

Capítulo 7

Referencias

El espíritu tiene tan pocas cosas para poseer, que solo compartiendolas se pueden disfrutar. -Vilanova verano de 2001.

- Agawin, N., and Agustí, S., Abundance, frequency of dividing cells and growth rates of *Synechococcus* sp. (cyanobacteria) in the stratified Northwest Mediterranean Sea, *J. Plank. Research*, 19(11), 1599-1615, 1997.
- Albertano, P., Di Somma, D. and Capicci, E., Cyanobacterial picoplankton from the Central Baltic Sea: cell size classification by image-analyzed fluorescence microscopy, *J. Plank. Research*, 19(10), 1405-1416, 1997.
- Alcaráz, M., Copepods under turbulence: Grazing, behaviour and metabolic rates. in: Lectures on plankton and turbulence, *Sci. Mar.*, 61(sup 1), 177-195, 1997.
- Alcaráz, M., Marrasé, C., and Vaqué, D., Effects of turbulence on the development of phytoplankton biomass and copepod populations in marine microcosms, *Mar. Ecol. Prog. Ser.*, 49, 117-125, 1988.
- Alonso, A., Batimetrías de precisión empleando gps cinemático en tiempo real y ecosonda digital en el seno de estudios hidrográficos del río ebro, *Trabajo de fin de carrera, Ing. Topográfica. UPC*, 1997.
- APHA, *Standard methods for the examination of water and wastewater*, 19th edition. American Public Health Association, American Water Works Association, Water Environment Federation, Washington, 1108 p., 1995.
- Arnoux-Chivassa, S. *Modélisation d'écoulements côtiers stratifiés présentat des fronts: Application au panache du Rhône*. These de l'universite de Toulon, 1998.
- Arnoux-Chivassa, S., Rey, V. and Fraunié, P., Modeling 3D river plumes using a higer order advection scheme, *Oc. Acta*, Accepted, 2002.
- Bendschneider, K. and Robinson, R., A new spectrophotometric determination of nitrite in sea water, *J. Mar. Res.*, 2, 87-96, 1952.
- Bruner, J., *El crisol del tiempo*, Nova Ciencia Ficción, Barcelona, 1995.
- Carreras, F. C., *La navegación en el río Ebro, Notas históricas*, La hormiga de oro, Barcelona, 1940.
- Carrillo, A., *Estructura y características poblacionales del lenguado de california Paralichthys californicus (AYRES). En la bahía de Todos Santos y el Estero de Punta Banda durante los meses de abril de 1992 a marzo de 1993*, Tesis Oceanología U. A. B. C., Ensenada, B. C. México, 1994.

- Carrillo, J. A., Redondo, J. M., Sánchez, M. A. and Platonov, A. K., Coastal and interfacial mixing. Laboratory experiments and satellite observations. *Physics and Chemistry of the Earth*, 26(4):305-311, 2001.
- Carrillo, J. A., Redondo, J. M., Medina, P., González del Río, J., Moso, C. and Movellán, E., Analysis of three-layer mixing conditions in a stratified river estuary. EGS 26th General Assembly. GRA(3): 410. 2001.
- Charnock, H., Wind-stress on a water surface, *Q. R. J. Met. Soc.*, 81, 639-640. 1955
- CHEBRO, C. H. E., *Confederación Hidrográfica del Ebro, Banco de Datos*, <http://chebro.es/banco>, Ministerio del Medio Ambiente, Espanya, 2000.
- Christodoulou, G. C., Interfacial mixing in stratified flows, *J. Hydraul. Res.*, 24(2), 77-92. 1986.
- Coakey, W., *Handbook of automated analysis. Continuous flow analysis*, Marcel Dekker, New York, 1981.
- Comin, F. A., Características físicas y químicas y fitopláncton de las lagunas costeras, Buda, Encañizada y Tancada (Delta del Ebro), *Oecol. Aquat.*, 7, 79-162, 1984.
- Crawford, W. R., A comparison of length scales and decay times of turbulence in stably stratified flows, *J. Phys. Oceanogr.*, 16, 1847-1854, 1986.
- Cullen, J. J., The deep chlorophyll maximum: comparing vertical profiles of chlorophyll a, *Can. J. Fish. Aquat. Sci.*, 39, 791-803, 1982.
- Dalziel S. B. Rayleigh-Taylor instability: Experiments with image analysis. *Dyn. of Atmospheres and Oceans*, 20:127-153, 1993.
- Dalziel S. B. *Digimage Image Processing for Fluid Dynamics, Instalation guide*, Cambridge Environmental Research Consultants, 1994.
- Dalziel S. B. <http://www.damtp.cam.ac.uk/user/fdl/people/sd/digimage>, 2002.
- Deardorff, J. W., and Willis G. E., Dependence of mixed layers entrainment on shear stress and velocity jumps, *J. Fluid Mech.*, 115, 123-149. 1982.
- Deardorff, J. W., and Yoon, S. C., On the use of an annulus to study mixed-layer entrainment, *J. Fluid Mech.*, 142, 97-120. 1984.
- de León, A. M. *Spatial objective analysis of oceanographic variables. An application to the Ebro delta shelf-slope domain (North-wester Mediterranean)*, Memoria para optar al título de Doctor en Ciencias del Mar, CSIC. ICM. UPC., 216, 2002.
- Delgado, M., Fitopláncton de las bahías del delta del Ebro, *Inv. Pesq.*, 51(4), 517-548, 1987.
- Delgado, M., Estrada, M., Camp, J., Fernández, J. V., Santmarti, M. and Lletí, C., Development of a toxic *Alexandrium minutum* Halim (Dinophyceae) bloom in the harbour of Sant Carles de la Rápita (Ebro Delta, northwestern Mediterranean), *Scient. Mar.*, 54(1), 1-7, 1990.
- Delgado, M., Fernández, J. V., Garcés, E., Matamoros, E. and Camp, J., Proliferación de un dinoflagelado del género *Gyrodinium* en la bahía de Alfacs (Delta del Ebro) asociado a mortandad de peces, *Proc. 5. Nal. Cong. Aquaculture, Sant Carles de la Rápita*, 700-704, 1995.
- Delgado, M., Garcés, E. and Camp, J., Growth and behaviour of *Dinophysis sacculus* from NW Mediterranean. In: *Harmful and Toxic Algal Blooms*, Yasumoto, T., Oshima, Y. and Fukuyo, Y. (Eds.), IOC-UNESCO, 261-264, 1996.
- Denman, K. L. and Gargett, A. E., Biological-physical interactions in the upper

- ocean: the role of vertical and small scale transport processes, *Ann. Rev. Fluid Mech.*, 27, 225–255, 1995.
- DeSilva, I. P. D., Brant, A., Montenegro, L. J., and Fernando, H. J. S., Gradient Richardson number measurements in a stratified shear layer, *Dynamics of Atmospheres and Oceans*, 30, 47–63, 1999.
- Dillon, T. M., Vertical overturns: A comparison of Thorpe and Ozmidov length scales, *J. Geophys. Res.*, 87 C12, 9601–9613, 1982.
- Dolz, J., *Estudio previo para la construcción de un azud sumergido en la parte final del río Ebro a fin de limitar la presencia de agua de mar*, Fundació Agrícola Catalana, 1993.
- Dolz, J. and Gómez, M., *Estudio hidráulico de la navegabilidad del río Ebro en el tramo Tortosa-Amposta*, Direcció General de Ports i Costas de la Generalitat de Catalunya, 1992.
- Dolz, J. and Puertas, J., *Análisis de los caudales circundantes aguas abajo de Flix*, Direcció General de Ports i Costes de la Generalitat de Catalunya, 1990.
- Dolz, J., Gómez, M., and Nieto, J., El ebro en el delta, *Obras Públicas, Num. 3368*, 7–14, 1997.
- Durand, N., Ouillon, S. and Fraunié, P., Three dimensional sediment transport modelling in the Ebro river plume, *Proceedings of the Oceans'98.*, September 28 - October 1, IEEE, Nice, 762-766. 1998.
- Durand, N., Fiandrino, P., Fraunié, P., Ouillon, S., Forget, P. and Naudin, J. J., Suspended matter dispersion in the Ebro ROFI: an integrated approach, *Cont. Shelf Res.*, 22, 267-284, 2002.
- Dyer, K. R., Tidally generated estuarine mixing processes, In: *Hydrodynamics of estuaries*, (Ed. Kjerfve) Chap. 4, 41-57. 1988.
- Dyer, K. R., *Estuaries: a physical introduction*, 2nd Edition, John Wiley and Sons Ltd, England, 195p, 1997.
- Eidnes, G., Utnes, T. and McClimans, T. A., Wind mixing of a stratified shear flow, *Cont. Shelf Res.*, 6(5), 597-613. 1986.
- Ellison, T. H., Turbulent transport of heat and momentum from and infinite rough plane, *J. Atm. Assoc.*, 90(432), 1200–1224, 1957.
- Ellison, T. H., and Turner J. S., Turbulent entrainment in stratified flows, *J. Fluid Mech.*, 6, 423-448. 1959.
- Estrada, M., Mesoscale heterogeneities of phytoplankton distribution in the upwelling region on NW Africa. In: *Upwelling ecosystems Springer Verlag*, R. Boje and Tomczak (eds.), Berlin, 1978.
- Estrada, M., Deep phytoplankton and chlorophyll maxim in the western Mediterranean. In: M. Moraitou-Apostolopoulou and V. Kiortsis (eds.): *Mediterranean marine ecosystems*, Plenum Press, New York, 1985a.
- Fernando, J. S., Turbulent mixing in stratified fluids, *Annu. Rev. Fluid Mech.*, 23, 455–493, 1991.
- French, R. H., *Hidráulica de canales abiertos*, McGraw-Hill, México, D. F., 1988.
- Frisch, U., *Turbulence: The legacy of Kolmogorov*, Cambridge University Press, Cambridge, 1995.
- Gabaldón, J. E., *Analisis of the effect of the small-scale turbulence on the phyto-*

- plankton dynamics in the open ocean: Modeling and numerical simulations in the vertical dimension*, PhD Thesis, UPC, 2001.
- Gartshore, I. S., Durbin, P. A., and Hunt J. C. R., The production of turbulent stress in a shear flow by irrotational fluctuations, *J. Fluid Mech.*, 137, 307-327. 1983.
- Geyer, W. R., and Farmer, D. M., Tide-induced variation of the dynamic of a salt wedge estuary, *J. Physical. Oceanography.*, 19, 1060-1072. 1989.
- Gibson, C. H., Fossil temperature, salinity and vorticity in the ocean. In: *A marine turbulence*, J. C. J. Nihoul ed., Elsevier, 1980.
- Grasshoff, K., *Methods of Seawater Analysis*, Verlag Chemie: Weinstein, New York, 1976.
- Guillen, A., Dinámica y balance sedimentario en los ambientes fluvial y litoral del delta del ebro, *Memoria para optar al titulo de Doctor en Ciencias del Mar, CSIC. ICM. UPC.*, 580, 1992.
- Hopfinger, E. J., Turbulence collapse in stratified fluids, *J. of Geophysical Research*, 92, 5248, 1987a.
- Ibáñez, C., Dinàmica hidrològic i funcionament ecològic del tram estuari del riu ebre, Tesis de Doctorado, U. B., 1993.
- Ibáñez, C., Prat, N., and Canicio, A., Changes in the hydrology and sediments transport produced by large dams on the lower Ebro river and its estuary, *Regul. Rivers*, 12, 51-62, 1996.
- Ibáñez, C., Pont, D., and Prat, N., Characterization of the Ebre and Rhone estuaries: A basis for defining and classifying salt-wedge estuaries, *Limnol. Oceanogr.*, 42(1), 89-101, 1997.
- Imberger, J. and Ivey, G.Ñ., On the nature of turbulence in a stratified fluid part I: The energetics of mixing, *J. Phys. Oceanogr.*, 21, 650-658, 1991.
- Iriarte, A. Size-fractionated chlorophyll a biomass and picophytoplankton cell density along a longitudinal axis of a temperate estuary (Southampton Water), *J. Plankton Res.*, 15, 485-500, 1993.
- Ishizaka, J., Kiyosawa, H., Ishida, K.; Ishikawa, K. and Takahashi, M., Meridional distribution and carbon biomass of autotrophic picoplankton in the Central North Pacific Ocean during Late Northern Summer 1990. *Deep-Sea Research I*, 41 (11/12), 1745-1766, 1994
- Jacquet, S., Lennon, J. F., Marie, D. and Vaultot, D., Picoplankton populations dynamics in coastal waters of the northwestern Mediterranean Sea. *Limnol. Oceanogr.*, 43 (8), 1916-1931, 1998.
- Jeffrey, S. and Humphrey, G., New spectrophotometric equations for determining chlorophylls a, b, and c in higher plants, algae and natural phytoplankton, *Biochem. Physiol. Pflanzen*, 167, 191-194, 1975.
- Jiménez, J. A., *Evolución costera en el delta del Ebro*, Tesis Doctoral, UPC, 1996.
- Kantha, L. H., Phillips, O. M., and Azad, R. S., On turbulent entrainment at a stable density interface, *J. Fluid Mech.*, 79, 753-768, 1977.
- Kato, H., and Phillips, O. M., On the penetration of the turbulent layer into stratified fluid, *J. Fluid Mech.*, 37, 643-665, 1969.
- Kessel, J., *Amonestación*, Premios Nebula 1987, Nova Ciencia Ficción, 1987.
- Kolmogorov, G. H., Interfacial instability and mixing in a stratified fluid. *J. Res. Natl.*

- Bur. Stand.*, 43, 487-500. 1949.
- Kiorboe, T., Small-scale turbulence, marine snow, and planktivorous feeding. in: Lectures on plankton and turbulence. c. marrasé, e. saiz and j. m. Redondo (eds.), *Sci. Mar.*, 61(Sup. 1), 141-158, 1997.
- Kirkwood, D., Aminot, A., and Pertillä, M., Report on the results of the fourth intercomparison exercise for nutrients in sea water, *ICES Cooperative Research Report*, 174, 83, 1991.
- Kolmogorov, A. N., The local structure of turbulence in an incompressible viscous fluid for very large reynolds number, *C. R. Acad. Sci.*, 30, 853-860, 1941.
- Komárek, J., Towards a combined approach for the taxonomy and species delimitation in picoplanktic cyanoprokaryotes. *Algolog. Studies*, 83, 377-401, 1996.
- Komárek, J., Kopecký, J. and Cepák, V., Generic characters of the simplest cyanoprokaryotes Cyanobium, Cyanobacterium and Synechococcus Cryptogamie, *Algol.*, 20 (3), 209-222, 1999.
- Kourafalou, V. H., T. N. Lee, L. Y. Oey and J. D. Wang. The fate of river discharge in the continental shelf. 1. Modeling the river plume and their inner shelf coastal current. *J. Geophys. Res.*, 101:3415-3434. 1996.
- Kundu, P. K., *Fluid Mechanics*, Academic Press, New York, 1990.
- Landahl, M. T., and Mollo-Christensen, E., *Turbulence and random processes in fluid mechanics*, Cambridge University Press, U. K., 1988.
- Lazier, J. R. and Mann, K. H., Turbulence and the difussive layers around small organism, *Deep-Sea Research*, 36, 1721-1733, 1989.
- LeFèvre, J., and Frontier, S., Influence of temporal characteristics of physical phenomena of plankton dynamics, as show by North-West European marine ecosystem, In: B. J. Rothshild (ed.): *Toward a Theory on Biological-Physical interaction in the World Ocean*, Kluwer Academic Publisher, 245-272.,1998.
- Legović, T., Exchange of water in a stratified stuary with an application to Krka(adriatic sea), *Marine Chemistry*, 32, 121-135, 1991.
- Lewis, R. E., Relative contribution of interfacial and bed mixing to the estuarine energy balance. In: Mixing in estuaries and coastal seas, *Coastal and Estuarine Studies*, American Geophysical Union, (50), 250-266. 1996.
- Linden, P. F., Mixing in stratified fluids, *Geophys. Astrophys. Fluid Dynamics*, (13), 3-23. 1979.
- Linden, P. F., Mixing across a density interfaces produced by grid turbulence, *J. Fluid Mech.*, (100), 691-703. 1980.
- Linden, P. F. and Simpson J. F., Gravity driven flows in a turbulent fluid, *J. Fluid Mech.*, (172), 481-497. 1976.
- Li, S., and McClimans, T. A., The effects on winds over a barotropic retrograde slope current. *Continental Shelf Research.*, 18: 457-485, 1998.
- López, J., and Arté, P., Hidrografía y fitopláncton del puerto del Fangar (delta del Ebro), *Inv. Pesq.*, 37 (1), 17-56, 1973.
- Lund, J. W. G., Kipling, C., and Le Cren, E. D., The inverted microscope method of estimating algal numbers and the statistical basis of estimations by counting, *Hydrobiologia*, 11 (2), 143-170, 1958.
- Macías-Regalado, E., *Glosario de términos en Ciencias del Mar*, UNAM, y Col. de

- Sinaloa, Sinaloa, 2000.
- Maldonado, A., *Dinámica sedimentaria y evolución litoral reciente del delta del Ebro*. En: *Sistema Integrado del Ebro*, Hermes, Madrid, 1986.
- Margalef, R., Life-forms of phytoplankton as survival alternatives in an unstable environment, *Oceanol. Acta.*, 1, 493-509, 1978.
- Margalef, R., and Estrada, E., On upwelling, eutrophic lakes, the primitive biosphere, and biological membranes, in: F. A. Richards (ed), *Coastal upwelling*, American Geophysical Union, Washington D. C., 522-529, 1981.
- Marrasé, C., Costello, J. H., Granata, T., and Strickler, J. R., Grazing in a turbulent environment: energy dissipation, encounter rate and efficacy of feeding currents in centropages hamatus, *Proc. Natl. Acad. Sci.*, 87, 1653-1657, 1990.
- Martin, G., *Los viajes de Tuf*, Ediciones Barcelona, 1988.
- Matas, J. and Redondo, J. M., Some observations of entrainment in grid stirred stratified flows, in: *Turbulent Diffusion in the Environment*, Redondo, J. M. and Babiano, A. (eds), 79-84, 2000.
- McClimans, T. A. The role of laboratory experiments and models in the study of the sea straits. In: *Pratt L. J. (ed). The physical oceanography of the sea straits*, Academic Publishers. Ney York, 373-388. 1990.
- McClimans, T. A., J. D. Pietrzack, V. Hness, N. Kliem, J. H. Nielsen and B. O. Johannessen. Laboratory and numerical simulation of the Skagerrak circulation. *Continental Shelf Research.*, 20:941-974. 2000.
- Mellor, G. L., and Durbin, P. A., The structure and the dynamics of the ocean surface mixed layer, *J. Phys. Oceanogr.*, 5, 718-728. 1975.
- Methods, S., *Standard Methods for the Examination of Water and Wastewater*, American Water Works Association. American Public Health Association, Water Environment Federation, 19th edn., 1995.
- Moore, M. J., and Long, R. R., An experimental investigation of turbulent stratified shearing flow, *J. Fluid Mech.*, 49, 635-655. 1971.
- Morel, A., Consequences of a Synechococcus bloom upon the optical properties of oceanic (case 1) waters, *Limnol. Oceanogr.* 42 (8), 1746-1754, 1997.
- MOPU, *Aforos. Cuenca del Ebro*, Mopu, 1979.
- Mullin, J. and Riley, J., The spectrophotometric determination of silicate-silicon in natural waters with special reference to seawater, *Anal Chem. Acta*, 12, 162-170, 1955.
- Muñoz, I., *Limnología de la part baixa del riu Ebre i els canals de reg: Els factors fisico-químics, el fitoplàncton i els macroinvertebrats bentònics*, Tesis per aspirar al grau de Doctor, UB, 184 p., 1990.
- Murphy, J. and Riley, J., A modified single solution method for determination of phosphate in natural water, *Analytical Chem. Acta*, 27, 31-36, 1962.
- Narimousa, S., Long R. R., and Kitaigorodskii, S. A., Entrainment due to turbulent shear flow at the interface of a stably stratified fluid, *Tellus*, 38A, 76-87. 1986.
- Narimousa, S., Fernando H. J. S., On the sheared density interface of an entraining stratified fluid, *J. Fluid Mech.*, 174, 1-22. 1987.
- Nielsen, P., *Coastal Bottom Boundary Layers and Sediment Transport*. In: *Advanced Series on Ocean Engineering*, vol. 4, Word Scientific, London, 1992.

- Ning, X., Cloern, J. E. and Cole, B. E., Spatial and temporal variability of picocyanobacteria *Synechococcus sp.* in San Francisco Bay, *Limnol. Oceanogr.*, *45* (3), 695-702, 2000.
- Owen, R. W., Microscale and finescale variations of small plankton in coastal and pelagic environments, *J. Mar. Res.*, *47*, 197-240, 1989.
- Pérez, C., El plan hidrológico de la cuenca del Ebro. Cuencas de Cataluña: Concurrency de competencias e instrumentos de cooperación, en: *El agua en Cataluña*, (Ed. L. Berg), Barcelona 41-53, 1975.
- Peters, F. and Redondo, J. M., Turbulence generation measurement: application to studies on plankton. in: Lectures on plankton and turbulence. C. Marrasé, E. Saiz and J. M. Redondo (eds.), *Sci. Mar.*, *61*(sup. 1), 205-228, 1997.
- Piera, J., *Les escales espacials cinemàtiques en la caracterizació de la turbulència en els sistemes aquàtics*, Tesis Doctoral, Universidad de Girona: Girona, Spain, 170p. 2000.
- Phillips, O. M., *Dynamics of the upper ocean*, Cambridge: University Press, 2nd ed., 336p. 1977.
- Platonov, A. K., *Aplicación de imágenes de satélite SAR en los estudios de contaminación marina y de dinámica de las aguas en el Mediterráneo noroccidental*, Tesis de Doctorado, U.P.C., 143p. 2002.
- Pollard, R. T., Rhines, P. B., and Thompson R. O. R. Y., The deepening of the wind mixed layer, *Geophys. Fluid Dyn.*, *3*, 381-404. 1973.
- Price, J. F., On the scaling of stress-driven entrainment experiments, *J. Fluid Mech.*, *90*, 509-29. 1979.
- Raven, J. A., The twelfth Tansley Lecture. Small is beautiful: the picoplankton, *Funct. Ecol.*, *12*, 503-513, 1998.
- Ray, T. R., Haas, L. W. and Sieracki, M. E., Autotrophic picoplankton dynamics in a Chesapeake Bay sub-estuary, *Mar. Ecol. Prog. Ser.*, *52*, 273-285, 1989.
- Redondo, J. M., *Turbulent diffusion in stratified fluids*, Ph.D. Thesis, Cambridge, 1987.
- Redondo, J. M., Difusión turbulenta por rejilla oscilante, *Revista de Geofísica*, *44*, 163-174, 1988.
- Redondo, J. M., Internal and external mixing in stratified-shear flow, In: *Advances in turbulence 2*, Dernholz, H. H. and Fiedler H. E., Berlin, 1989.
- Redondo, J. M., Vertical microstructure and mixing in stratified flows, in: *Advances in turbulence VI*, Gravrilakis, et al (eds), 605-608, 1996.
- Redondo, J. M., Mixing efficiency of different kind of turbulent processes and instabilities, applications to the environment. Turbulent mixing in geophysical flows. P. F Linden and J. M. Redondo Eds., CIMNE, Barcelona. 131-157, 2001.
- Redondo, J. M., Sánchez, M. A., and Cantalapiedra, I. R., Turbulence mechanism in stratified flows, *Dynamics of Atmospheres and Oceans*, *23*, 454-462, 1996.
- Richardson, L. F., The supply of energy from and to atmospheric eddies, *Proc. R. Soc. Lond.*, *A97*. 354-373, 1921.
- Robinson, K. H., *El geómetra ciego*, en: Premios Nebula 1987, Nova Ciencia Ficción, 1987.
- Rodier, J., *Análisis de las aguas. Aguas naturales, aguas residuales y agua de mar*,

- Paris, 1981.
- Rohr, J. J., Itsweire, E. C., Helland, K. N. and VanAtta, D. W., The investigation of turbulence in a uniform mean gradient shear flow, *J. Fluid Mech.*, 187, 1, 1988.
- Sabater, S. and Muñoz, I., Successional dynamics of the phytoplankton in the lower part of the river Ebro, *J. Plankton Res.*, 12 (3), 573-592, 1990
- Saiz, E. and Alcaráz, M., Free-swimming behaviour of *Acartia clausi* (copepoda: Calanoida) under turbulent water movement, *Mar. Ecol. Prog. Ser.*, 80, 229-236, 1992.
- Scranton, D. R., and Lindberg, W. R., An experimental study of entraining, stress-driven, stratified flow in an annulus, *Phys. Fluids*, 26, 1198-1205. 1983.
- Sierra, J. P., Sánchez-Arcilla, A., Gonzalez del Río, J., Flos, J., Movellán, E., Mosso, C., Martínez, R., Rodilla, M., Falco, S., and Romero, I., Spatial distribution of nutrients in the Ebro estuary and plume, *Cont. Shelf Res.*, 22, 361-378. 2002.
- Simpson J. E., *Gravity currents*, Ellis Horwood, Series in environmental Sciences, 1987.
- Simpson J. H., Physical processes in the ROFI regime, *J. Mar. Syst.*, 12, 3-15, 1997.
- Sin, Y., Wetzel, R. L. and Anderson, I. C., Seasonal variations of size-fractionated phytoplankton along the salinity gradient in the York River estuary, Virginia (USA), *J. Plankton Res.*, 22 (10), 1945-1960, 2000.
- Sournia, A., Phytoplankton Manual. In: *Monographs on Oceanographic Methodology*, 6, UNESCO, Paris, 337 p., 1978.
- Sournia, A., Form and function in marine phytoplankton, *Biol. Rev.*, 57, 347-394, 1982.
- Stephenson, P. W. and Fernando, J. S., Turbulent and mixing in a stratified shear flow, *Geophys. Astrophys. Fluid Dyn.*, 59, 147-164. 1991, 1991.
- Strang, E. and Fernando, J. S., Entrainment and mixing in stratified shear flows, *J. Fluid Mech.*, 428, 349-386, 2001.
- Strickland, J. and Parsons, T., A practical handbook of seawater analysis, *Fisheries Res. Board of Canada, Bull.* 167, 310, 1968.
- Sullivan, G. D. and List, E. J., An experimental investigation of vertical mixing in two layer density-stratified shear-flows, *Dyn. Atmos. Oceans*, 19, 147-174, 1993.
- Sullivan, G. D. and List, E. J., On mixing and transport at a shared density interface, *J. Fluid Mech.*, 273, 213-239, 1994.
- Sundby, S., Turbulence and ichthyoplankton: influence on vertical distributions and encounter rates. in: Lectures on plankton and turbulence, *Sci. Mar.*, 61(sup. 1), 159-176, 1997.
- Sverdrup, H. U., Johnson, M. W., and Fleming, R. H., *The oceans, their physics, chemistry and general biology*, Prentice-Hall, 1087p, 1946.
- Tennekes, H. and Lumley, J. L., *A first course in turbulence*, The MIT press, London, 1994.
- Thorpe, S. A., Turbulence and mixing in a scottish loch, *Phil. Trans. Proc. Roy. Soc. Lond.*, A286, 125-181, 1977.
- Tomidokoro G. Basic studies on the hydraulic characteristics of the wind-induced currents and pollutant dispersion in closed shallow water basin. Doctoral dissertation. Kyoto, Japan. 1984.

-
- Treguer, P. and Corre, P. L., *Manuel d'analyse des sels nutritifs dans l'eau de mer*, Université de Bretagne Occidentale, Brest, 1975.
- Tritton, D. J., *Physical Fluid Dynamics*, Clarendon Press, Oxford, 1988.
- Turner, J. S., The influence of molecular diffusivity on turbulent entrainment across a density interface, *J. Fluid Mechanics*, 33, 639–656, 1968.
- Turner, J. S., *Buoyancy Effets in Fluids*, Cambridge University Press, London, 1973.
- Turner, J. S., Turbulent entrainment: the development of the entrainment assumption and its application to geophysical flows, *J. Fluid Mechanics*, 173, 431-471, 1986.
- Vargo, G. A., Using the fluorescence microscope. In: *Phytoplankton Manual. Monographs on Oceanographie Methodology*, Sournia, A. (ed.), UNESCO, 108-112, 1978.
- Vaquer, A., Troussellier, M., Courties, C. and Bibent, B., Standing stock and dynamics of picophytoplankton in the Thau Lagoon (northwest Mediterranean coast), *Limnol. Oceanogr.*, 41 (8), 1821-1828, 1996.
- Verdaguer, A., Serra, J. and Canals, M., L'interacion fluiviale et marine dans le cour interioeur del l'ebre: Consequences sedimentologiques, *Rapp. Comm. Int. Mer Médit*, 29(2), 1985.
- Wu, J., Wind-induced entrainment across a stable density interfase, *J. Fluid Mech.*, 61, 275-287. 1973.
- Wyngaard, J. C. and Cote, O. R., The budget of turbulence kinetic energy and temperature variance in the atmosphere surface layer, *J. Atm. Sci.*, 28, 190–210, 1971.
- Yamazaki, H. and Osborn, T. R., Review of oceanic turbulence: implication for biodynamics, In: *Toward a Theory on Biological-Physical interaction in the World Ocean*, Rothshield, B. J. (ed.), Kluwer Academic Publisher, 245-272, 1988.