

CURRICULUM VITAE

Name: Torgny Emil Vinje
Ormøybakken 14
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Born: 20 February 1929 in Mandal, Norway

Present position: Research scientist at the Norwegian Polar Research Institute.
Approved for professorial competence.

Tel: +47 22 959903
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Education: Graduated as cand. real. (~Ph.D.) at the University of Oslo 1956.
Subjects: Mathematics (2 years), mechanics (1 year) and geography
(1 year). Main Subject: Meteorology (2 years).

Employments: 1950-1956: Meteorological assistant, Norwegian Meteorological
Inst.
1956-to date Norwegian Polar Institute

Expeditions:

Antarctic

A three years wintering Antarctic expedition 1957-59, as meteorologist, the third year as second in command. Since 1960 three summer expeditions, two to the continent (1971-72) and one to Bouvet Island (1978-79).

Arctic

- Since 1964 annual expeditions, the last years several times a year as expedition leader in the Fram Strait and the Barents Sea.
- Visit of coastal Siberian geophysical centra and Soviet "North Pole Drifting Station no. 18" in the Arctic Ocean, 1968.
- Annual deployment of ice drift buoys in the Arctic Ocean and in the Barents Sea since 1975.
- Participated on a number of Russian expeditions since 1989 with visits on Frans Josef Land.
- Organized the first joint Norwegian-Russian expedition with permission from the Russian Foreign Department to work in the North-Eastern Barents Sea with Norwegian ship and helicopter in cooperation with Russian helicopter and Russian military remote sensing aircraft.

Referee and lectures etc:

British National Environmental Research Council (NERC) and
National Science Foundation (NSF).

Various sea ice papers from different national and foreign universities.

Sporadic lectures at University of Oslo and University of Trondheim.

Censor at University of Tromsø.

Censor in Brussels of EU Research Proposals.

COMMITTEES AND SPECIAL ACTIVITIES

- 1962 - Member of the SCAR Working Group on Antarctic Meteorology.
- 1966 - Started ice mapping and took initiative for an operational ice mapping service at the Norwegian Meteorological Institute 1970.
- 1968 - Started the first tracking of ice floes on satellite images for drift estimations.
- 1970 - Established a complete radiation station at Ny-Ålesund.
- 1971 - Member of the International Commission on Polar Meteorology of IAMAP under IUGG.
- 1971 - Member of " Offentlig Isutvalg".
- 1974 - Chairman of the Norwegian Polar Experiment (POLEX) Committee.
- 1974 - Member of planning group on bi-annual meetings of Nordic sea ice services.
- 1976 - Member of the Norwegian Geophysical Union.
- 1976 - Member of the Norwegian First GARP Global Experiment where all the proposed POLEX experiments were included.
- 1976 - Member of the SCAR Group of Specialists for "A Preliminary Assessment of the Environmental Impact of the Mineral Exploration/Exploitation in Antarctica".
- 1977 - Board member of the Norwegian Oceanographic Committee.
- 1977 - Initiated deployment of automatic weather stations on Antarctic icebergs and on remote Antarctic and Arctic islands.
- 1978 - Initiated and deployed the world's first satellite-tracked air dropable ice drift buoy.
- 1981 - Member of the SCAR Group of Specialists on Antarctic climatic Research.
- 1984 - Member of the SCAR Group of Specialists on "Antarctic Environmental Implications of Possible Mineral Exploration and Exploitation".
- 1985 - Initiated the development and deployed the world's first instrument for automatic ice thickness measurements from moorings in deep ocean, the upward looking sonar.
- 1987 - Member of the steering group of the international Greenland Sea Project.
- 1988 - Asked to coordinate an "Arctic Ice Thickness Monitoring Programme" under the World Climate Research Programme of WMO and ICSU.
- 1989 - Chairman for the Soviet-Norwegian Oceanographic Programme (SNOP) for the study of water and ice exchange with the Arctic Ocean through the

passages between Frans Josef Land and Grønland over the next four years.

1990 - Member of the Nansen Centennial Arctic Programme Committee.

1991 - Member of the World Climate Research Programme Working Group on Sea Ice and Climate.

1992 - Member of the Steering Group of the Arctic Climate System Study (ACSYS) Programme under the World Climate Research Programme.

1992 - Co-chairman of the International Arctic Buoy Programme under World Climate Research Programme.

1992 - Member of a working group under the International Atomic Energy Agency (IAEA) for evaluation of geophysical processes and transport mechanisms in the Kara Sea.

PUBLICATIONS

Vinje, T. 1962: The cooling power in Antarctica.: *NP Årbok 1961*.

Vinje, T. 1964: Climatological tables for Norway Station.: *NP Årbok 1963*.

Vinje, T. 1964: On the cooling power in Norway.: *NP Årbok 1963*.

Vinje, T. 1964: On the radiation balance and micrometeorological conditions at Norway Station. *Norsk Polarinstitutt Skrifter, No. 131*(Oslo).

Vinje, T. 1967: Some features of the turbulence over a snow field. *WMO Technical Note, No. 87*. Geneve.

Vinje, T. 1967: Some results of micrometeorological measurements in Antarctica. *Arch. Met., Geop. Biokl. Wien*.

Vinje, T. 1968: Some observations of the ice drift in the East Greenland Current.: *NP Årbok 1968*.

Vinje, T. 1969: The turbulent transfer over an Antarctic ice shelf. *Norsk Polarinstitutt Skrifter, No. 148*(Oslo).

Vinje, T. 1973: On the small scale features of temperature and wind profiles near a snow surface.: *NP Årbok 1973*.

Vinje, T. 1973: On the wind and temperature profiles over an Antarctic ice shelf. *WMO Technical Note, No. 129*. Geneve.

Vinje, T. 1973: Report on the informal planning meeting on the Polar Experiment. *ICSU/WMO- CO-IX/Doc.6.(4) 1973*.

Carstens, T., Schumacher, N. J. & Vinje, T. 1975: *ISDATA. Behovsanalyse. Plan for innsamling og bearbeidelse av data. NTN's Kontinentalsokkelprosjekt Publ., No. 62*.

Vinje, T. 1976: Sea ice conditions in the European sector of the marginal seas of the

Arctic, 1966-1975.: *NP Årbok 1975*.

- Vinje, T. & Steinbakke, P. 1976: NIMBUS-6 located automatic stations in the Svalbard waters in 1975.: *NP Årbok 1975*.
- Vinje, T. 1977: Observations from NIMBUS-6 data collecting platforms in polar areas. Joint IAGA/IAMAP Assembly Seattle 1977.
- Vinje, T. 1977: Sea ice studies in the Spitsbergen-Greenland area. US Dep. of Comm. Natl. Tech. Info. Service, 5285 Port Royal Rd., Springfield, VA 1977. *LANDSAT Report, No. E77-10206*.
- Vinje, T. 1978: Ice Drift Experiment in the Svalbard-Greenland Area. NIMBUS 6 Random Access Measurement System Applications Experiments. *NASA SP, No. 457*.
- Vinje, T. 1978: Weather and tide observations from Bouvetøya. *Norsk Polarinstitutt Skrifter, No. 169*(Oslo).
- Vinje, T. 1979: The Ice Export through the Fram Strait. *The Arctic Ocean Heat Budget. Report from SCAR Working Group 58*. Universitetet i Bergen. *Report from SCAR Working Group 58, No. 52*.
- Loeng, H. & Vinje, T. 1979: On the sea ice conditions in the Greenland and Barents Seas. *POAC, Trondheim*.
- Anon. 1979: Input from T. Vinje to: Possible environmental effects of mineral exploration and exploitation in Antarctica. Prepared by SCAR Group of Specialists on Environmental Impact Assessment of Mineral Resource Exploration and Exploitation in Antarctica. Vinje, T. *SCAR*.
- Vinje, T. 1979: On the drift ice conditions in the Atlantic sector of the Antarctic. *POAC, Trondheim*.
- Vinje, T. 1980: On the extreme sea ice conditions observed in the Greenland and Barents Seas in 1979.: *NP Årbok 1979*.
- Vinje, T. 1980: Some satellite-tracked iceberg drift in the Antarctic. *Annals of Glaciology*. 1.
- Vinje, T., Theisen, E. & Mathisen, J. P. 1981: Ice and environmental data from the Arctic. Part 3. Part Report of a joint Norwegian research project: Marine Structures and Ships in Ice. Norsk Skipsforskningsinstitutt, Trondheim.
- Vinje, T. 1981: Frequency distribution of sea ice in the Greenland and Barents Seas. 1971-1980.: *NP Årbok 1980*.
Nordic Seas.
- Vinje, T. 1981: Meteorological observations from Bouvetøya. *Norsk Polarinstitutt Skrifter, No. 175*(Oslo).

- Vinje, T. 1982: Annual reports in Norsk Polarinstitutt Årbok on ice conditions 1969-1981 and radiation conditions in Svalbard 1975-1979.
- Vinje, T. 1982: The drift pattern of sea ice in the Arctic with particular reference to the Atlantic Approach. *in* Rey, L. & Stonehouse, B. (Eds): *THE ARCTIC OCEAN*. MacMillian Press Ltd.
- Vinje, T. 1982: A grounded iceberg in Fram Strait. *Polar Record*. 21(131).
- Vinje, T. 1983: In Allison, I. (Ed): *Proposal for the implementation of a programme of Antarctic research contributing to the World Climate Research Programme. Report prepared by SCAR Group of Specialists on Antarctic Climate Research*. SCAR/ICSU, No. 1983.
- Aagaard, K., Foldvik, A., Gammelsrød, T., & Vinje, T. 1983: One-year records of current and bottom pressure in the strait between Nordaustlandet and Kvitøya, Svalbard, 1980-1981. *Polar Research*. 1.n.s.
- Vinje, T., Kristensen, M., & Nergaard, N. 1983: Sea ice investigation in the Fram Strait July-August 1981. *Polar Record*. 21(135).
- Vinje, T. 1984: Fram Strait Cruise with M/S Lance 17-31 August 1984. *NP Rapportserie*, No. 15.
- Vinje, T. 1984: Frequency distribution of sea ice, ridges, and water openings in the Greenland and Barents Seas.- A preliminary report on the "Birds Eye" observations 1961-1972.
- Vinje, T. 1984: The present state and the future fate of the Arctic sea ice cover: *ARCTIC WHALING*. Arctic Center, University of Groningen.
- Vinje, T. 1985: Drift, composition, morphology and distribution of the sea ice fields in the Barents Sea. *NP Skrifter*, No. 179 C.
- Vinje, T. & Finnekåsa, Ø. 1986: Norwegian Ice Drift Experiment. Buoy Drift Data 1976-1979. *NP Rapportserie*, No. 28(1986).
- Vinje, T. & Finnekåsa, Ø. 1987: The ice transport through the Fram Strait. *NP Skrifter*, No. 186(1986).
- Vinje, T. 1987: Morphology and dynamics of the Barents Sea ice fields.: *Proceedings of Port and Ocean Engineering under Arctic Conditions*, University of Alaska Fairbanks.
- Johnsen, Å. S. & Vinje, T. 1987: OED AKUP-prosjekt Barentshavet Syd. Havisundersøkelser i Barentshavet. *NP Rapport*, No. november 1987.
- Løset, S., Vinje, T. et al. 1988: Vol I: Cruise Report. *OKN Environmental Research Program: R/V LANCE Deployment 1988*. NHL Report, No. October 1988.

- Løset, S., Vinje, T. et al. 1988: Vol II: Field Observations and Analysis. *OKN Environmental Research Program: R/V LANCE Deployment 1988. NHL Report, No.* October 1988.
- Hisdal, V., Finnekåsa, Ø. & Vinje, T. 1992: Radiation measurements in Ny-Ålesund, Spitsbergen, 1981-1987. *Norsk Polarinstitutt Meddelelser, No.* 118. Pp. 1-380.
- Vinje, T. 1989: Icebergs in the Barents Sea.: *Proceedings of the Eight International Conference on Offshore Mechanics and Arctic Engeneering, The Hague March 19-23. Vol. IV.*
- Vinje, T. 1989: An upward looking sonar ice draft series.: *Proceedings of Port and Ocean Engeineering under Arctic Conditions, Luleå. (POAC-89).*
- Vinje, T. & Berge, T. 1989: Upward looking sonar recordings at 75 deg.N-12 deg.W from 22 June 1987 to 20 June 1988. Data Report. *NP Rapportserie, No.* 51(1989).
- Vinje, T. 1989: Variasjoner i havisens utbredelse i Barentshavet og Grønlandshavet. Symposium "Hva skjer med klimaet i Polarområdene ?". *NP Rapportserie, No.* 53(1989).
- Vinje, T., Jensen, H., Johnsen, Å. S., Løset, S., Hamran, S.-E., Løvås, S. M. & Erlingsson, B. 1989: OKN Environmental Research Program: R/V LANCE Deployment 1989. Vol I: Cruise Report & Vol II: Field Observations and Analysis. *NP Report, No.* October 1989.
- Vinje, T. & Løyning, T.B. 1990: *IDAP 90: Russian Buoy Deployment. Cruise Report. Norsk Polarinstiutt Rapport.*
- Kvambekk, Å. S., Løyning, T. B. & Vinje, T. 1990: *IDAP 90: Russian Buoy Deployment. Field observations and Analysis. Norsk Polarinstitutt Rapport.*
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- Kvambekk, Å. S., Løyning, T. B. & Vinje, T. 1990: *OKN Environmental Research Program: Russian Buoy Deployment 1990. NP Report, No.* March 1990.
- Vinje, T. 1990: GSP Group: Greenland Sea Project. A Venture Toward Improved Understanding of the Oceans' Role in Climate. *Transactions, American*

Geophysical Union. *EOS*. 71(24).

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- Vinje, T. 1990: Sea Ice Variability in the Nordic Seas.: *Proceedings of the Internatl. Conf.on the Role of the Polar Regions in Global Change, Fairbanks. University of Fairbanks, Alaska.*
- Volkov, V. & Vinje, T. 1990: Soviet-Norwegian Oceanographic Programme 1988-1992. Cruise Reports 1989. *NP Rapportserie, No. 57(1990).*
- Jensen, H., Løvås, S. M., Vinje, T. & Løyning, T. B. 1990: Vol II: Field observations and analysis. *IDAP 90: R/V Lance Deployment. SINTEF/NHL, Report SFT60 F 90099.*
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- Nydal, R., Gislefoss, I., Skjelvan, I., Blindheim, J., Foldvik, A., Vinje, T. & Østerhus, S. 1991: Measurements of Carbon Profiles in the Nordic Seas. *NP Rapportserie, No. 75(1991).*
- Pavlov, V., Foldvik, A., Ivanov, B. & Vinje, T. 1991: Soviet-Norwegian Oceanographic Programme. Cruise Reports 1990. *NP Rapportserie, No. 73(1991).*
- Vinje, T. & Kvambekk, Å. S. 1991: Barents Sea Drift Ice Characteristics. In: The PRO MARE Proceedings. *Polar Research. 10(1).*
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- Vinje, T. & Volkov, V. 1992: Cruise Reports 1991. R/V Lance Greenland and Barents Seas & R/V Multanovsky Barents Sea. *NP Rapportserie, No. 78*
- Løyning, T. B. & Vinje, T. 1992: *OKN Environmental Research Program: The Effect of Ice Concentration on the Wind Drift of Sea Ice and Icebergs. NP Report, No. April 1992.*
- Doronin, N., Nikiforov, A. & Vinje, T. 1992: *OKN Environmental Research Program: Barents Sea Ice Data 1950-1969. NP Report, No. June 1992.*
- Vinje, T., Doronin, N., Finnekåsa, Ø., Lefauconnier, B. & Løyning, T. B. 1992:

OKN Environmental Research Program: Eastern Barents Sea Buoy Deployments 1992. Vol I: Cruise Report & Vol II: Field Observations and Analysis. Norwegian Polar Institute Report.

Kvambekk, Å. S. & Vinje, T. 1992: Ice draft recordings from upward looking sonars (ULSs) in the Fram Strait and the Barents Sea in 1987/88 and 1990/91. *NP Rapportserie, No. 79(1992).*

Vinje, T., Doronin, N., Finnekåsa, Ø., Lefauconnier, B. & Løyning, T. B. 1993: *OKN Environmental Research Program - IDAP 92, Eastern Barents Sea buoy deployment 1. Field observations and analysis. Operatørkomité Nord report. 87 pages.*

Vinje, T., Doronin, N., Finnekåsa, Ø., Lefauconnier, B. & Løyning, T. B. 1993: *Eastern Barents Sea Buoy Deployment. Vol. 2, Field Observations and Analysis. 87 pp. + 2 appendixes.*

Vinje, T., Finnekåsa, Ø. & Korsnes, R. 1993: *OKN Environmental Research Programme: Eastern Barents Sea Buoy Deployment 3: Tracking icebergs from Frans Josef Land. December 1992 - May 1993. NP Report.*

Finnekåsa, Ø. & Vinje, T. 1993: Tracking icebergs from Frans Josef Land, June - November 1993. *OKN Environmental Research Programme: Eastern Barents Sea Buoy Deployment 4.*

Vinje, T., Nyborg, M., and Kjærnli, G. 1999?: Sea ice variations in the Greenland Sea during the 19th century. (In ESOP reporting by P. Wadhams). Two large volumes.

Vinje, T., N. Nordlund and Å. Kvambekk 1998: Monitoring ice thickness in Fram Strait. *J. Geophys. Res.*, 103 (C5).

Vinje, T. 1999: Barents Sea ice edge variation over the past 400 years. *Extended abstracts. Proceedings of the Workshop on SEA ICE CHARTS OF THE ARCTIC. WMO/TD No. 949.*

Vinje, T. 2001: Anomalies and trends of sea ice and atmospheric circulation in the Nordic Seas during the period 1864-1998. *J. Clim.* **14**(3), 255-267.

Vinje, T. 2001: Fram Strait ice fluxes and atmospheric circulation 1950-2000. *J. Clim.* **14**(16), 3508-3517.

Vinje, T. 2002: An oscillation in the Barents Sea climate system of period 70 years: Indications of a colder climate ahead. (Manuscript not published).

Vinje, T. 2002: Ice extent variations in the Barents Sea since 1730. (In prep).

PARTICIPANT IN INTERNATIONAL JOINT REPORTS:

- a. Report on the informal planning meeting on the Polar Experiment. ICSU/WMO- CO-IX/Doc.6.4 1973.
- b. The Arctic Ocean Heat Budget. Report from SCAR Working Group 58. Report No 52 - Universitetet i Bergen, 1979.
- c. Possible environmental effects of mineral exploration and exploitation in Antarctica. Prepared by SCAR Group of Specialists on Environmental Impact Assessment of Mineral Resource Exploration and Exploitation in Antarctica. SCAR 1979.
- d. Basis for an action plan on Antarctic Climate Research. Report of SCAR Group of Specialists on Antarctic Climate Research. Cambridge 1981.
- e. Proposal for the implementation of a programme of Antarctic research contributing to the World Climate Research Programme. Report prepared by SCAR Group of Specialists on Antarctic Climate Research. Editor: Ian Allison. SCAR/ICSU 1983.
- f. Greenland Sea Project. A Venture Toward Improved Understanding of the Oceans' Role in Climate. Transactions, American Geophysical Union. EOS Vo. 71 No 24, 1990
- g. Monitoring the export of ice through the Fram Strait. In: Initial Implementations Plan for Arctic Climate System Study (ACSYS) of the World Climate Research Programme. WCRP-85, WMO/TD-No. 627.