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Geography in the Netherlands 2004-2008
Ton Dietz, Steven de Jong, Menno-Jan Kraak, Michiel van Meeteren

An Institutional Map of Dutch Geography

Royal Dutch Geographical Society (KNAG) (www.knag.nl)
Geographers in the Netherlands are represented by the Royal Netherlands Geographical Society (Koninklijk Nederlands Aardrijkskundig Genootschap, KNAG). The Society was established in 1873 to increase the knowledge of the earth. In total, around forty expeditions have been organized under the auspices of the Society. The mapping, the making of inventories and the collection of samples have resulted in an impressive heritage.

When the need to explore faded away, the Society turned its focus to the Dutch geographers and geography in The Netherlands. Today the Society is The Netherlands’ professional association of geographers, geography students and geography teachers with 3,500 members. The promotion of geography in general and the improvement of its position in secondary and higher education in peculiar, are some of the tasks carried out by the Society. It offers a venue for discussion among geographers in a range of professions in research and education, in the private and the public sector, nationally and internationally. KNAG also hosts the Netherlands committee of the International Geographical Union (IGU).

The Society is also known as a publisher. It publishes one English-language journal (TESG; Journal of Economic and Social Geography/Tijdschrift voor Economische en Sociale Geografie, (www.blackwellpublishing.com/journal.asp?ref=0040-747X&site=1), and one Dutch-language journal: Geografie (www.geografie.nl). It also supports another Dutch-language journal Agora (www.agoraweb.nl). TESG will celebrate its 100th anniversary in 2009. Furthermore, the Society publishes Nederlandse Geografische Studies or NGS (Netherlands Geographical Studies), an academic series featuring a wide range of scientific publications on geographical topics. Most of the titles are published in English. Another English-language publication, The Compact Geography of the Netherlands, is useful in education as well as a private source book for anyone interested in The Netherlands. See: www.geography.nl.

In addition to KNAG, some Dutch geographers are also active in the Regional Science Association RSA (see www.econ.vu.nl/re/rsa-nederland/), the Koninklijk Nederlands Geologisch en Mijnbouwkundig Genootschap KNGMG (www.kngmg.nl) and in the Nederlandse Hydrologische Vereniging NHV (www.nhv.nu).

National research schools
Academic geographical research in the Netherlands is thriving but fragmented into nationally organized graduate schools and local university graduate schools. While some of them retain a strong identity centred on geography, others have geographical research embedded in broader oriented research departments. The institutional map of Dutch geography presented in Table 1 provides an overview of the relevant Dutch geography departments of both types.
Table 1 Institutional overview of academic geography in the Netherlands

<table>
<thead>
<tr>
<th>University</th>
<th>Geography</th>
<th>In Faculty</th>
<th>Specializations/ Research programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amsterdam (UvA)</td>
<td>Human geography, Planning and International</td>
<td>Social and Behavioural Sciences</td>
<td>Urban geography; Planning, institutions and transforming spaces; Space and Economy; Territories, identities and Representations; Livelihoods, Environment and Governance</td>
</tr>
<tr>
<td></td>
<td>Development Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Physical Geography</td>
<td>Nature, Mathematics and Informatics (section: Biology and Ecosystem Dynamics)</td>
<td>Geomorphology and ecology</td>
</tr>
<tr>
<td>CEDLA</td>
<td>Social and Behavioural Sciences</td>
<td></td>
<td>Latin American Studies</td>
</tr>
<tr>
<td>IMES</td>
<td>Arts and Humanities</td>
<td></td>
<td>Migration and Ethnic studies</td>
</tr>
<tr>
<td>Duitsland Instituut</td>
<td>Idem</td>
<td></td>
<td>German studies</td>
</tr>
<tr>
<td>Amerika Instituut</td>
<td>Separate institute</td>
<td></td>
<td>(North) American studies</td>
</tr>
<tr>
<td>Royal Tropical Institute</td>
<td></td>
<td></td>
<td>International development studies; health and development</td>
</tr>
<tr>
<td>Amsterdam (VU)</td>
<td>Physical Geography</td>
<td>Earth and Life Sciences</td>
<td>Hydrology, paleoclimatology, geomorphology</td>
</tr>
<tr>
<td></td>
<td>Regional Economics</td>
<td>Economics and Econometrics</td>
<td>Regional and spatial economics, transport economics; environmental/ ecological economics</td>
</tr>
<tr>
<td></td>
<td>Geography in education</td>
<td>Centre for Educational Training, Assessment and Research</td>
<td>Thinking through geography; Geographical Information Systems; Knowledge based curriculum development</td>
</tr>
<tr>
<td>Clingendael, Netherlands institute of international relations</td>
<td>International relations, international politics. (The Hague)</td>
<td>Separate institute</td>
<td>International relations, European coordination, International security and conflict, international energy issues</td>
</tr>
<tr>
<td>Delft University of Technology</td>
<td>Housing, Urban and Mobility Studies</td>
<td>OTB</td>
<td>Housing systems; Sustainable Housing Transformations; Urban and Regional Development; Urban Renewal and Housing; Mobility Studies; Geo-information and Land Development; GIS technology.</td>
</tr>
<tr>
<td>University</td>
<td>Geography</td>
<td>In Faculty</td>
<td>Specializations/ Research programmes</td>
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<tr>
<td>---------------------------------------</td>
<td>-----------------------------------------------</td>
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<td>-----------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Eindhoven University of Technology</td>
<td>Architecture, building and planning</td>
<td>idem</td>
<td>Spatial planning, building studies, architecture</td>
</tr>
<tr>
<td>Groningen University</td>
<td>Human Geography and Planning</td>
<td>Spatial Sciences</td>
<td>Explaining spatial-economic change; Determinants of Population Dynamics; Planning for Environmental Quality; Making Places</td>
</tr>
<tr>
<td></td>
<td>Spatial Economics</td>
<td>Economics</td>
<td>Spatial economics</td>
</tr>
<tr>
<td></td>
<td>Centre for Development Studies</td>
<td>Spatial Sciences</td>
<td>Development studies; China studies</td>
</tr>
<tr>
<td>Leiden University</td>
<td>No geography or planning</td>
<td>(inter-university)</td>
<td>African studies</td>
</tr>
<tr>
<td></td>
<td>Africa Studies Centre</td>
<td>Natural sciences</td>
<td>Bio-ecological studies; environment and development</td>
</tr>
<tr>
<td></td>
<td>Centre for Environmental Studies</td>
<td>national</td>
<td>Caribbean and Indonesian Studies</td>
</tr>
<tr>
<td></td>
<td>KITLV</td>
<td>Arts and Humanities</td>
<td>Asia studies</td>
</tr>
<tr>
<td></td>
<td>IIAS International Institute for Asia Studies</td>
<td>Arts and Humanities</td>
<td>Islam studies (incl. cultural geography)</td>
</tr>
<tr>
<td></td>
<td>ISIM Institute for the Study of Islam in the Modern World</td>
<td>Arts and Humanities</td>
<td></td>
</tr>
<tr>
<td>Rotterdam Erasmus University</td>
<td>Regional and Urban Economics</td>
<td>Economics</td>
<td>Economic geography, urban economics</td>
</tr>
<tr>
<td></td>
<td>ISS Institute of Social Studies (The Hague)</td>
<td>Separate institute</td>
<td>International development studies; regional economics</td>
</tr>
<tr>
<td></td>
<td>IHS Institute of Housing and Urban Development Studies</td>
<td>Separate institute</td>
<td>Habitat and development studies</td>
</tr>
<tr>
<td>Tilburg University</td>
<td>No geography or planning</td>
<td>Int. Development studies</td>
<td></td>
</tr>
<tr>
<td>Twente University</td>
<td>ITC</td>
<td>Separate institute</td>
<td>Cartography and Geo-information; urban studies</td>
</tr>
<tr>
<td>Utrecht University</td>
<td>Human Geography</td>
<td>GeoSciences</td>
<td>Urban Geography and Planning; Economic Geography; Development and Representation; History of Cartography</td>
</tr>
<tr>
<td></td>
<td>Physical Geography</td>
<td>GeoSciences</td>
<td>Coastal and River Systems; Landscape, Geo-information and Hydrology</td>
</tr>
<tr>
<td>Maastricht University</td>
<td>No geography or planning</td>
<td>Economics and Management</td>
<td>International development, technology and innovation studies</td>
</tr>
</tbody>
</table>
National research schools have performed and still perform important functions by providing research training at PhD level, and by stimulating research collaboration across organisational boundaries. There is some tension between these national disciplinary research schools, and the emerging of local Graduate Schools at more and more Dutch universities, in which geographers tend to become rather small minorities in larger conglomerations of social sciences scholars.

ICG (www.science.uva.nl/ibed/icg/)
The Netherlands Centre for Geo-Ecological Research, (ICG) is a formal joint venture of the Universiteit van Amsterdam (UvA), the Utrecht University (UU), and the VU University Amsterdam. The Katholieke Universiteit Leuven (K.U.Leuven) is an associate member and the Rijksuniversiteit Groningen (RuG) joined the collaboration. Roughly 50 staff members, 20 PostDocs and 80 PhD students participate in the ICG.

ICG aims to enhance the understanding of how landscapes function and respond to environmental change, through the integrated study of patterns and processes in geo-ecosystems. ICG research comprises three complementary research themes:

Theme 1 “Depositional Environments: Evolution, Dynamics and Climate Change” explores landscape formation, mainly in relation to changes in climate, vegetation, and sediment dynamics at various temporal and spatial scales. Emphasis is on the identification of environmental change through the study of the geological record and of geomorphological processes in depositional environments. The theme is subdivided into two sub-themes, one dealing with the ‘dynamics and evolution of river and coastal systems’, the other with the ‘palaeoclimatology and paleoecology of the Quaternary’.

Theme 2 “Functioning of Landscape Ecosystems” emphasises the landscape as a functional system. It studies the functioning of the ecosystem and how this is affected by changes in environment and climate, particularly land-use change and other human influences. Two

<table>
<thead>
<tr>
<th>University</th>
<th>Geography</th>
<th>In Faculty</th>
<th>Specializations/ Research programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nijmegen Radboud University</td>
<td>Human Geography and Planning CIDIN Pacific Studies</td>
<td>Management Sciences Social Sciences Social sciences</td>
<td>Governance and places; including border studies International development studies Pacific studies/ anthropology</td>
</tr>
<tr>
<td>Nyenrode Business University</td>
<td>No geography or planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open University</td>
<td>No geography or planning</td>
<td></td>
<td>(some courses on earth studies and environmental studies)</td>
</tr>
<tr>
<td>Wageningen University and Research Centre</td>
<td>Landscape architecture, spatial planning and leisure studies Erosion, soil and water conservation</td>
<td>Economics and Society group Environment and Climate group</td>
<td>Landscape, planning, leisure, tourism Erosion studies, soil and water conservation</td>
</tr>
</tbody>
</table>
sub-themes are distinguished, which concentrate on ‘terrestrial ecosystems’ in relative stable landscapes and ‘geomorphological systems’.

Theme 3 “Innovative Measurement and Modelling” is dedicated to the development and application of methods for measuring and analysing temporal, spatial and spatio-temporal environmental data. It is concerned with the development and application of powerful tools for collecting, storing, analysing, modelling and displaying large amounts of data, either collected in the field or from remote sensing platforms or obtained from digital databases. Advances made in this theme are used for the analysis and modelling of the systems and processes studied in the first two themes.

CERES (www.ceres.fss.uu.nl/)
Research school for resource studies for development. Most if not all Dutch human geographers who are involved in research and supervision in Africa, Asia, the Caribbean and Latin America are in one way or another connected to the national research school for international development studies and global social dynamics, CERES. CERES connects almost all Dutch and some Flemish universities with departments related to development issues (beyond geography also anthropology, sociology, political science, economics, etc.) and the specialised area study centres in the Netherlands (like the African Studies Centre, the Centre for the Study and Documentation of Latin America, the International Institute of Asia Studies, etc.). CERES provides training to close to 300 PhD candidates, of whom 70 percent comes from abroad. It also supports networks of scientists, and it stimulates fruitful collaboration with practitioners and policy makers (see: www.dprn.nl; www.worldconnectors.nl, and www.thebrokeronline.eu). CERES developed an inclusive assessment system for the valuation of development-relevant and other social science research, in collaboration with the European Association for Development Institutes (see the CERES website, with a specific domain for geography, one for planning and development and one for area studies, next to others).

NETHUR (www.nethur.nl/)
The Netherlands Graduate School of Urban & Regional Research (NETHUR) covers the fields of urban, regional and housing research. It is a joint initiative of the Universiteit van Amsterdam (UvA), Delft University of Technology (TU Delft), Radboud University Nijmegen (RU), Technische Universiteit Eindhoven (TU/e), University of Groningen (RuG) and Utrecht University (UU) which hosts the secretariat.

Nethur was first accredited by the Royal Academy of Science (KNAW) in 1994. Since then, Nethur has grown into a professionally operating research school of high repute in the Netherlands and abroad.

Nethur is dedicated to the study of cities and regions, both as built environments and as social entities. Nethur has a dual mission: to generate a solid base of knowledge about cities and regions, and to train young scholars to conduct independent research in these fields. The collaboration within Nethur with regard to education and research brings the scope of urban and regional studies into better perspective.

Nethur offers an education programme for PhD candidates and a collaborative programme of research by these candidates and their supervisors. Some 120 PhD members are currently preparing their dissertations under its auspices. In addition, a similar amount of senior members participate in Nethur.
Apart from these, three other research schools need to be mentioned because they commit relevant geography related research: TRAIL, the research school on Transport, Infrastructure and Logistics (www.rstrail.nl). For environmental studies the research school SENSE partly deals with geographical issues (www.sense.nl) and the Buys Ballot research school (www.phys.uu.nl/~wwwimau/education/bbos/) which is involved with coast related physical geographical research.

Geography departments – the members of IGU-NL

The IGU section NL consists of the KNAG and 9 members which represent the faculties and institutes that can be considered the core of the Dutch academic geography. In the following section each of the members are introduced.

Human Geography, Universiteit van Amsterdam (www.fmg.uva.nl/amidst/home.cfm)

Human geography research on the Universiteit van Amsterdam (UvA) is mostly conducted under the flag of the Amsterdam institute for Metropolitan and International Development Studies (AMIDSt). AMIDSt aims to play a significant role in international scientific and societal debates on the spatial dimensions of social reality in Northern and Southern contexts. The relationship between socio-economic, cultural and political processes and spatial contexts at different levels of aggregation are at the core of the institute’s research activities. Space constitutes the common thread between the institute’s different research traditions of geography, planning and international development studies. Space impacts on almost all forms of social action and behaviour and, in turn, many forms of social action and behaviour (re)shape space. This dialectic relationship is at the core of AMIDSt’s research. AMIDSt pursues a non-exclusive, non-dogmatic and reflexive use of different theoretical approaches, drawing partly from related social science disciplines and including a variety of research methods. Research is grouped into five theme groups: 1) Urban Geographies of Place and Social Interactions; 2) Urban Space, Institutions and Networks; 3) Space and Economy; 4) Territories, Identities and Representations; and 5) Livelihoods, Environment and Governance.

Human Geography and Planning, Utrecht University (www.geo.uu.nl/)

URU, the Urban and Regional research centre Utrecht, is the Research Institute of the Department of Human Geography & Urban and Regional Planning, which is a part of the Faculty of Geosciences at Utrecht University. URU comprises four research programmes: Urban Geography and Planning; Economic Geography; Geography, Development and Representation; History of Cartography.

URU aims to contribute to a deeper understanding of urban and regional change on the one hand, and of the spatiotemporal behaviour of individuals, households, and firms in various geographical contexts on the other hand. The relationship between the changing spatial configurations of land uses and the spatiotemporal behaviour of actors and the ways in which this relationship is managed forms the umbrella of the URU research programme. The objective of URU is to come to grips with the complexity of urban society by developing research ideas, testing theories, developing new hypotheses, evaluating policies, and formulating new perspectives on spatial scales varying from global and national to regional and local.

More specifically, URU researchers aim to 1) understand the ways in which developments on different geographical scales affect the role of regions and urban areas in various urban, regional,
and national contexts; 2) enhance our knowledge of the ways in which these developments affect the opportunities, preferences, and behaviour of individuals, households, and firms; 3) analyse the role of policy and governance in urban and regional change and spatiotemporal behaviour; and 4) discover how the behaviour of individuals, households, and firms affects regional and urban development in various spatial contexts and how these developments influence social, economic, political, cultural, and technological developments.

URU aims at producing outstanding research and a significant output of high-quality scientific articles and books, as well as professional output aimed at different stakeholders.

_Human Geography, University of Groningen_ (www.rug.nl/frw/)

Research at the Faculty of Spatial Sciences at the University of Groningen takes place within the Urban and Regional Studies Institute (URSI). The key feature of URSI's research is the study of space (be it a region, city, country or rural area), from the multidisciplinary perspective of geography, demography and spatial planning. URSI's main aim is to produce high quality scientific research, aimed at peers, to increase academic knowledge; and to disseminate this research to policy makers, NGOs and the general public, thus enhancing evidence based interventions and policy making. In addition, capacity building of young researchers is a major objective.


The research activities in the fields of human geography, spatial planning and environmental politics at the Radboud University Nijmegen are conducted in the framework of the research programme: ‘Governance and Places’ (GaP), which explicitly focuses on issues of territorial governance in relation to spatial practices and processes, identity formation, and policy-making. GaP is known for its strong theoretically reflected research, which is closely linked to the current international debates (partly also through its Alexander von Humboldt programme, see also www.ru.nl/socgeo/humboldt) GaP is loosely organised around a number of research themes: 1) Borders; 2) Urban and regional development; 3) Transport and spatial development; 4) Water management; 5) Environmental policy and governance; and 6) Land policy and location development.

_Physical Geography, Utrecht University_ (www.geo.uu.nl)

Physical Geography (DPG) at Utrecht is part of the Faculty of Geosciences. The Faculty comprises four departments: Human Geography and Planning, Environmental Sciences, Earth Sciences and Physical Geography. Earth Sciences and Physical Geography together offer the Bachelor Earth Sciences and various related master programs. DPG focuses on the following research topics: 1) Coastal and Fluvial systems studying the morphology of the coast, delta systems and river systems from source to sink and what the consequences of global change will be, 2) Geohydrology studying the role of water in ecosystems and in climate change at regional and at global scale, and 3) Land Degradation and Geocomputation studying erosion, mass movement and flooding processes. Emphasis is put on numerical modelling of these processes and using field observations, field experiments and earth observation data for model input and for validation of the model simulation. Modelling of climate change and the collection of proxies for climate records are other important research topics.
Physical Geography, Universiteit van Amsterdam (www.science.uva.nl/ibed-research/)

Physical Geography at the Universiteit van Amsterdam is part of the Institute for Biodiversity and Ecosystem Dynamics (IBED), theme II: Geo-Ecology.

Geo-ecology studies the relationships between living and non-living components of geo-ecological systems and the resulting spatio-temporal dynamics at different scales. This work relies heavily on the interpretation and analysis of experimental data and observations using spatial modelling and computational methods (using GIS and Remote Sensing technologies).

At the landscape level IBED studies fluvial processes and vegetation changes as affected by climate fluctuations and human activities, from Quaternary time series spanning ten-thousands of years to recent changes in irrigation. At an intermediate scale the temporal and spatial distributions of species are studied in relation to weather and landscape properties. At the molecular level research concentrates on the fate of mostly organic micro-pollutants, based on a thorough understanding of their chemical properties. Although these examples are quite different, they have in common that their behaviour depends on the interplay between biotic and abiotic processes. Such interplay leads to temporal stability or transient behaviour, to formation of spatial patterns by self-structuring or patterns driven by external environmental heterogeneity and human activities. Many related problems of modern society, such as climate change, degradation of soils, adverse effects of land and water use and production of waste, are also being studied.

VU University Amsterdam (www.vuamsterdam.com/home/index.cfm)

Research in physical geography is completed at the department of Paleoclimatology & Geomorphology. It focuses on the effects of changes in climate and other internal and external mechanisms on selected geo-ecosystems at different temporal and spatial scales. Especially river catchments and coastal environments are investigated under the influence of monsoons and west-European climate systems. This is achieved by geological reconstructions and data-model comparisons. The department of Hydrology and Geo-environmental Sciences studies the interactions between land cover, soils and the water and carbon cycles at local to regional scale, including the feedback of relevant atmospheric and climatological processes.

Economical geography is applied in the department of Spatial Economics at the Faculty of Economics and at the Institute of Environmental Studies of the Faculty Earth and Life Sciences.

Educational research by geographers at VU University Amsterdam at the Centre for Educational Training, Assessment and Research (CETAR) focuses at thinking through geography, knowledge based curriculum development and the introduction of Geographical Information Systems in secondary education. The National Assessment Centre for Geography Teaching is based at CETAR.

From 2009 onward geographical research projects will be introduced in the field of a new programme called Earth and Economics.

Geo-information Science and Earth Observation, ITC (www.itc.nl/)

The International Institute for Geo-Information Science and Earth Observation (ITC) develops and transfers cutting edge knowledge and innovative approaches in geo-information science and earth observation. The research and knowledge transfer programmes address applications of geospatial data for space and resource management and provision of geospatial data for the user.
community. Typical research themes include spatio-temporal data integration and visualization comprising the rural-urban areas and they range from determining disaster risks to planning urban infrastructure and implementing land administration systems. In order to ensure that new knowledge and innovation resulting from the research data lead to societal benefits, the programme is formulated as a number on interlinked research themes. Each theme encompasses profound knowledge in three domains: 1) earth observation and geo-information processing technologies relevant to the thematic field; 2) geospatial processes playing a role in the thematic field; and 3) the way in which the community associated with the thematic field can access and exploit new knowledge and innovation.

Social-Spatial Analysis, Wageningen University (www.sal.wur.nl/UK/)
The Chair Group Socio-Spatial Analysis focuses on the people-environment interaction from a social-science perspective, especially (social and human) geography, sociology and (environmental) psychology. Theoretically, it focuses on spatial practices, experiences and representations. This academic niche is defined within the broad Wageningen institutional context of the Environmental Sciences and the Landscape Centre. The thematic focus of the chair group is ‘spatial quality for people and people for spatial quality’. Contemporary social and political debates emphasize the importance of the environment for health, social and mental well-being, entertainment and leisure, and sustainability. The chair group directs its research on how and where people experience space, which practices contribute to sustainability, and how knowledge can be used to create and manage spaces in ways that contribute to the required qualities.

The chair group has an empirical focus on everyday landscapes, residential landscapes, leisure landscapes and tourism landscapes.

Apart from the above core institutes that are members of the IGU-section The Netherlands there are many more academic institutions in the Netherlands that do research and teaching in geography related subjects. Table 1 gives an institutional overview of Dutch academic geography, looking at each of the fifteen Dutch universities.

Finally the Netherlands has a rather large number of specialised area studies centres: African Studies in Leiden, Latin American and North American Studies in Amsterdam; German studies in Amsterdam as well; Asia studies in Leiden (also linked to Amsterdam); Caribbean studies in Leiden too; China Studies in Groningen; and Pacific studies in Nijmegen. There is a specialised institute for Tropical Studies in Amsterdam (now mainly doing development-related research and training).

Developments 2004-2008

Some general developments
The Royal Dutch Geography Society (KNAG) stimulated the organization of the first international conference of EUGEO, in Amsterdam 2007. EUGEO is the European Association of Geographical Societies (see www.eugeo.org).

The KNAG has established a chair to bridge the gap between academic geography and school geography and to help to put geography in education on the map again. One of the ways to do this is to start regional groups of geographers teachers round a university or teacher
training institute. Geography is a compulsory subject in primary education and lower secondary education in the Netherlands. In upper secondary education the position of geography is weak. It used to be a compulsory subject for one third of the students, but nowadays it is just optional for most of the students. Although many students see geography as a popular subject, they hesitate to choose it. One of the main reasons seems to be that geography is no prerequisite for further studies. Another is that schools not always allow for all potential combinations for options.

Until 2007 geography teaching in the Netherlands focused more on human geography than on physical geography and more on thematic geography than on regional geography. Since 2007 the balance in the curriculum between physical and human geography has been re-established. On request of teachers the new curricula also give more attention to regional geography. Modern technology enters geography teaching increasingly at all levels. Many geography teachers use Google Earth and digital photographs on interactive boards in their classroom.

There is a shortage of geography teachers in the Netherlands especially in the western part of the country in the big cities.

Teacher training colleges, which include teaching geography, and which prepare geography teachers for the lower classes of the secondary school have difficulties attracting enough interested students. Universities which train geography teachers for higher-level secondary teaching, have also witnessed small numbers of students in the recent decades. The large majority of academically trained geographers in the Netherlands won’t consider teaching geography.

Most of the close to 700 annual graduates at Master’s level – physical and human geographers (and spatial planners and demographers; see later) – become involved in research, policy making, leadership functions in municipalities, provinces, national departments (e.g. Housing and Spatial Planning; Nature, Agriculture and Food; Foreign Affairs), European institutions, and international organizations, journalism and writing, all types of businesses, consultancy jobs and NGO activities, and the tourism sector. In addition, geographers have acquired quite a strong position in organizations dealing with international development, and with global issues like peace and security, human rights, environment and climate change. Geography is alive and kicking in the world of representations: digital road maps; digital games with a high geography content; a large variety of tourism entrepreneurs; many new atlases; a host of publishers of geographical books for the general public; many viewers of the National Geographic Channel on Dutch TV; and a Dutch language edition of the National Geographic magazine (“for the Netherlands and Belgium”): they all show that ‘real geography’ is still very popular and also economically rewarding for those who make it their profession and business venture.

Academic geography in the Netherlands is quite fragmented institutionally. There is a long history of avoidance between physical geography and human geography on the one hand, and a further subdivision within physical and human geography departments at universities, where geography is being taught in one way or another. However, there have been recent attempts to bring back some more unity in geography as a whole. New subjects like ‘The Future of Planet Earth’ are being taught by both physical and human geographers (and a host of other specialists). A recent text book about geography (‘from Nature to Risk Society; in Dutch) for the ‘general public’ and students covers both physical and human geography (and a host of related fields). Geography is becoming popular again in neighbouring domains, like architecture, economics, anthropology and sociology, and recently a specialised ‘research for policy’ centre started about the challenges of urban life and the development of the Netherlands towards becoming a ‘global city’ (NICIS, see www.nicis.nl). The government of the Netherlands has a specialised
think tank about the environment at its disposal: the Netherlands Environmental Assessment Agency (http://planbureauvoordeleefomgeving.nl/) (since April 2008 a merger of the Spatial Planning Agency (Ruimtelijk Planbureau, see www.rpb.nl) and the Planning Agency for Nature and Environment (Milieu- en Natuur Planbureau, www.mnp.nl)). To counter tendencies of parochialisation in the Dutch polity a group of concerned opinion leaders started the World Connectors (www.worldconnectors.nl) and there is a search for synergy among the very many institutions dealing with ‘international development’ (see www.dprn.nl; www.partos.nl; www.thebrokeronline.eu).

The research community created some more synergy by maintaining the relevant national research schools (see table 1). These national research schools have performed and still perform important functions by providing research training at PhD level, and by stimulating research collaboration across organisational boundaries. There is some tension, though, because of the growth of local-level Graduate Schools all over the Netherlands now, in which geographers tend to become rather small minorities in larger conglomerations of scholars within university faculties. Despite these efforts, academic human and physical geography in the Netherlands follow increasingly divergent institutional pathways. Therefore, the next three sections will be devoted to the developments in the respective fields of human geography, physical geography and cartography.

**Physical Geography in the Netherlands 2004-2008**

Three universities in the Netherlands have active research and teaching groups in Physical Geography. These universities are the University of Utrecht, Universiteit van Amsterdam and the VU University Amsterdam. Their research efforts are embedded in two research schools: ICG, the Netherlands Centre for Geo-Ecological Research and the Buys Ballot Research School (BBOS). Physical Geography oriented research within ICG investigates evolution of landscapes over various temporal and spatial scales, the response of landscape-forming processes to climate change and to biotic, tectonic and human factors, fluxes of water and sediment and chemicals in the landscape and processes of land degradation, hazards and sustainability. Numerical modelling of landscape processes and the use of advanced geo-statistical and earth observation techniques are key issues within these research efforts. Over the last 4 years Physical Geography also played an important role in studying the spatial and temporal effects on river discharge of climate change and the development of proxies using sediment records and tephra records for calibrating and validating climate change models. The contribution of physical geographers in the BBOS is oriented towards coastal morphology, hydrodynamic and morphodynamic processes and patterns in the near-shore zone including beaches, deltas, estuaries and barrier islands. This coastal research has a strong field component with large experiments of measuring e.g. sand transport along the coast, long-term wave frequencies and the dynamics of sand banks. These research efforts have greatly enlarged our scientific insights how storm frequency and alongshore sand transport plays a role in near shore bank morphology.

The research schools used to have an active and steering role in research activities until 2006. Since 2006 the importance of the research schools is slowly diminishing and research activities and teaching programs are organised within University specific Graduate Schools. Graduate schools are set up in the Netherlands (and Europe) following the Anglo-Saxon example. Until 2006 the research schools played an important role in stimulating research and teaching activities between the Physical Geography groups in the Netherlands; the Graduate Schools stimulate
multi-disciplinary collaboration within the individual universities at the expense of ICG and BBOS activities.

Utrecht University (UU) has the largest department of Physical Geography in The Netherlands. Research is organised within two research groups: LGH: Landscape functioning, Geocomputation and Hydrology and CFG: Coastal Dynamics, Fluvial Systems and Global Change. Each research group has two full chairs. LGH has the chairs Physical Geography with emphasis on Land Degradation and Remote Sensing and Geographical Hydrology. CFG has chairs in Physical Geography with emphasis on Coastal Morpho-dynamics and Physical Geography with emphasis on Global Change Geomorphology. Important research topics of LGH are land degradation processes such as soil erosion, mass movement, large scale hydrology and the role of the hydrological cycle in climate variability, ecohydrology and spatio-temporal dynamics of soil moisture in relation to vegetation and its interaction with the atmosphere, earth observation and geo-computation. The Faculty of Geosciences at Utrecht has an excellent reputation for its expertise in spatio-dynamic modelling of geoprocesses and geostatistics. The spatio-temporal modelling language PCRaster and the geostatistical package GSTAT are important research products. Main research topics of CFG are morphodynamics of coastal environments, interaction of coastal and fluvial processes and environments, sensitivity and response of drainage basins to climate change and delta evolution.

At the Universiteit van Amsterdam (UvA) the Physical Geography research group is part of IBED: Institute for Biodiversity and Ecosystem Dynamics. IBED comprises the disciplines of Biology, Chemistry and Physical Geography. The group has three chairs: Computational Geo-Ecology, Earth Surface Processes and Materials, and Paleo-Ecology and Landscape Ecology. Their research aims at understanding processes and patterns in geo-ecosystems and the evolution of landscapes over various temporal and spatial scales and this allows the researchers to elucidate the response of geo-ecosystems to human and natural impacts. The researchers observe, explain, quantify and model the fluxes and transformation processes operating in the landscape, as well as the response of landscape-forming processes to external forces such as climatic, tectonic, biotic and human influences.

At the VU University Amsterdam Physical Geography is part of the Faculty of Earth and Life Sciences where Earth Sciences, Biology and Environmental Studies work together. Physical Geography and Geology together form one department. Their research is focused on paleoclimateology, geomorphology and paleoecology. They study terrestrial and marine sedimentary and morphological records. Important issues in their research are: global to large-scale regional climate change, evolution and variability in terms of forcings, processes, controlling factors and feedbacks in oceanic and atmospheric transport of heat and water, changes and evolution of terrestrial, coastal and ocean environments in terms of internal dynamics and the response of these systems to changes in climate and other external controls.

Although Physical Geography is still an important topic at various levels of education in the Netherlands, it lost a bit of its solid position that it had in the past. The autonomous study of Physical Geography at University level as a 5 year curriculum is not offered any more. At each of the three Dutch universities the curriculum of Physical Geography at the Bachelor level is part of the curriculum of Earth Sciences i.e. together with the disciplines geology, geophysics, geochemistry and/or biology. Only at the Universiteit van Amsterdam it is still possible to follow a basic 5 year Physical Geography programme. Physical Geography is offered at the Master’s level at all three universities. The Master is often subdivided into tracks such as: Physical Geography

In conclusion, research in Physical Geography in The Netherlands is, compared to other countries, strongly related to physics, hydrology, soil science and chemistry and research efforts are oriented towards numerical modelling of terrestrial and coastal processes. Although Physical Geography has lost its autonomous five year academic curriculum, physical geography related topics are still strongly embedded in various Bachelor’s and Master’s curricula.

**Human Geography in the Netherlands 2004-008**

Human geography in the Netherlands has a secure home at the Universiteit van Amsterdam, Utrecht University, Groningen University and Radboud University in Nijmegen. Utrecht generally attracts most students; Amsterdam has the largest research department. Urban geography is particularly strong in Amsterdam and Utrecht; Economic Geography in Utrecht and Groningen (and upcoming again in Amsterdam, with minor centres in Nijmegen, Rotterdam and at the VU University Amsterdam, often linked to other faculties); Political geography is strong in Amsterdam; cultural geography in Amsterdam, Groningen and a bit in Utrecht and Nijmegen; Historical geography used to be present in Amsterdam, but has lost its separate position. International Development Geography is strong in Amsterdam and in Utrecht. In Amsterdam it has merged with international development studies, which also includes education specialists, anthropologists, political scientists and economists. International development studies are also strong in Nijmegen, at the Institute of Social Studies in The Hague and at some other places. Demography, and Population Geography is strong in Groningen (which includes a specialization in population and development), in Amsterdam and a bit in Utrecht. In Amsterdam there is a specialised Institute for Migration and Ethnic Studies, in which geographers/demographers work together with sociologists and political scientists. Cartography has always had a small but strong position in Utrecht (including a world famous section on the History of Cartography).

The Netherlands has a strong tradition of spatial planning research and teaching. It can be found in Nijmegen, Amsterdam, and somewhat in Utrecht. But also the three Universities of Technology (Delft, Eindhoven, and Twente) have a tradition of research and teaching in urban planning and geo-informatics, often related to architecture, housing studies and/or cartography.

Dutch academic research in geography, planning and (parts of) international development studies are regularly evaluated by high-level international peers, under the umbrella of Quality Assessment under the Ministry of Education (and Research). The most recent evaluation took place in 2007, chaired by Prof. Robson from the UK, and consisting of colleagues from the UK, Belgium, Germany and New Zealand. The research evaluation report shows that there is a healthy research climate. All 21 research programmes were regarded as good or even excellent. The evaluation committee was particularly pleased with the high quality of PhD candidates, and their position in the research institutes. Top-level scores were given to the Urban Geographies group in Amsterdam, the Economic Geography groups in Utrecht and Groningen and the Population Dynamics Group in Groningen. Total annual research time of the four major geography and planning universities (Amsterdam, Utrecht, Groningen and Nijmegen) had grown from 117 full time places during the 1995-1999 period to 145 places in the 2000-2006 period. In addition Delft also has 55 related research places, and others can be found elsewhere in smaller numbers. In total Dutch geography, planning, and international development studies has an academic staff strength
of close to 250 research places (which in the Netherlands often includes PhD candidates). Most of the senior members of staff also teach, and are involved in a variety of societal functions. Most of the PhD candidates also teach a bit. Dutch geography (plus) is thriving! But the institutional struggles are not yet over.

During more than ten years Dutch human geography has been effectively embedded in two national research schools: NETHUR (together with spatial planning and demography; see www.nethur.nl) and CERES (resource studies for development, together with other development-oriented disciplines, see ceres.fss.uu.nl). Currently, the tendency in most universities to form local graduate schools undermines the national research schools and also forces human geographers to work more closely with other disciplines in the training of new generations of PhD candidates.

**Cartography in the Netherlands 2004-2008**

Cartography has a very long tradition in the Netherlands. Today, this tradition is represented by the section “Cartography and Geovisualization” of the society “Geo-Information Nederland” (GIN), which, in 2003, resulted as a result of a merger of several geo-information related societies, among them the “Nederlandse Vereniging voor Kartografie” (NVK).

Cartographic education in the Netherlands has been incorporated in geographic and geoinformatics programmes. At MSc level the first can be found at Utrecht University and the second at the International Institute of Geoinformation and Earth Observation (ITC). At BSc level the Hogeschool Utrecht provides education in geoinformatics with relevant cartographic content. Research is concentrated at Utrecht University and ITC (with the only full chair in cartography in the country). The first is mainly oriented toward historical cartography, while the second has an emphasis on contemporary cartography.

To get an impression of current cartographic products a special issue of the journal Geo-Info (vol 4, issue 6A, 2007) has been prepared for the 2007 general assembly of the International Cartographic Association. This bi-lingual issue is accompanied by a website http://www.geo-info.nl/Site/Components/SitePageCP/ShowPage.aspx?ItemID=8ebbb296-9a8f-4d5d-94e3-fibb94ad5677, and is indicative for the trend in mapping over the last four years. The number of map series available in print is decreasing, because they are more and more published as interactive web maps. There are both advantages and disadvantages. On the one hand, these maps become – often freely – available to everyone with Internet access, although not everyone is aware or able to. On the other hand, map images in web browser are often very small, requiring additional map navigation tools. Paper maps are still better in providing an overview. Another trend in mapping is the online publication of historical maps. The first cadastral maps as well as maps of Blaeu can be viewed online in the highest detail.

Still, print publishers see a market in facsimile editions of these maps as well. It is almost impossible for the contributions in the national report to provide an all-encompassing impression of all organizations, institutes and companies producing maps in the Netherlands.

**Ton Dietz**, International Geographical Union Section The Netherlands (chair), Universiteit van Amsterdam (A.J.Dietz@uva.nl)

**Steven de Jong**, Faculty of Geosciences Utrecht University (S.deJong@geo.uu.nl)

**Menno-Jan Kraak**, Department of Geo-Information Processing, International Institute for Geo-Information Science and Earth Observation (ITC) (kraak@itc.nl)

**Michiel van Meeteren**, Universiteit van Amsterdam (michielvanmeeteren@gmail.com)