, followed by 25 minute discussion with the audience. Participation is free; registration is not necessary.

3.1.4 Network events

Network events are social activities with the main aim of increasing or improving the personal network of participants. Examples include drinks, field trips and career events.

3.1.5 Meetings

Planned, private meetings of the boards.

3.2 COVID-19 Restrictions

Due to the ongoing COVID-19 restrictions, most activities this year were held online. A few in-person events took place (i.e. the YNCR field trip) when restrictions allowed.

3.3 Evaluation of 2021 activities

3.3.1 NCR Days

Due to restrictions on social events due to the ongoing COVID-19 pandemic, the NCR DAYS 2021 was an online event. This year saw a high attendance (124 participants), but a relatively low number of abstracts (36) compared to previous years (Table 3.1). This is both believed to be caused by the pandemic, a decline in active research projects and the (then) novelty of an online conference.

The participation fee was reduced (€40, free for students) which is believed to explain the high number of students (40%). The high participation rate of students was considered a positive thing. The participation breakdown (Fig. 3.1) shows a relatively high participation of academic (student and researchers) compared to other participants.

Table 3.1: Participants of the NCR DAYS

Year	Abstracts	Presentations	Posters	Participants
2021	36	23	14	124
2020	54	27	27	110
2019	45	18	31	81
2018	60	28	32	125
2017	48	20	24	
2016				
2015	33	20	13	
2014	36	25	11	
2013	35			70
2012	32	18	10	60
2011	35			50
2010	35			68

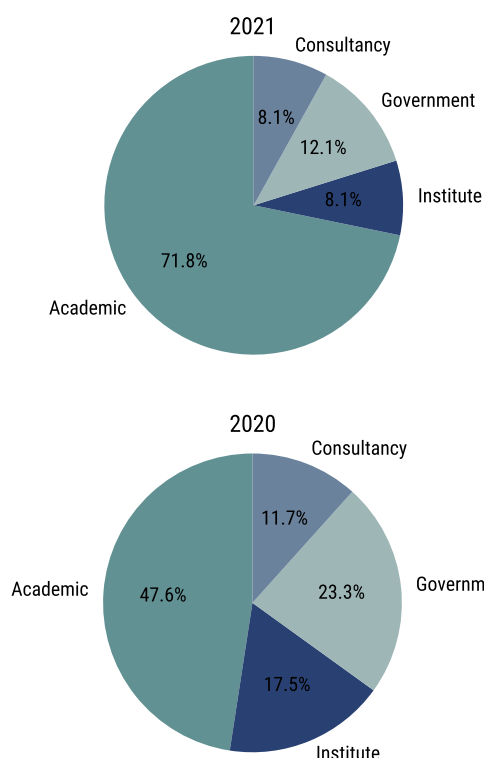


Figure 3.1: Breakdown of participants of the NCR Days

3.3.2 Other events

Other NCR events (Table 3.2) drew on average about 20 participants, with 254 total participants over 8

events for which participation was tracked. Participation is evenly spread over people with an affiliation at an NCR partner and people with other or unknown affiliation. The highest visited non-NCR DAYS event this year was the May lecture by Frans Buschman on plastics in rivers, followed closely by the NCR-Riverlab Meuse event.

Table 3.2: Attendance of other NCR events

Event	NCR Partner	Other	Total
NCR March Lecture	22	15	37
NCR April Lecture	12	8	20
NCR May Lecture	34	41	75
NCR June Excur-sion	15	7	22
NCR October lec-ture	4	4	8
NCR November Lecture	11	10	21
NCR-Riverlab Meuse Event	34	37	71
NCR December lec-ture	7	16	23
Total	132	122	254

Table 3.3: Overview of NCR events in 2021

Event	Type	Description	Lead	Date
NCR DAYS 2021	Conference		University of Twente	11/Feb/21
jm12	Meeting	12th joint meeting of the boards	Programme Secretary	12/Feb/21
sb19	Meeting	19th meeting of the Supervisory board.	Programme Secretary	15/Feb/21
Online drinks	Network		YNCR	26/Feb/21
March Lecture	Lecture	Bart Strijker - Hoogfrequente rivierdynamiek uit computer vision: oevererosie langs de Lek	Programme Secretary	24/Mar/21

Table 3.3: Overview of NCR events in 2021

Event	Type	Description	Lead	Date
April Lecture	Lecture	Muriel Brückner - Stabilization and destabilization in rivers and estuaries - How mud and organisms determine our landscapes	Programme Secretary	14/Apr/21
Online drinks & activity	Network		YNCR	15/Apr/21
Delft3D Flexible Mesh 1D	Workshop	Free workshop about one-dimensional hydro- and morphodynamic modelling using Flexible Mesh.	Riverlab	23/Apr/21
Educator event	Meeting	Explore opportunities for sharing current (parts of) existing methods at the various institutes, i.e. to create a 'community of educators' on river studies. Shared methods would also be easier to support, e.g. to make sure the examples work with the latest version of the software and to support upgrading methods to a new suite (e.g. SOBEK to Delft3D-1D).	Riverlab	12/May/21
pc80	Meeting	80th meeting of the Programme Committee	Programme Secretary	12/May/21
All-Risk Webinar	Lecture		All-Risk	17/May/21
May Lecture	Lecture	Frans Buschman - Transport and fate of plastic litter in rivers - how can monitoring be supported by modelling?	Programme Secretary	26/May/21
All-Risk Webinar	Lecture		All-Risk	27/May/21
Musical Bingo and drinks	Network		YNCR	04/Jun/21
Digital field trip	Lecture	Gertjan Geerling - Online stroll along riverine nature in the Millingerwaard floodplains	Programme Committee	23/Jun/21
pc81	Meeting	81st meeting of the Programme Committee	Programme Secretary	08/Sep/21
YNCR Board get-together	Network		YNCR	01/Oct/21
All-Risk Webinar	Lecture	Risicogestuurde inspecties faalmechanismes	All-Risk	04/Oct/21
All-Risk Webinar	Lecture	Verder kijken dan versterken	All-Risk	13/Oct/21
October Lecture	Lecture	Emma Avoyan - Exploring different paths to successful collaborations in flood defense projects	Programme Secretary	27/Oct/21
Field Trip	Network	Field trip to the Driel Weir complex	YNCR	03/Nov/21
sb20	Meeting	20th meeting of the Supervisory board	Programme Secretary	12/Nov/21

Table 3.3: Overview of NCR events in 2021

Event	Type	Description	Lead	Date
November Lecture	Lecture	Matthijs Gensen - Flood risk management for bifurcating rivers: opportunities and challenges for the Rhine	Programme Secretary	17/Nov/21
pc82	Meeting	82nd meeting of the Programme Committee (cancelled)	Programme Secretary	24/Nov/21
Meuse Event	Seminar	Presenting studies with, on and related to the new freely available models for the Meuse	Riverlab	14/Dec/21
December Lecture	Lecture	Melissa Latella -From point clouds to vegetation biomass for riparian mapping and river modelling	Programme Secretary	15/Dec/21

4 Research

4.1 Projects

Research projects are scientific endeavors that may consist of work-packages, themes and sub-projects. Multiple researchers may work on the same research project. NCR does not initiate or lead its own research projects. Instead, research projects of NCR members are promoted through the services NCR offers (see [Secretary and Services](#)). Any research project relevant to NCR [Introduction](#). A list of ongoing NCR

projects is available on the [NCR Project portal](#)

4.2 Publications

Academic and non-academic publications by NCR partners are promoted through the NCR services (see [Secretary and Services](#)). Any publication written by at least one (co-)author with an affiliation at an NCR institutional partner is eligible. A list of promoted publications is available on the [NCR publications portal](#)

Project	Description	Main contact	Started
All-Risk	All-Risk aims at supporting the ambitious Dutch Flood Protection Programme (HWBP) objectives when it comes to implementing new flood safety norms, which as of January 2017 are incorporated in the Water Law. The programme consists of 14 PhD research positions, and 4 postdoc research positions. International collaboration with universities in Houston, Tokyo and Berlin will also take place.	Dr. V.J. Cortes Arevalo	Jun/17
Rivers2Morrow	River2Morrow is a research program which focusses on long term development of lowland rivers, with respect to morphology, hydraulics and ecology.	ir. Emiel Olink	Jan/18
SaltiSolutions	Freshwater is vital for drinking water, nature, agriculture and industry. However, the availability of freshwater is under pressure in deltas throughout the world. Salty seawater is penetrating further up the rivers due to human intervention, such as the deepening of waterways, as equally climate change. Within SALTISolutions, the researchers, together with the partners involved such as Rijkswaterstaat, water boards, port authorities and dredging companies, will produce a virtual model (digital twin) of the Rhine-Meuse Delta. This model will integrate knowledge about processes on various spatial and time scales: from turbulent flows at the smallest scale level to the consequences of climate change in the long-term. They will use this to predict how, where, when, and how long salt from seawater will penetrate, and how measures such as implementing nature-based solutions influence the freshwater supply. These insights will be tested worldwide, as a result of which the position of Dutch delta technology will be further strengthened.	Mw. J. Grootveld (program manager)	Jan/21

DANUBIUS-NL	NCR is endorsing the Dutch contribution to DANUBIUS. Within this project, the DANUBIUS-NL working group applied for a position on the new Dutch national NWO roadmap Large-Scale Scientific Research Infrastructures 2021-2024. Positioning DANUBIUS-NL on the NWO roadmap will greatly support developing the NL participation in DANUBIUS-RI.	Dr. Jos Brils	Jan/23
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5 Secretary and Services

5.1 Overview

To support river studies, NCR offers services to its institutional partners. These services are coordinated by the Programme Secretary. All services are offered free of charge. These include

- **Website & Knowledge base.** Partners may use the NCR website to host a project website and promote their publications.
- **Mailing list & LinkedIn** Partners may distribute information, vacancies and news through the NCR mailing list and LinkedIn company page. Research projects may use the mailing list to send out newsletters to the network.
- **Vimeo** NCR offers hosting of videos on the NCR vimeo account

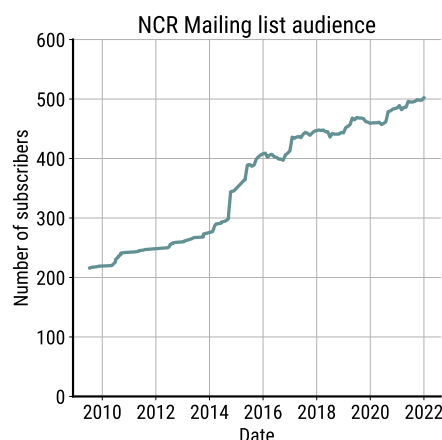


Figure 5.1: Number of subscribers to the NCR mailing list

5.2 Valorisation & Impact

In 2021 Rijkswaterstaat, at request of the NCR Programme Committee, asked Deltares to develop a guideline for valorisation in river studies. This guideline is to be modelled after NWO's Impact Plan Approach. This project is led by Gerald Jan Ellen and Heleen Vreugdenhil of Deltares, and Matthijs Boersema at Rijkswaterstaat. Their report is due in 2022.

5.3 Network in 2021

5.3.1 Mailinglist

Subscriptions to the mailinglist have grown by 17 to 502 in January 2022 (485 in January 2021, Fig. 5.1). This fits in a continuing rising trend. The number of subscriptions has doubled since June 2012. About half (256, or 51%) of subscribers are affiliated with NCR partners. Of those not affiliated with NCR partners, most are affiliated with a consultancy (12%), academic or knowledge institute (8%) or government (7%). A majority of subscribers are affiliated with a Dutch company or institute (67%).

5.3.2 Website

Website usage is tracked through the '7 day active users' metric. This metric tracks the number of active users on the website over a 7-day moving window (Fig. 5.2). The website shows an increase in average users from 113 in 2020 to 136 in 2021. Three sudden jumps in user were observed, their cause unknown.

5.3.3 Knowledge base

In 2021, the new knowledge base was launched, which added two new portals to the NCR website. The [publications portal](#), and the [projects portal](#). The portals are integrated with the subsites, such that publications and subprojects added to subsites are shown on the main NCR website.

Two new knowledge base subsites were added: SaltiSolutions and Rivers2Morrow. Currently, the Rivers2Morrow subsite is still under construction while the SaltiSolutions subsite is public.

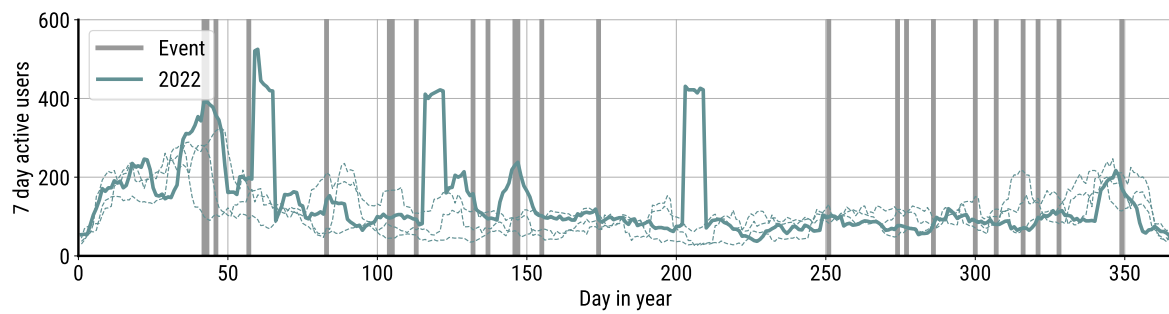


Figure 5.2: 7-day active users of ncr-web.org

5.3.4 Social media

The NCR LinkedIn company page currently has 292 followers, which is a significant increase from last year (around 200). Most new followers were gained around the NCR Days (48). Most followers are active in research (29%), civil engineering (24%) or higher education (11%).

The NCR Vimeo channel ([link](#)) contains 73 videos, which is a significant increase from 2020 (23). Most new videos were added by the NCR DAYS 2021, AllRisk research program and the NCR lecture series. Over 2021, all videos gathered about 1300 views from 540 unique viewers.