

CURRICULUM VITAE – Denis Gilbert

Denis Gilbert Scientifik

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ÉDUCATION

1985-1990 Ph.D., Océanographie physique, Université Dalhousie, Halifax, Nouvelle Écosse, Canada

1982-1985 B.Sc., Physique, Université du Québec à Chicoutimi, Saguenay, Québec, Canada

EMPLOI

2022-présent [Denis Gilbert Scientifik](#) (travailleur autonome)

1991-2021 Chercheur scientifique, Institut Maurice-Lamontagne, Ministère des Pêches et Océans
Canada, Mont-Joli, Québec, Canada

DOMAINES DE RECHERCHE

Climat océanique, [profileurs Argo](#), oxygène dissous et hypoxie, analyse de séries temporelles et statistiques, océanographie des pêches, ondes internes, écoulements à travers les détroits.

PRIX D'EXCELLENCE

- 2016 Mention d'excellence Geoff Howell du Ministère de l'Environnement et Changement Climatique Canada pour mon rôle dans le développement de modèles opérationnels couplés océan-glace-atmosphère.
- 2015 Prix d'Excellence du Ministère des Pêches et Océans Canada pour mes contributions au programme national Argo Canada
- 2013 Conférencier itinérant national de la Société Canadienne de Météorologie et Océanographie
- 2012 Prix d'Excellence du Ministère des Pêches et Océans Canada pour une étude sur l'acidification des eaux profondes de l'estuaire maritime du Saint-Laurent

COMITÉS INTERNATIONAUX

GO2NE - [Global Ocean Oxygen Network](#) (2016-2020)

Membre du [comité SCOR 142 sur les senseurs biogéochimiques océaniques](#) (2012-2018)

Représentant du Canada sur l'équipe de direction du [projet Argo](#) (2010-2015)

Co-président du [comité SCOR 128 sur l'hypoxie côtière](#) (2005-2010)

Comité aviseur sur l'hypoxie de l'agence de protection environnementale américaine (2006-2007)

Comité sur l'hydrographie océanique du CIEM (2003-2007)

COMITÉS CANADIENS

Directeur du programme [Argo Canada](#) (2010-2015)

[Programme de monitoring océanographique de la zone Atlantique](#) (PMZA, 1998-2007)

FONCTIONS ÉDITORIALES

Éditeur-en-chef (océanographie) du journal à comité de lecture "[Atmosphere-Ocean](#)" 2008-2010)
Co-éditeur d'un [numéro spécial de Biogeosciences sur l'hypoxie côtière](#).

ASSOCIATIONS PROFESSIONNELLES

Société canadienne de météorologie et d'océanographie (SCMO)
American Geophysical Union (AGU)

PUBLICATIONS DANS PÉRIODIQUES AVEC RÉVISION PAR LES PAIRS

- 2021 Grégoire, M. et 56 co-auteurs. [A Global Ocean Oxygen Database and Atlas for Assessing and Predicting Deoxygenation and Ocean Health in the Open and Coastal Ocean](#). *Frontiers in Marine Science*, 2021, 8. doi: 10.3389/fmars.2021.724913
- 2021 Lavoie, D., Lambert, N., Starr, M., Chassé, J., Riche, O., Le Clainche, Y., Azetsu-Scott, K., Béjaoui, B., Christian, J.R., **Gilbert, D.** [The Gulf of St. Lawrence Biogeochemical Model: A Modelling Tool for Fisheries and Ocean Management](#). *Frontiers in Marine Science*, 8, 1-29. doi: 10.3389/fmars.2021.732269
- 2020 Jutras, M., Dufour, C. O., Mucci, A., Cyr, F., & **Gilbert, D.** [Temporal changes in the causes of the observed oxygen decline in the St. Lawrence Estuary](#). *Journal of Geophysical Research: Oceans*, 125, e2020JC016577. doi:10.1029/2020JC016577
- 2020 Wong, A. et 95 co-auteurs. [Argo Data 1999–2019: Two Million Temperature-Salinity Profiles and Subsurface Velocity Observations From a Global Array of Profiling Floats](#). *Frontiers in marine science*, 7:1-23 doi: 10.3389/fmars.2020.00700
- 2019 Lavoie, D., Lambert, N. & **Gilbert, D.** [Projections of future trends in biogeochemical conditions in the northwest Atlantic using CMIP5 Earth System Models](#). *Atmosphere-Ocean*, 57: 18-40. doi: 10.1080/07055900.2017.1401973
- 2018 Claret, M., Galbraith, E.D., Palter, J.B., Bianchi, D., Fennel, K., **Gilbert, D.** and Dunne, J.P. [Rapid coastal deoxygenation due to ocean circulation shift in the northwest Atlantic](#). *Nature Climate Change*, 8: 868-872. doi: 10.1038/s41558-018-0263-1
- 2018 Mucci, A., Levasseur, M., Gratton, Y., Martias, C., Scarratt, M., **Gilbert, D.** Tremblay, J.-É., Ferreyra, G. and Lansard, B. [Tidally induced variations of pH at the head of the Laurentian Channel](#). *Can. J. Fish. Aquat. Sci.*, 75:1128-1141. doi: 10.1139/cjfas-2017-0007
- 2018 Wolf, M.K., Hamme, R.C., **Gilbert, D.**, Yashayev, I. & Thierry, V. [Oxygen saturation surrounding Deep Water formation events in the Labrador Sea from Argo-O2 data](#). *Global Biogeochemical Cycles*, 32, 635–653. doi: 10.1002/2017GB005829
- 2018 Breitburg, D., Levin, L. A., Oschlies, A., Grégoire, M., Chavez, F. P., Conley, D. J., Garçon, V., **Gilbert, D.**, Gutiérrez, D., Isensee, K., Jacinto, G. S., Limburg, K. E., Montes, I., Naqvi, S. W. A., Pitcher, G. C., Rabalais, N. N., Roman, M. R., Rose, K. A., Seibel, B. A., Telszewski, M., Yasuhara, M. & Zhang, J. [Declining oxygen in the global ocean and coastal waters](#). *Science*, 359, 11p. doi: 10.1126/science.aam7240
- 2017 Peterson, I., B. Greenan, **D. Gilbert** & D. Hebert. [Variability and wind forcing of ocean temperature and thermal fronts in the Slope Water region of the Northwest Atlantic](#). *J. Geophys. Res. Oceans*, 122, 7325-7343. doi: 10.1002/2017JC012788
- 2017 Hudon, C., Gagnon, P., Rondeau, M., Hébert, S., **Gilbert, D.**, Hill, B., Patoine, M. & Starr, M. [Hydrological and biological processes modulate carbon, nitrogen and phosphorus flux from](#)

- [the St. Lawrence River to its estuary \(Quebec, Canada\)](#). *Biogeochemistry*, **135**: 251-276. doi: 10.1007/s10533-017-0371-4
- 2017 **Gilbert, D.** [Oceans lose oxygen](#). *Nature*, **542**: 303-304. doi: 10.1038/542303a
- 2016 Palter, J. B., Caron, C.-A., Law, K. L., Willis, J. K., Trossman, D. S., Yashayaev, I. M. & **Gilbert, D.** [Variability of the directly observed, middepth subpolar North Atlantic circulation](#). *Geophys. Res. Lett.*, **43**: 2700-2708. doi: 10.1002/2015GL067235
- 2016 Riser, S. C., Freeland, H. J., Roemmich, D., Wijffels, S., Troisi, A., Belbeoch, M., **Gilbert, D.**, Xu, J., Pouliquen, S., Thresher, A., Le Traon, P.-Y., Maze, G., Klein, B., Ravichandran, M., Grant, F., Poulain, P.-M., Suga, T., Lim, B., Sterl, A., Sutton, P., Mork, K.-A., Velez-Belchi, P. J., Ansorge, I., King, B., Turton, J., Baringer, M. & Jayne, S. R., [Fifteen years of ocean observations with the global Argo array](#). *Nature Clim. Change*, **6**, 145-153, doi: 10.1038/nclimate2872.
- 2015 Johnson, K.S., J.N. Plant, S.C. Riser and **D. Gilbert.** [Air oxygen calibration of oxygen optodes on a profiling float array](#). *J. Atmospheric and Oceanic Technology*, **32**, 2160-2172, doi: 10.1175/JTECH-D-15-0101.1
- 2013 Takeshita, Y., T.R. Martz, K.S. Johnson, J.N. Plant, **D. Gilbert**, S.C. Riser, C. Neill, and B. Tilbrook, [A climatology-based quality control procedure for profiling float oxygen data](#). *J. Geophys. Res.* **118**: 5640-5650. doi: 10.1002/jgrc.20399
- 2012 Lefort, S., Y. Gratton, A. Mucci, I. Dadou, and **D. Gilbert.** [Hypoxia in the Lower St. Lawrence Estuary: How physics controls spatial patterns](#), *J. Geophys. Res.*, **117**, C07018, doi: 10.1029/2011JC007751 NOTE: A computer code error was discovered after this paper was published, invalidating its main conclusions. For more details, see: Bourgault, D. and Cyr, F. [Hypoxia in the St. Lawrence Estuary: How a Coding Error Led to the Belief that “Physics Controls Spatial Patterns”](#). *PLoS ONE*, 2015, 10, e0138858. doi: 10.1371/journal.pone.0138858
- 2012 Prakash, S., T.M. Balakrishnan Nair, T.V.S. Udaya Bhaskar, P. Prakash and **D. Gilbert.** [Oxycline variability in the central Arabian Sea: An Argo-oxygen study](#). *J. Sea Research*, **71**: 1-8. doi: 10.1016/j.seares.2012.03.003
- 2011 Juranek, L. W., R. A. Feely, **D. Gilbert**, H. Freeland, and L. A. Miller. [Real-time estimation of pH and aragonite saturation state from Argo profiling floats: Prospects for an autonomous carbon observing strategy](#), *Geophys. Res. Lett.*, **38**: L17603, doi:10.1029/2011GL048580.
- 2011 Mucci, A., M. Starr, **D. Gilbert** and B. Sundby. [Acidification of Lower St. Lawrence Estuary bottom waters](#). *Atmosphere-Ocean*, **49**: 206-218, doi: 10.1080/07055900.2011.599265.
- 2011 Genovesi, L., A. de Vernal, C. Hillaire-Marcel, A. Mucci and **D. Gilbert.** [Recent changes in bottom water oxygenation and temperature in the Gulf of St. Lawrence: Micropaleontological and geochemical evidence](#). *Limnol. Oceanogr.*, **56**: 1319-1329. doi: 10.4319/lo.2011.56.4.1319
- 2010 Thibodeau, B., M. F. Lehmann, J. Kowarzyk, A. Mucci, Y. Gélinas, **D. Gilbert**, R. Maranger and M. Alkhatib. [Benthic nutrient fluxes along the Laurentian Channel: Impacts on the N budget of the St. Lawrence marine system](#). *Estuarine, Coastal and Shelf Science*, **90**: 195-205. doi:10.1016/j.ecss.2010.08.015
- 2010 **Gilbert, D.**, N.N. Rabalais, R.J. Díaz, and J. Zhang. [Evidence for greater oxygen decline rates in the coastal ocean than in the open ocean](#). *Biogeosciences*, **7**: 2283-2296.
- 2010 Ekau, W., H. Auel, H.-O. Pörtner, and **D. Gilbert.** [Impacts of hypoxia on the structure and processes in pelagic communities \(zooplankton, macroinvertebrates and fish\)](#). *Biogeosciences*, **7**: 1669-1699.

- 2010 Zhang, J., **D. Gilbert**, A. J. Gooday, L. Levin, S. W. A. Naqvi, J. J. Middelburg, M. Scranton, W. Ekau, A. Peña, B. Dewitte, T. Oguz, P. M. S. Monteiro, E. Urban, N. N. Rabalais, V. Ittekkot, W. M. Kemp, O. Ulloa, R. Elmgren, E. Escobar-Briones, and A. K. Van der Plas. [Natural and human-induced hypoxia and consequences for coastal areas: synthesis and future development](#). *Biogeosciences*, **7**: 1443-1467.
- 2010 Peña, M. A., S. Katsev, T. Oguz, and **D. Gilbert**. [Modeling dissolved oxygen dynamics and hypoxia](#). *Biogeosciences*, **7**, 933–957.
- 2010 Rabalais, N. N., R. J. Diaz, L. A. Levin, R. E. Turner, D. Gilbert, and J. Zhang. [Dynamics and distribution of natural and human-caused hypoxia](#). *Biogeosciences*, **7**: 585-619.
- 2009 Kemp, W. M., J. M. Testa, D. J. Conley, **D. Gilbert**, and J. D. Hagy. [Temporal responses of coastal hypoxia to nutrient loading and physical controls](#). *Biogeosciences*, **6**: 2985-3008.
- 2009 Freeland, H. J. and **D. Gilbert**. [Estimate of the steric contribution to global sea level rise from a comparison of the WOCE one-time survey with 2006–2008 Argo observations](#). *Atmosphere-Ocean*, **47**: 292-298. doi: 10.3137/OC312.2009
- 2009 Lehmann, M. F., B. Barnett, Y. Gélinas, **D. Gilbert**, R. J. Maranger, A. Mucci, B. Sundby, and B. Thibodeau. [Aerobic respiration and hypoxia in the Lower St. Lawrence Estuary: stable isotope ratios of dissolved oxygen constrain oxygen sink partitioning](#). *Limnology and Oceanography*, **54**: 2157-2169. doi:10.4319/lo.2009.54.6.2157
- 2007 Oguz, T. and **D. Gilbert**. [Abrupt transitions of the top-down controlled Black Sea pelagic ecosystem during 1960–2000: Evidence for regime-shifts under strong fishery exploitation and nutrient enrichment modulated by climate-induced variations](#). *Deep-Sea Research I*, **54**: 220-242. doi: 10.1016/j.dsr.2006.09.010
- 2005 **Gilbert, D.**, B. Sundby, C. Gobeil, A. Mucci, G.-H. Tremblay. [A seventy-two-year record of diminishing deep-water oxygen in the St. Lawrence estuary: The northwest Atlantic connection](#). *Limnol. Oceanogr.*, **50**: 1654-1666. doi: 10.4319/lo.2005.50.5.1654
- 2004 Drinkwater, K.F. and **D. Gilbert**. [Hydrographic variability in the waters of the Gulf of St. Lawrence, the Scotian Shelf and the eastern Gulf of Maine \(NAFO Subarea 4\) during 1991–2000](#). *J. Northw. Atl. Fish. Sci.*, **34**: 85-101. doi: 10.2960/j.v34.m545
- 2003 Saucier, F.J., F. Roy, **D. Gilbert**, P. Pellerin and H. Ritchie. [Modeling the formation and circulation processes of water masses and sea ice in the Gulf of St. Lawrence, Canada](#). *J. Geophys. Res.*, **108(C8)**: 3269. doi:10.1029/2000JC000686
- 2003 Dionne, M., B. Sainte-Marie, E. Bourget and **D. Gilbert**. [Distribution and habitat selection of early benthic stages of snow crab *Chionoecetes opilio*](#). *Mar. Ecol. Progr. Ser.*, **259**: 117-128. doi:10.3354/meps259117
- 1999 Dutil, J.-D., M. Castonguay, **D. Gilbert** and D. Gascon. [Growth, condition and environmental relationships in Atlantic cod \(*Gadus morhua*\) in the northern Gulf of St. Lawrence and implications for management strategies in the northwest Atlantic](#). *Can. J. Fish. Aquat. Sci.*, **56**: 1818-1831. doi:10.1139/f99-140
- 1999 Castonguay, M., C. Rollet, A. Fréchet, P. Gagnon, **D. Gilbert** and J.-C. Brêthes. [Distribution changes of Atlantic cod \(*Gadus morhua* L.\) in the northern Gulf of St. Lawrence in relation to an oceanic cooling](#). *ICES J. Mar. Sci.*, **56**: 333-344. doi:10.1006/jmsc.1999.0471
- 1997 **Gilbert, D.** and B. Pettigrew. [Interannual variability \(1948-1994\) of the CIL core temperature in the Gulf of St. Lawrence](#). *Can. J. Fish. Aquat. Sci.* **54** (Suppl. 1): 57-67. doi:10.1139/f96-160
- 1995 Castonguay, M. and **D. Gilbert**. [Effects of tidal streams on migrating Atlantic mackerel, *Scomber scombrus* L.](#) *ICES J. Mar. Sci.*, **52**: 941-954. doi:10.1006/jmsc.1995.0090

- 1993 **Gilbert, D.** [A search for evidence of critical internal wave reflection on the continental rise and slope off Nova Scotia.](#) *Atmosphere-Ocean*, **31**: 99-122. doi:10.1080/07055900.1993.9649464
- 1989 **Gilbert, D.** and C.J.R. Garrett. [Implications for ocean mixing of internal wave scattering off irregular topography.](#) *J.Phys. Oceanogr.*, **19**: 1716-1729. doi:10.1175/1520-0485(1989)019%3C1716:IFOMOI%3E2.0.CO;2

AUTRES PUBLICATIONS

- 2019 Grégoire, M., **Gilbert, D.**, Oschlies, A., Rose, K. [What is ocean deoxygenation?](#) In ‘Laffoley, D. & Baxter, J.M. (eds.) (2019). [Ocean deoxygenation: Everyone’s problem - Causes, impacts, consequences and solutions.](#) Gland, Switzerland: IUCN. xxii+562pp.
- 2019 Galbraith, P.S., Chassé, J., Caverhill, C., Nicot, P., **Gilbert, D.**, Lefaiivre, D. et Lafleur, C. 2019. [Conditions océanographiques physiques dans le golfe du Saint-Laurent en 2018.](#) Secr. can. de consult. sci. du MPO, Doc. de rech. 2019/046. iv + 83 p.
- 2019 Greenan, B.J.W., T.S. James, J.W. Loder, P. Pépin, K. Azetsu-Scott, D. Ianson, R.C. Hamme, **D. Gilbert**, J-E. Tremblay, X.L. Wang et W. Perrie. « [Changements touchant les océans qui bordent le Canada](#) », chapitre 7 dans Rapport sur le climat changeant du Canada, E. Bush et D.S. Lemmen (éd.), gouvernement du Canada, Ottawa, Ontario, p. 344-425.
- 2019 Gilbert, D. [Grandes marées observées à Rimouski.](#) *Bulletin La Zone Côtière*, **4**, 9-11.
- 2018 Galbraith, P.S., Chassé, J., Caverhill, C., Nicot, P., **Gilbert, D.**, Lefaiivre, D. et Lafleur, C. [Conditions océanographiques physiques dans le golfe du Saint-Laurent en 2017.](#) *Secr. can. de consult. sci. du MPO.* Doc. de rech. 2018/050. v + 82 p.
- 2017 Galbraith, P.S., Chassé, J., Caverhill, C., Nicot, P., **Gilbert, D.**, Pettigrew, B., Lefaiivre, D., Brickman, D., Devine, L., and Lafleur, C. [Physical Oceanographic Conditions in the Gulf of St. Lawrence in 2016.](#) *DFO Can. Sci. Advis. Sec. Res. Doc.* 2017/044. v + 91 p.
- 2017 Pettigrew, B., **Gilbert, D.** and Desmarais R. [Thermograph network in the Gulf of St. Lawrence: 2014-2016 update.](#) *Can. Tech. Rep. Hydrogr. Ocean Sci.* **317**: vii + 54 p.
- 2016 Galbraith, P.S., Chassé, J., Caverhill, C., Nicot, P., **Gilbert, D.**, Pettigrew, B., Lefaiivre, D., Brickman, D., Devine, L., and Lafleur, C. [Physical Oceanographic Conditions in the Gulf of St. Lawrence in 2015.](#) *DFO Can. Sci. Advis. Sec. Res. Doc.* 2016/056. v + 90 p.
- 2016 Pettigrew, B., **Gilbert, D.** and Desmarais, R. [Thermograph network in the Gulf of St. Lawrence.](#) *Can. tech. report of hydrography and ocean sciences*, **311**, vii + 77p.
- 2016 Thierry V., H. Bittig, **D. Gilbert**, T. Kobayashi, K. Sato, C. Schmid 2016: [Processing Argo oxygen data at the DAC level](#) (version 2.1). doi:10.13155/39795
- 2015 Lavoie, D., M. Starr, J. Chassé, **D. Gilbert** and N. Lambert. The Gulf of St. Lawrence biogeochemical model: a tool to study the evolution of hypoxic conditions and other habitat changes. ICES CM 2015/R:14.
- 2015 Galbraith, P.S., J. Chassé, P. Nicot, C. Caverhill, **D. Gilbert**, B. Pettigrew, D. Lefaiivre, D. Brickman, L. Devine, and C. Lafleur. Physical Oceanographic Conditions in the Gulf of St. Lawrence in 2014. *DFO Can. Sci. Advis. Sec. Res. Doc.* 2015/032. v + 82 p.
- 2014 **Gilbert, D.** Enhancements to the Argo array. *CMOS Bulletin*, 42(6), 183-184.
- 2014 Galbraith, P.S., Chassé, J., **Gilbert, D.**, Larouche, P., Caverhill, C., Lefaiivre, D., Brickman, D., Pettigrew, B., Devine, L., and Lafleur, C.. Physical Oceanographic Conditions in the Gulf of St. Lawrence in 2013. *DFO Can. Sci. Advis. Sec. Res. Doc.* 2014/062. vi + 84 p.

- 2013 Galbraith, P.S., Chassé, J., Larouche, P., **Gilbert, D.**, Brickman, D., Pettigrew, B., Devine, L., and Lafleur, C. Physical Oceanographic Conditions in the Gulf of St. Lawrence in 2012. DFO Can. Sci. Advis. Sec. Res. Doc. 2013/026. v + 89 p.
- 2013 Chabot, D. and **D. Gilbert** Description of the Atlantic Large Aquatic Basin as a habitat for marine fish and invertebrates. Ch. 1 (p.1–15) In: Climate Change Impacts, Vulnerabilities and Opportunities Analysis of the Marine Atlantic Basin [Shackell, N.L, B.J.W. Greenan, P. Pepin, D. Chabot and A. Warburton (Eds.)]. Can. Manuscr. Rep. Fish. Aquat. Sci. 3012: xvi + 366 p.
- 2013 **Gilbert, D.** Argo's millionth profile milestone. CNC-SCOR Newsletter, 69: 2-3.
- 2012 Freeland, H.J., **D. Gilbert**, M. Ouellet, A. Tran, I. Yashayaev. One million Argo float profiles. CMOS Bulletin, 40: 185-188.
- 2012 Galbraith, P.S., J. Chassé, **D. Gilbert**, P. Larouche, D. Brickman, B. Pettigrew, L. Devine, A. Gosselin, R.G. Pettipas, and C. Lafleur. [Physical Oceanographic Conditions in the Gulf of St. Lawrence in 2011](#). DFO Can. Sci. Advis. Sec. Res. Doc. 2012/023. iii + 85 p.
- 2011 Thierry, V., **D. Gilbert** and T. Kobayashi. [Processing Argo oxygen data at the DAC level. \(version 1.2\)](#), 12p. last accessed September 25, 2012.
- 2011 Ouellet, M., B. Petrie, J. Chassé, **D. Gilbert**. [Temporal and spatial scales of temperature, salinity and current velocity on the Newfoundland Grand Banks and in the Gulf of St. Lawrence](#). *Can. Tech. Rep. Hydrogr. Ocean Sci.*, 272: vi + 78p.
- 2011 **Gilbert, D.** [Aller en ligne droite sur une planète qui tourne : la force de Coriolis](#). *Accromath*, 6(2): 24-29.
- 2011 Galbraith, P.S., J. Chassé, **D. Gilbert**, P. Larouche, D. Brickman, B. Pettigrew, L. Devine, A. Gosselin, R.G. Pettipas and C. Lafleur. [Physical oceanographic conditions in the Gulf of St. Lawrence in 2010](#). DFO Can. Sci. Advis. Sec. Res. Doc. 2011/045, iv + 82 p.
- 2011 de Vernal, A., G. St-Onge and **D. Gilbert**. [Oceanography and Quaternary geology of the St. Lawrence Estuary and the Saguenay fjord](#). *IOP Conf Series: Earth and Environ. Science*, 14, 012004.
- 2011 Pettigrew, B., P. Larouche and **D. Gilbert**. Validation des images composites des températures de surface produites au laboratoire de télédétection de l'Institut Maurice-Lamontagne. *Rapp. tech. can. hydrogr. sci. océan.* 270 : viii + 31 p.
- 2010 Galbraith, P.S., P. Larouche, **D. Gilbert**, J. Chassé and B. Petrie, Trends in sea-surface and CIL temperatures in the Gulf of St. Lawrence in relation to air temperature. *AZMP Bulletin PMZA*, 9: 20-23.
- 2010 Christian, J., Peña, A., Denman, K., **Gilbert, D.** and Lyon, P. [Information in support of Science Advisory Report \(SAR\) 2010/012: "Ocean Fertilization: Mitigating Environmental Impacts of Future Scientific Research"](#). DFO Can. Sci. Advis. Sec. Res. Doc. 2010/106. iv + 17 p.K
- 2010 Galbraith, P.S., R.G. Pettipas, J. Chassé, **D. Gilbert**, P. Larouche, B. Pettigrew, A. Gosselin, L. Devine and C. Lafleur, Physical Oceanographic Conditions in the Gulf of St. Lawrence in 2009. DFO Can. Sci. Advis. Sec. Res. Doc. 2010/035. iv + 73p.
- 2010 Pêches et Océans Canada. [Fertilisation des océans : atténuation des impacts environnementaux de la recherche scientifique](#). *Secr. can. de consult. sci. du MPO, Avis sci.* 2010/012, 15p.
- 2010 Pêches et Océans Canada. [Réunion d'avis scientifique nationale sur les conséquences et impacts de la fertilisation; les 29 et 30 septembre 2009](#). Secr. can. de consult. sci. du MPO, Compte rendu 2010/025.

- 2010 Dale, V.H., C. Kling, J.L. Meyer, J. Sanders, H. Stallworth, T. Armitage, D. Wangsness, T.S. Bianchi, A. Blumberg, W. Boynton, D.J. Conley, W. Crumpton, M.B. David, **D. Gilbert**, R.W. Howarth, R. Lowrance, K. Mankin, J. Opaluch, H. Paerl, K. Reckhow, A.N. Sharpley, T.W. Simpson, C. Snyder, and D. Wright. [Hypoxia in the Northern Gulf of Mexico](#). Springer, New York, 284p.
- 2010 Gruber, N., S.C. Doney, S.R. Emerson, **D. Gilbert**, T. Kobayashi, A. Körtzinger, G.C. Johnson, K.S. Johnson, S.C. Riser and O. Ulloa. Adding oxygen to Argo: Developing a global in-situ observatory for ocean deoxygenation and biogeochemistry. In “Proceedings of OceanObs’09: Sustained Ocean Observations and Information for Society (Vol. 2)”, Venice, Italy, 21-25 September 2009, Hall, J., Harrison D.E. & Stammer, D., Eds., ESA Publication WPP-306, 10p.
- 2009 **Gilbert**, D. and P. Cummins. [The interacting scales of ocean dynamics – a tribute to Chris Garrett \(preface\)](#). *Atmosphere-Ocean*, **47-4**: i-vi. doi:10.1080/07055900.2009.9649877
- 2009 Gilbert, D., [Argo float of the month - Crossing the Gulf Stream by a float with an oxygen sensor](#). 3p. last accessed March 09, 2010.
- 2009 Fennel, W., **D. Gilbert**, and J. Su. Physical processes in semi-enclosed marine systems. In *Watersheds, bays, and bounded seas: The science and management of semi-enclosed marine systems*, E. R. Jr. Urban, B. Sundby, P. Malanotte-Rizzoli, and J. Mellilo (editors), volume 70 of Scientific Committee on Problems of the Environment (SCOPE) Series, Island Press, Washington, DC., pp. 97-114.
- 2009 MacCracken, M., E. Escobar-Briones, **D. Gilbert**, G. Korotaev, W. Naqvi, G.M.E. Perillo, T. Rixen, E. Stanev, B. Sundby, H. Thomas, D. Unger, and E.R.Jr. Urban. Vulnerability of semi-enclosed marine systems to environmental disturbances. In *Watersheds, bays, and bounded seas: The science and management of semi-enclosed marine systems*, E. R. Jr. Urban, B. Sundby, P. Malanotte-Rizzoli, and J. Mellilo (editors), volume 70 of Scientific Committee on Problems of the Environment (SCOPE) Series, Island Press, Washington, DC., pp. 9-29.
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