



Curriculum Vitae

Name Ole Geertz-Hansen
Position Senior Scientist
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Education Ph.D., University of Copenhagen, 1989, coastal marine ecology
 M.Sc., University of Copenhagen, 1984, freshwater biology

Key Qualifications

Ole Geertz-Hansen is employed at the Greenland Institute of Natural Resources in the department of Environment and Mineral Resources advising the Greenland Government on environmental issues relating to oil and mineral exploration and exploitation.

Ole Geertz-Hansen is biologist and environmental expert with 30 years of postgraduate experience. He has both a scientific and consultancy background. He has a broad scientific background in freshwater and marine ecology including coastal waters, mangroves, marshes, rivers, and lakes. As consultant he has specialised in Environmental Impact Assessments and Management and has been involved in assessments, management, and monitoring of a wide variety of projects including roads, bridges, tunnels, mines, landfills, coastal zone developments, harbours, shipping routes, off-shore and on-shore oil fields, pipelines, power lines, groundwater extraction, and hydropower plants in Greenland, Europe, Asia, Middle East and Africa.

Experience record

Period	Employer	Position
2012-	Greenland Institute of Natural Resources	Senior Scientist
2007 - 2012	Rambøll Denmark AS	Senior Biologist.
2003 - 2007	Self-employed	Consultant
1998- 2003	COWI A/S	Senior Biologist
1985-1997	Freshwater Biological Laboratory, University of Copenhagen	Associate Research Professor < Assistant Professor < Research Fellow
1979-1984	VKI, now DHI	Assistant on marine fauna

Selected assignments

Greenland Institute of Natural Resources:

Pilot scale cultivation of kelp in Greenland. Growing seaweeds on lines may provide for a higher quality with less environmental impact than harvesting of wild kelp. Funding: Nordic Council of Ministers 2014

TACIA, "Toward Assessment of Cumulative pressures and Impacts in Arctic marine waters, a pilot project". Based on existing data the project aims to (1) map potential human impact in two pilot areas: the marine waters on the west coast of Greenland and the Norwegian parts of the Barents Sea, (2) model expected changes in pressure data in order to estimate future changes in potential impacts, and (3) to support ecosystem-based marine spatial management in the two pilot areas. In collaboration with Danish and Norwegian institutions. Funding: Nordic Council of Ministers. 2013

Ecosystem Based Management (EBM) approach to the management of Disko Bay and Hellefiskebanke and EBM platform for other marine areas around Greenland. In collaboration with DCE, University of Århus. Funding DANCEA. 2013

Status of the environment in the eutrophic Lake Furesø, evaluation of the restoration attempts, and evaluation of habitat types according to the EU Habitat Directive. Client: Furesø Municipality, Denmark. 2013.

Rambøll, Cowi, and private consultancies:

Extension of the harbour of Kollafjord in the Atlantic subarctic Faroe Islands with 700 m new quay. Fieldwork, and assessment of terrestrial and marine impacts. Client: Torshavn Harbour. 2011.

Wildlife passages across Danish main roads. Recording and assessment of more than 2000 constructions serving as wildlife passages into a central road construction database. Client: Danish Road Directorate. 2010-11.

Fish stock monitoring in the artificial canals of Ørestad, a new urban development in Copenhagen. Client: Ørestad Surface Water Administration. 2010.

Environmental Impact Assessment of the Aappaluttoq open ruby mine south of Qeqertarsuatsiaat/Fiskenæsset in western Greenland including the mine pit, accommodation for 60 people, processing plants, 6 km road, 2 ports and a helipad. Client: True North Gems, Canada. 2009-12.

Environmental Impact Assessment of a 100 km gas pipeline from Ellund in Northern Germany to Egtved in Southern Denmark. Client: Energinet.dk. 2009-10.

Status of the eutrophic Lake Furesø and evaluation of the restoration attempt through biomanipulation and hypolimnetic oxygenation. Client: Furesø Municipality. 2009-10.

Design of a 20 km tunnel across Femern Belt between Denmark and Germany. Environmental aspects. Client: Sund og Bælt A/S.

EIA of construction/upgrade of 140 km gravel road between Gimbi and Alge in western Ethiopia. Client: Finnroad & World Bank. 2009.

Technical Assistance for Establishment of Turkish Environmental Information Exchange Network in order to strengthen the capacity of Turkey in legal, institutional, technical and investment matters related to the EU approximation process. Funded by EU-EuropeAid. 2009-10.

Baseline study for an open ruby mine near Qeqertarsuatsiaat/Fiskenæsset in Western Greenland. The study covers terrestrial, freshwater and marine habitats. Client: True North Gems, Canada. 2007-09.

Lusail Development, Qatar. Environmental monitoring during dredging and infilling of an urban development area along 7 km pristine coastline. Responsibility: water quality, benthic flora and fauna, fish. Client: Cowi. 2006.

Tsunami Damage Projection for the Coastal Area of Kenya. Mapping, modelling, and evaluation of the areas at risk along the Kenyan coast. Responsibility: Marine and coastal environment. Client: UNOPS/GEUS. 2006.

Benthic flora and fauna of the Stadsgraven, the city moat of Copenhagen. Detailed mapping and assessment. Client: The Municipality of Copenhagen. 2005.

Environmental Sensitivity Atlas for Coastal Area of Kenya. Detailed mapping and valuation of coastal resources and features regarding sensitivity to oil spill. Client: UNOPS/Consia. 2005-06.

EIA of North Beach Development, Doha, Qatar. EIA of 25 km² coastal zone development. Responsibility: Terrestrial and marine habitats including rocky deserts, salt marshes, mudflats, mangroves, seagrass beds, coral reefs and deep sandy sediments. Mapping and assessment. Client: COWI A/S 2004-05.

External Associate Professor: Teaching EIA on the advanced course: Processes and Mechanisms in the Terrestrial Environment. Lectures and supervising. University of Southern Denmark. 2004 and 2005.

Modelling the hydrodynamics and the nutrient balance of the marine bay Køge Bugt. Input to the Danish National Monitoring Program, NOVANA. Clients: The Counties of Roskilde and Copenhagen. 2003-06.

EIA of hazardous waste processing and landfill near Forlev, Denmark. Responsibility: Assessment of terrestrial environment, wetlands, rivers and coastal marine areas. Client: COWI A/S and KAVO. 2004-06.

Marine vegetation in the Harbour of Copenhagen. Detailed mapping and assessment. Client: The Municipality of Copenhagen. 2003.

Nutrient exchange between sediment and water column in the eutrophic estuary Isefjorden. A field study. Client: The County of West Zealand. 2003.

Report on the Danish implementation of the OSPAR Strategy with regard to the load of Radioactive Substances to the marine environment. Danish EPA. 2002.

Environmental screening and evaluation of four proposed locations for a hazardous waste processing plant and a solid waste landfill. Client: KAVO. 2002 - 2003.

Evaluation of impacts on North Sea fishery from the off-shore oil industry. Client: DONG. 2002

Task Manager: Review of EIA for drilling of exploitation and development wells in the Saigak onshore oilfield, Kazakhstan. Client: Mærsk Oil and Gas. 2002.

Walvis Bay Local Agenda 21 Project. Walvis Bay Coastal Lagoon is a Ramsar area situated at the interface of the Namib Desert and the rich Benguela current supporting a rich birdlife, but threatened by natural and anthropogenic siltation, toxic waste and nutrient loading. Environmental mapping, ecological analysis and evaluation of management strategies. Financing: DANCED. Client: Walvis Bay Municipality, Namibia. 2001-02.

Task Manager: Review of central parts of the EIA for the expansion of the Halfdan oil field in the North Sea. Client: Mærsk Oil and Gas. 2001

Environmental Impact Assessment of the development of several unmanned offshore platforms within the licenses 4/95, 6/95 and 16/98 in the Siri oil field in the North Sea. Responsibility: Accidental oil spill, sea birds, aquatic organisms. Client: Statoil, DONG. 2000-01

Review of ecotoxicological quality criteria and limits for marine sediments. Client: The Danish Environmental Protection Agency. 2000.

Small hydropower plant in Erdenebulgan in northern Mongolia Responsibility: EIA-screening with focus on the river environment. Client: The Danish Organization for Renewable Energy /Danida. 2000.

Oil spill contingency plan for a new Russian oil terminal in Primorsk by the Gulf of Finland. Responsibility: Environmental aspects, sensitivity mapping. Client: European Commission, TACIS, 2000.

The ATLAS database (Aquatic and Terrestrial Load of Anthropogenic Substances). A database of historical data on anthropogenic substances in marine surface sediments in Denmark. Client: The Danish Environmental Protection Agency. 1999 - 2000.

EIA of the enhanced export of oil by tankers from Russia through the Baltic Sea or via alternative routes through the Black Sea or the arctic Barents Sea. Responsibility: Mapping of environmental features, sensitivity ranking and environmental assessment of the coastline and coastal waters. Client: European Commission. TACIS. 1998-99.

Biodiversity Conservation in the Azov-Black Sea Ecological Corridor, Ukraine. GEF Project Preparation Report on land-use planning and habitat restoration and enhancement. Responsibility: Sivash Wetlands. Client: World Bank. 1998

Environmental Impact Assessment of off-shore South-Arne Oil Field. North Sea, Responsibility: accidental oil spill, marine organisms. Client: Amerada Hess. 1998.

University of Copenhagen:

Project Biologist: Bio-geochemical modelling in the littoral zone of the Gulf of Riga (Estonia and Latvia). Nordic Council of Ministers. 1997-1998.

Project Biologist: Investigations of Production and Transformation of Nutrients in the Littoral Zone of the Gulf of Riga (Estonia and Latvia). Nordic Council of Ministers. 1995-1997.

Project Biologist: Coastal ecosystems responses to deforestation-derived siltation in South-east Asia, including mangrove forests, seagrass meadows and coral reefs (Thailand and the Philippines). EU, STD-3 Programme. 1995-1997.

Project Biologist: Regulation of growth, loss and transport processes of the marine macroalgae *Ulva* in shallow coastal areas of Roskilde Fjord (Denmark) and of the Lagoon of Venice (Italy). Danish Environmental Research Programme. 1993-1996.

Project manager: Filamentous macroalgae in Køge Bugt. Client: Counties of Copenhagen and Roskilde. 1994 and 1995.

Project Biologist: Resuspension and cycling of matter in Roskilde Fjord. Danish Environmental Research Programme. 1993-1995.

Reviewed papers

- Geertz-Hansen, O., Montes, C., Duarte, C. M., Sand-Jensen, K., Marbá, N., and Grillas, P. 2011. Ecosystem metabolism in a temporary Mediterranean marsh (Doñana National Park, SW Spain). *Biogeosciences* 8: 963-971. <http://www.biogeosciences.net/8/963/2011/bg-8-963-2011.pdf>
- Tychsen, J., O. Geertz-Hansen, and F. Schjøth. 2008. KenSea – tsunami damage modelling for coastal areas of Kenya. *Geological Survey of Denmark and Greenland Bulletin* 15: 85-88. http://www.geus.dk/publications/bull/nr15/nr15_p85-88.pdf
- Tychsen, J., O. Geertz-Hansen, J. Koefoed. 2006. KenSea – development of an environmental sensitivity atlas for the coastal area of Kenya. *Geological Survey of Denmark and Greenland Bulletin* 10: 65-68. http://www.geus.dk/publications/bull/nr10/nr10_p65-70.pdf
- Nielsen, S.L., K. Sand-Jensen, O. Geertz-Hansen. 2002. Depth Colonization of Eelgrass (*Zostera marina*) and Macroalgae as Determined by Water Transparency in Danish Coastal Waters. *Estuaries* 25: 1025-1032.
- Nielsen, S.L., K. Sand-Jensen, O. Geertz-Hansen. 2002. Phytoplankton, Nutrients, and Transparency in Danish Coastal Waters.
- Kamp-Nielsen, L., J.E. Vermaat, I. Wesseling, J. Borum and O. Geertz-Hansen. 2002. Sediment properties along gradients of siltation in South-East Asia. *Estuarine, Coastal and Shelf Science*. 54:127 -137.
- Salomonsen, J., Flindt, M.R., Geertz-Hansen, O., Johansen, C. 1999. Modelling advective transport of *Ulva lactuca* (L) in the sheltered bay, Møllekrogen, Roskilde Fjord, Denmark. *Hydrobiologia*, 397, 241-252.
- Duarte, C.M., U. Thampanya, J. Terrados, O. Geertz-Hansen, M. D. Fortes. 1999. The determination of the age and growth of SE Asian mangrove seedlings from internodal counts. *Mangroves and Salt Marshes*. 3: 251-257.
- Duarte, C.M., O. Geertz-Hansen, U. Thampanya, J., Terrados, M.D. Fortes, L. Kamp-Nielsen, J. Borum, S. Boromthananarath. 1998. Relationship between sediment conditions and mangrove *Rhizophora apiculata* seedling growth and nutrient status. *Mar. Ecol. Prog. Ser.* 175: 277-283.
- Panapitukkul, N., C.M. Duarte, U. Thampanya, P. Kheowvongsri, N. Srichai, O. Geertz-Hansen, J. Terrados, and S. Boromthananarat. 1998. Mangrove colonization: Mangrove progression over the growing Pak Penang (SE Thailand) mudflat. *Estuarine, Coastal and Shelf Science*. 47: 51-61.
- Terrados, J., C.M. Duarte, M. Fortes, J. Borum, N.S.R. Agawin, S. Bach, U. Thampanya, L. Kamp-Nielsen, W.J. Kenworthy, O. Geertz-Hansen, and J. Vermaat (1998). Changes in community structure and biomass of seagrass communities along gradient of siltation in SE Asia. *Estuarine, Coastal and Shelf Science*. 46: 757-768
- Sand-Jensen, K., O. Pedersen, O. Geertz-Hansen. (1997). Regulation and role of photosynthesis in the colonial symbiotic ciliate *Ophrydium versatile*. *Limnol. Oceanogr.* 42: 866-873
- Salomonsen, J., M. Flindt, and O. Geertz-Hansen. 1997. Significance of advective transport of *Ulva lactuca* for the biomass budget on a shallow water location. *Ecological Modelling*. 102: 129-132.
- Terrados, J., U. Thampanya, N. Srichai, P. Kheowvongsri, O. Geertz-Hansen, S. Boromthananarat, N. Panapitukkul, and C.M. Duarte. 1997. The effect of increased sediment accretion on the survival and growth of *Rhizophora apiculata* Seedlings. *Estuarine, Coastal and Shelf Science*. 45: 697-701
- Sand-Jensen, K., O. Geertz-Hansen, O. Pedersen & H. Skovgaard (1994). Size dependence of composition, photosynthesis and growth in the colony forming freshwater ciliate, *Ophrydium versatile*. *Freshwater Biology* 31: 121-130.
- Geertz-Hansen, O., S. Enriquez, C.M. Duarte, S. Agustí, D. Vaqué & B. Vidondo (1994). Functional implications of the form of *Codium bursa*, a balloon-like Mediterranean macroalga. *Mar. Ecol. Prog. Ser.* 108: 119-132.
- Vaqué, D., S. Agustí, C.M. Duarte, S. Enriquez, O. Geertz-Hansen. (1994). Microbial heterotrophs within *Codium bursa*: a naturally isolated microbial food web. *Mar Ecol Prog Ser* 109: 275-282.

- Grillas, P., P. Garcia-Murillo, O. Geertz-Hansen, N. Marbá, C. Montes, C.M. Duarte, L. Tan Ham & A. Grossmann (1993). Submerged macrophyte seed bank in a Mediterranean temporary marsh: abundance and relationship with established vegetation. *Oecologia* 94: 1-6.
- Geertz-Hansen, O., K. Sand-Jensen, D. Hansen & A. Christiansen (1993). Growth and grazing control of abundance of the marine macroalga, *Ulva lactuca* L. in a eutrophic Danish estuary. *Aquat. Bot.* 46: 101-109.
- Geertz-Hansen, O. & K. Sand-Jensen (1992). Growth rate and photon yield of growth in natural populations of a marine macroalga *Ulva lactuca*. *Mar. Ecol. Prog. Ser.* 81: 179-183.
- Båmstedt, U., J.L. Håkanson, J. Brenner-Larsen, P.K. Bjørnsen, O. Geertz-Hansen & P. Tiselius (1990). Copepod nutritional condition and pelagic production during autumn in Kosterfjorden, western Sweden. *Mar. Biol.* 104: 197-208.
- Søndergaard, M., B. Riemann, L. Møller Jensen, N.O.G. Jørgensen, P.K. Bjørnsen, M. Olesen, J.B. Larsen, O. Geertz-Hansen, J. Hansen, K. Christoffersen, A.M. Jespersen, F. Andersen & S. Bosselmann (1988). Pelagic food web processes in an oligotrophic lake. *Hydrobiologia* 164: 271-286.
- Geertz-Hansen, O., M. Olesen, P.K. Bjørnsen & J.B. Larsen (1987). Zooplankton consumption of bacteria in a eutrophic lake and in experimental enclosures. *Arch. Hydrobiol.* 110: 553-563.
- Bjørnsen, P.K., J.B. Larsen, O. Geertz-Hansen & M. Olesen (1986). A field technique for the determination of zooplankton grazing on natural bacterioplankton. *Freshwater Biol.* 16: 245-253.
- Larsen, J.B., P.K. Bjørnsen, O. Geertz-Hansen & M. Olesen (1985). Provisional investigations on the pelagic carbon flow in the open Danish waters. *Rep. Mar Pollut. Lab.* 8: 1-49.

Other