

Annual Report 2024

Annual Report 2024

©Netherlands Centre for River studies, 2025

All rights reserved. No part of this document may be reproduced in any form by print, photo print, photo copy, microfilm or any other means, without written permission from the publisher: Netherlands Centre for River studies.

Published by

Netherlands Centre for River studies c/o Deltares
Boussinesqweg 1
2629 HV Delft
P.O. 177
2600 MH Delft
The Netherlands

ir. A.M. van den Hoek
Programme secretary
telephone: +31 6 2739 5038
e-mail: secretary@ncr-web.org
www: <https://ncr-web.org>

Contents

1	Introduction	1
1.1	Objective of NCR	1
1.2	Domains	1
1.3	NCR Organisation	1
1.4	Institutional partners	1
1.5	Accountability	1
2	Boards	2
2.1	Board membership	2
2.2	Board meetings	2
3	Activities	4
3.1	Types of events	4
3.1.1	NCR Days	4
3.1.2	NCR Summerschool	4
3.1.3	Meetings	4
3.1.4	Events	4
3.2	Evaluation of 2024 activities	4
3.2.1	NCR Days	4
3.2.2	NCR Themeday/seminar	4
3.2.3	YNCR events	5
3.2.4	Attendance	5
4	Research	7
4.1	Projects	7
4.2	Publications	7
5	Secretary and Services	10
5.1	Overview	10
5.2	Activities in 2024	10
5.2.1	New collaboration agreement	10
5.2.2	Mailing list provider	10
5.3	Network analyses 2024	10
5.3.1	Mailinglist	10
5.3.2	Website	10
5.3.3	Knowledge base	10
5.3.4	Social media	10

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') 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 beter 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 practiced 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 Supervisory Board (SB) and Programme Committee (PC); monitors 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.
- **Programme Committee (Dutch: Programma-commissie)**
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), Deltares, Universiteit Twente (UT), Radboud Universiteit Nijmegen (RUN), Universiteit Utrecht (UU), Technische Universiteit Delft (TUD), Wageningen University & Research (WUR), Leiden University College (LUC), Vrije Universiteit Amsterdam (VU) and IHE Delft.

Each partner contributes in-kind and/or in-cash to realise the annual programme.

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. The boards nominate their own chair. In 2024, the chairpersons were prof. dr. Jaap Kwadijk (Supervisory Board), drs. Evelien van Eijsbergen and later ir. Tobias Nootenboom (Programme Committee) and Jelle Dercksen 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 (bi)monthly and is administered by the the deputy Programme Secretary. Once a year a joint meeting of the boards is called during the NCR Days.

Person	Partner institution	Email
Programme Secretary		
dr. ir. Koen Berends*	Deltares	koen.berends@deltares.nl
ir. Anna van den Hoek*	Deltares	anna.vandenhoeck@deltares.nl
Supervisory board		
prof. dr. Jaap Kwadijk*	Deltares	jaap.kwadijk@deltares.nl
prof. dr. Hans Middelkoop	Utrecht University	h.middelkoop@uu.nl
dr. ir. Astrid Blom	Delft University of Technology	astrid.blom@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
dr. Fredrik Huthoff	IHE Delft	f.huthoff@un-ihe.org
prof. dr. Jeroen Aerts	Vrije Universiteit Amsterdam	jeroen.aerts@vu.nl
Programme committee		
drs. Evelien van Eijsbergen*	Rijkswaterstaat	evelien.van.eijsbergen@rws.nl
ir. Tobias Nootenboom*	Rijkswaterstaat	tobias.nootenboom@rws.nl
drs. Susanne Quartel	Rijkswaterstaat	susanne.quartel@rws.nl
dr. Kieran Dunne	Delft University of Technology	K.B.J.Dunne@tudelft.nl
dr. Heleen Vreugdenhil	Deltares	heleen.vreugdenhil@deltares.nl
dr. Victor Chavarrias	Deltares	victor.chavarrias@deltares.nl
dr. Frank Collas	Radboud University Nijmegen	F.Collas@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
dr. Willem Toonen	Vrije Universiteit Amsterdam	w.h.j.toonen@vu.nl

dr. Paolo Scussolini	Vrije Universiteit Amsterdam	p.scussolini@vu.nl
dr. Paul Hudson	Leiden University College	p.f.hudson@luc.leidenuniv.nl
dr. Francesco Bregoli	IHE Delft	f.bregoli@un-ihe.org
prof. dr. Ioana Popescu	IHE Delft	i.popescu@un-ihe.org
Young NCR		
Jelle Dercksen MSc*	Delft University of Technology	J.A.Dercksen@tudelft.nl
ir. Anna van den Hoek	Deltares	anna.vandenhoeck@deltares.nl
Simon Smits MSc	Rijkswaterstaat-WVL	simon.smits@rws.nl
Paul Vriend MSc	Leiden University College & Rijkswaterstaat	paul.vriend@rws.nl
Henry Amorocho Daza MSc	Delft University of Technology & IHE Delft	h.amorochodaza@un-ihe.org
ir. Leon Besseling	University of Twente	l.s.besseling@utwente.nl
Miranda Stibora MSc	Wageningen University & Research	miranda.stibora@wur.nl
Eise Nota MSc	Utrecht University	e.w.nota@uu.nl
Joshua Climo MSc	Radboud University Nijmegen	joshua.climo@ru.nl
Joeri Reinders MSc	Leiden University College	j.b.reinders@luc.leidenuniv.nl
Veerle Bril MSc	Vrije Universiteit Amsterdam	v.c.bril@vu.nl

3 Activities

3.1 Types of events

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 NCR Summerschool

In 2023, the University of Twente successfully organised the first NCR Summerschool. Due to its success, it was decided to host the NCR Summerschool bi-annually. The second Summerschool will also take place in Twente.

3.1.3 Meetings

Different meetings of the various boards of NCR are planned, both formal and informal. The Programme Committee meets approximately three times per year, the Supervisory Board once per year and the YNCR Board meets as often as they deem necessary. In addition, there is one joint meeting of all three board during the NCR Days.

3.1.4 Events

NCR organises various events. Themedays or seminars, which are single or half-day events focussed on a single topic or theme, e.g. "Remote sensing of rivers". Other events include field trips, excursions, networking events and workshops. NCR aims to offer all events except for the NCR Days and the Summerschool free-of-charge to participants.

3.2 Evaluation of 2024 activities

3.2.1 NCR Days

This year, the NCR DAYS were organised as an in-person only event by Wageningen University & Research. This edition was well attended, with 130 participants and 52 abstracts. Table 3.1 also shows the amount of participants and abstracts of the previous years. It should be noted that there were already NCR DAYS before 2010 and that the NCR DAYS were skipped in 2016. For an overview of the partners who organised each NCR DAYS event, please visit: <https://ncr-web.org/ncr-days/>.

During evaluation, the excellent catering was named as one of the stand-out aspects. The NCR DAYS were

somewhat earlier in the year than normally, but it did not have an effect on the amount of participants. We look back to a great edition, and thank the LOC for their efforts and hospitality.

Table 3.1: Participants of the NCR DAYS

Year	Abstracts	Presentations	Posters	Participants
2024	52	28	24	130
2023	53	16	37	>100
2022	61	20	41	116
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

3.2.2 NCR Themeday/seminar

This year one themeday was organised on October 16, 2024 at Deltares (Delft) in collaboration with NCK. This knowledge-sharing event focused on the intersection of river and coastal dynamics, specifically the Rhine Meuse estuary. The latest insights into the salt and sediment balances within this system were discussed. The event had a nice attendance (55 participants) and was marked by insightful presentations and lively discussions.

3.2.3 YNCR events

The joint YNCR/YNCK social event at the start of the year involved the rental of multiple jeu de boules lanes. During the event, participants had the opportunity to develop their network by talking with other attendees with the option to play a (few) game(s) of jeu de boules. A relatively large number of participants signed up and attended the event.

The social event during NCR Days 2024 at Wageningen University & Research involved the performance of a pub-quiz. The event was part of the NCR Days 2024 schedule and took place after the social dinner. Participants organized themselves in groups of five and were presented a set of questions and tasks to be performed during the pub-quiz. The duration of the pub-quiz was a bit too long, as participants were observed to leave prior to the end of the event.

The destination of the annual field trip was the Biesbosch. Several speakers were invited to show the group around in the area. The main topics of the talks were the beavers in the Biesbosch and plastic pollution. In the afternoon, the group canoed to experience the Biesbosch from another perspective. The day was concluded with a shared drink. The field trip reached a diverse audience of people within academia and consultancy companies.

The social event of the 27th of September was playing ping pong in Utrecht. Although the weather was bad, all participants showed up. Most of the participants were PhD Candidates from one of the universities that are part of NCR. The event was a successful social

networking event.

The annual career event involved a lab tour at the laboratories of Delft University of Technology and Deltares. After the event, participants were invited for a drink at the faculty of Civil Engineering & Geosciences.

The board members get-together was visited by most of the board members. While playing some minigolf, everybody got to know each other better.

3.2.4 Attendance

In total, NCR events (Table 3.2) drew around 250 participants. Even though fewer activities were organised than planned, the events that took place were quite successful.

Table 3.2: Approximate number of participants to other NCR events

Event	Total Participants
NCR DAYS 2024	130
YNCR social event (with YNCK)	22
YNCR Field Trip	20
YNCR social event	15
YNCR career event	22
Seminar 'Rijn-Maasmonding'	55
Total	264

Table 3.3: Overview of NCR events in 2024

Event	Type	Description	Lead	Date
pc-88	Meeting	88th meeting of the Programme Committee	NCR	9-jan-24
YNCR social event (with YNCK)	YNCR	Jeu de boules in Utrecht	YNCR	26-jan-24
jm-15	Meeting	15th joint meeting of the NCR boards	NCR	28-feb-24
sb-25	Meeting	25th meeting of the Supervisory board	NCR	28-feb-24
pc-89	Meeting	89th meeting of the Programme Committee	NCR	10-jun-24
YNCR field trip	YNCR	Canoeing and lectures in the Biesbosch	YNCR	28-jun-24
pc-90	Meeting	90th meeting of the Programme Committee	NCR	10-sep-24
YNCR social event	YNCR	Ping Pong club Utrecht	YNCR	27-sep-24
Seminar 'Rijn-Maasmonding'	Theme day	Understanding sediment balance and salt fluxes in the Rijn-Maasmonding area	Rijkswaterstaat & Deltares	16-okt-24
YNCR career event	YNCR	Excursion to lab facilities of TU Delft en Deltares	YNCR	05-dec-24

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](#)). 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
Rivers2Morrow	The Rivers2Morrow is a research project of 8 PhD research topics that investigate the consequences of climate change and large-scale human interventions on the river functions water safety, nature, and navigability, and what it takes to keep these manageable. It will increase the system knowledge of lowland rivers with respect to hydraulics, morphology, ecology and governance, with a focus on developments that take place on a long temporal time scale until 2100 (and some beyond). In 2023, the program is extended with 3 new PhD topics and maybe more to come.	ir. Tobias Nootenboom	2018

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)	2021
Delta ENIGMA	On 4 December 2023, the Delta ENIGMA project has successfully begun with its seven collaborating partners. The consortium is formed by Utrecht University, Delft University of Technology, University of Twente, Wageningen University and Research, NIOZ Royal Netherlands Institute for Sea Research, Deltares and TNO. Delta ENIGMA is a NWO funded Large Scale Research Infrastructure (LSRI) roadmap project that will be active for a decade, from 2023 to 2033. It is the Dutch contribution to the European DANUBIUS-RI initiative which aims at a comprehensive measurement, documentation and analysis of the (sediment, water, biological) connectivity in the river-estuary-coast continuum. The project aims to turn the Dutch delta into a world-leading 'supersite' for research on delta bio-geomorphology under climate change. This would bring bio geomorphology research in the Netherlands to the next level by establishing a unique infrastructure on how the physical processes (organisms, currents, waves, winds and sediment load) together shape the delta landscape, even during extreme events. More detailed information can be found on our website, https://delta-enigma.nl/ .	Dr. Smriti Dutta	2023

NL2120	The NL2120 knowledge and innovation programme invests in research into nature-based solutions. The aim is to mitigate climate impacts, restore biodiversity while preserving production capacity and strengthening well-being. Within these projects, the parties involved learn about the operation of natural solutions, innovative revenue models and social transition processes. The integrated approach makes the proposal unique. By combining knowledge development and practical experience, NL2120 integrates, deepens and enriches existing knowledge.	Dr. Bregje van Wesenbeeck	2024
Future FRM	Adequate protection against flooding is essential for the existence of the Netherlands. There is a very large challenge to reinforce the current flood defence system in our densely populated country, while also adapting it to deal with accelerating sea level rise and increasing river runoff. In this program "Future FRM Tech" we will develop new technical, nature-based and hybrid solutions for flood risk management and climate adaptation.	Prof. dr. ir. Bas Jonkman	2023

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.

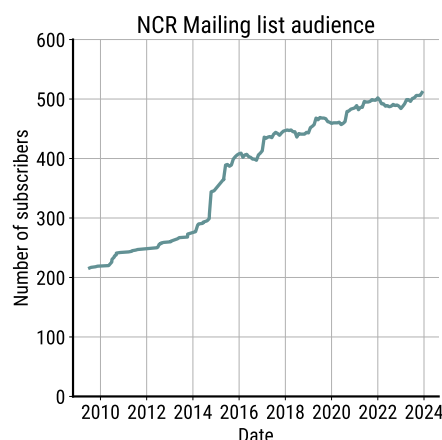


Figure 5.1: Number of subscribers to the NCR mailing list

5.2 Activities in 2024

5.2.1 New collaboration agreement

The draft collaboration agreement has been updated to version 0.6. The final touches still need to be made to the collaboration agreement, after which it eventually will be signed by all partners.

5.2.2 Mailing list provider

This year we phased out MailChimp in favour of Brevo (formerly SendInBlue). NCR has now switched to Brevo as default service provider for newsletters.

5.3 Network analyses 2024

5.3.1 Mailinglist

Subscriptions to the mailinglist have slightly decreased to 492 in December 2024 compared to 511 in December 2023. As can be seen in Figure 5.1, the subscriptions to the mailinglist have fluctuated around 500 the last four years.

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, 136 in 2021 to 162 in 2022. However, 2023 has a lower average with 122 7-day active users. This is in line with earlier experience that website activity is mainly driven by events. For 2024, the website usage is not tracked.

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.

In 2024, no new sub-sites were added. In total, there are now three sub-sites (All-Risk, SaltiSolutions, Rivers2Morrow)

5.3.4 Social media

The NCR LinkedIn company page had 762 followers at the end of 2024, which is an increase from 2023 (626 followers), 2022 (483 followers) and 2021 (292 followers). Most work in Research (22%), Education (16%) or Engineering (13%).

No new videos were added to the NCR Vimeo channel ([link](#)).

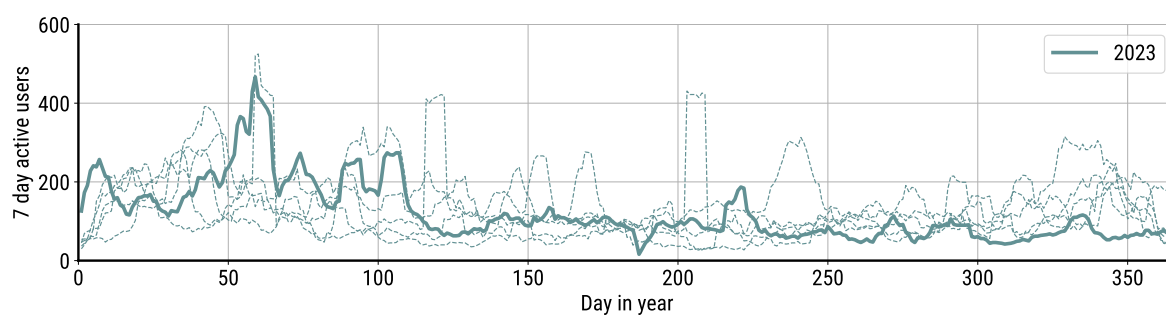


Figure 5.2: 7-day active users of ncr-web.org