**HUBERT LOISEL**

Contact

| **Adresse** | **Contact** |
| --- | --- |
| MREN | Tél : 03 21 99 64 20 |
| 32 avenue Foch | Fax : 03 21 99 64 01 |
| 62930 Wimereux, france | Email : hubert.loisel@ univ-littoral.fr |

Research topics

 Ocean color remote sensing
 Bio-optical algorithms
 Marine optics
 Radiative transfer in the ocean
 Polarisation
 Ocean carbon cycle and biogeochemistry
 Dynamics of marine particles

Education

* 1994 : Master degree in fluid dynamics (Paris 6)
* 1995 : Master degree in physical oceanography (Paris 6)
* 1998 : PhD in marine optics (Paris 6)
* 2006 : HDR in marine optics (ULCO)

Publications

**2014**
 **Hubert Loisel**, Antoine Mangin, Vincent Vantrepotte, David Dessailly, Dat Ngoc Dinh, Philippe Garnesson, Sylvain Ouillon, Jean-Pierre Lefebvre, Xavier Mériaux, Thu Minh Phan. Variability of suspended particulate matter concentration in coastal waters under the Mekong’s influence from ocean color (MERIS) remote sensing over the last decade. Remote Sensing of Environment 150 (2014) 218 ?230.

 **Loisel, Hubert** ; Vantrepotte, Vincent ; Dessailly, David ; et al. Assessment of the colored dissolved organic matter in coastal waters from ocean color remote sensing. OPTICS EXPRESS. Volume : 22. Issue : 11. Pages : 13109-13124.

 Delgado, Ana L. ; Jamet, Cedric ; **Loisel, Hubert ;** et al. 2014. Evaluation of the MODIS-Aqua Sea-Surface Temperature product in the inner and mid-shelves of southwest Buenos Aires Province, Argentina. INTERNATIONAL JOURNAL OF REMOTE SENSING. Volume : 35. Issue : 1. Pages : 306-320.

 Antoine D, M Babin, J-F Berthon, A Bricaud, B Gentili, **H Loisel,** S Maritorena and D Stramski (2014). Shedding Light on the Sea : André Morel’s Legacy to Optical Oceanography, Annual Reviews of Marine Science, 6:15.1 ?15.21.

 Renosh, P. R., François G. Schmitt,**Hubert Loisel**, Alexei Sentchev, Xavier Mériaux. 2014. High frequency variability of particle size distribution and its dependency on turbulence over the sea bottom during re-suspension processes. Continental Shelf Research (2014)

**2013**
 Werdell Jeremy, Bryan A. Franz, Sean W. Bailey, Gene C. Feldman, Emmanuel Boss, Vittorio E. Brando, Mark Dowell, Takafumi Hirata, Samantha J. Lavender,ZhongPing Lee, **Hubert Loisel**, Stéphane Maritorena, Fréderic Melin5, Timothy S. Moore, Timothy J. Smyth, David Antoine, Emmanuel Devred, Odile Hembise Fanton d ?Andon, and Antoine Mangin. 2013. A generalized ocean color inversion model for retrieving marine inherent optical properties. Applied Optics. 52(10):2019-2037.

 Vantrepotte, V. ; Gensac, E. ; **Loisel, H.** ; et al. Satellite assessment of the coupling between in water suspended particulate matter and mud banks dynamics over the French Guiana coastal domain. JOURNAL OF SOUTH AMERICAN EARTH SCIENCES. Volume : 44. Special Issue : SI. Pages : 25-34.

 Neukermans, G, Ruddick K, **Loisel H**, Roose P. 2012. Optimization and quality control of suspended particulate matter concentration measurement using turbidity measurements. Limnology and Oceanography-Methods. 10:1011-1023. 10.4319/lom.2012.10.1011.

 **Loisel H.**, 2013. GLobCoast : Remote sensing of Coastal water biogeochemical characteristics. International innovation, Research Media Ltd Ed., UK, August 2013, 38-41.

 **Loisel, H.**, V. Vantrepotte, C. Jamet, and D. N. Dinh ?Challenges and new advances in ocean color remote sensing of coastal waters ?. Chapter in Oceanography Research (2013). InTech. Editor E. Zambianchi. ISBN 980-953-307-949-8.

 Werdell, P.J., B.A. Franz, S.W. Bailey, G.C. Feldman, E. Boss, V.E. Brando, M. Dowell, T. Hirata, S.J. Lavender, Z. Lee, **H. Loisel**, S. Maritorena, F. Mélin, T.S. Moore, T.J. Smyth, D. Antoine, E. Devred, O. Hembise Fanton d ?Andon, and A. Mangin (2013). Generalized ocean color inversion model for retrieving marine inherent optical properties, Applied Optics, 52, 2019-2037.

 Zied Ben Mustapha, Séverine Alvain, Cédric Jamet, **Hubert Loisel**, David Dessailly. Automatic classification of water-leaving radiance anomalies from global SeaWiFS imagery : Application to the detection of phytoplankton groups in open ocean waters. Remote Sensing of Environment. 10/2013. DOI :<http://dx.doi.org/10.1016/j.rse.2013.08.046>.

**2012**
 Vantrepotte V, Gensac E, **Loisel H**, Gardel A, Dessailly D, Meriaux X. Satellite assessment of the coupling between in water suspended particulate matter and mud banks dynamics over the French Guiana coastal domain. Journal of South American Earth Sciences. 12/2012 ; DOI:10.1016/j.jsames.2012.11.008.

 Jamet, C.,**H. Loisel**, and D. Dessailly (2012), Retrieval of the spectral diffuse attenuation coefficient Kd(l) in open and
coastal ocean waters using a neural network inversion, J. Geophys. Res., 117, C10023, doi:10.1029/2012JC008076

 Griet Neukermans, Kevin Ruddick, **Hubert Loisel**, and Patrick Roose (2012), Optimization and quality control of suspended particulate
matter concentration measurement using turbidity measurements, Limnol. Oceanogr. : Methods 10, 2012, 1011–1023 DOI 10.4319/lom.2012.10.1011

 Qianguo Xing, **Hubert Loisel,** François G. Schmitt, David Dessailly, Yanju Hao, Qiuying Han & Ping Shi (2012) : Fluctuations of satellite-derived chlorophyll concentrations and optical indices at the Southern Yellow Sea, Aquatic Ecosystem Health & Management, 15:2, 168-175 doi:10.1080/14634988.2012.688480

 V. Vantrepotte,**H. Loisel**, D. Dessailly, X. Mériaux. Optical classification of contrasted coastal waters. Remote Sensing of Environment 123 (2012) 306–323 doi:10.1016/j.rse.2012.03.004

 Alvain S., **Loisel H.** and D. Dessailly, Theoretical analysis of ocean color radiances anomalies and implications for phytoplankton groups detection in case 1 waters, Optics Express Vol. 20, N°2, 2012.

 Neukermans, G., **Loisel, H.**, Mériaux, X., Astoreca, R. and McKee, D (2012). In situ variability of mass-specific beam attenuation and backscattering of marine particles with respect to particle size, density, and composition. Limnol. Oceanogr. 57(1) : 24-144

**2011**
 **Loisel, H.**, V. Vantrepotte, K. Norkvist, X.Mériaux, M. Kheireddine, J. Ras, M. Pujo-Pay, Y. Combet, K. Leblanc, G. Dall’Olmo, R. Mauriac, D. Dessailly and T. Moutin (2011). haracterization of the bio-optical anomaly and diurnal variability of articulate matter, as seen from scattering and backscattering oefficients, in ultra-oligotrophic eddies of the Mediterranean Sea, Biogeosciences, 8, 3295-3317. doi:10.5194/bg-8-3295-2011

 Sauveur Belviso, Italo Masotti, Alessandro Tagliabue, Laurent Bopp, P. Brockmann, Cédric Fichot, Guy Caniaux, Louis Prieur, Joséphine Ras, Julia Uitz, **Hubert Loisel**, David Dessailly, Séverine Alvain, Nobue Kasamatsu, Mitsuo Fukuchi. DMS dynamics in the most oligotrophic subtropical zones of the global ocean. Biogeochemistry. DOI 10.1007/s10533-011-9648-1. 2011

 Vantrepotte, V.,**H. Loisel** , X. Mériaux, G. Neukermans, D. Dessailly, C. Jamet, E. Gensac, and A. Gardel, 2011. Seasonal and inter-annual (2002-2010) variability of the suspended particulate matter as retrieved from satellite ocean color sensor over the French Guianacoastal waters. Journal of Coastal Research, SI 64, ISSN 0749-0208

 Gardel, A., Gensac, E., Anthony, E.J., Lesourd, S., **Loisel, H**. Marin, D., 2011. Wave-formed mud bars : their morphodynamics and role in opportunistic mangrove colonization. Journal of Coastal Research, SI 64, ISSN 0749-0208

 Gensac, E., Gardel, A., Lesourd, S., Anthony, E.J., Proisy, C.,
**Loisel, H.**, 2011. Short-term prediction of the evolution of mangrove surface areas : The example of the mud banks of Kourou and Sinnamary, French Guiana. Journal of Coastal Research, SI 64, ISSN 0749-0208

 Cédric Jamet, **Hubert Loisel**, Christopher P. Kuchinke, Kevin Ruddick, Giuseppe Zibordi, Hui Feng. Comparison of three SeaWiFS atmospheric correction algorithms for turbid waters using AERONET-OC measurements. Remote Sensing of Environment 115 (2011) 1955–1965, doi:10.1016/j.rse.2011.03.018, 2011

 V. Vantrepotte, **H. Loisel**, F. Mélin, D. Dessailly, and L. Duforêt‐Gaurier. Global particulate matter pool temporal variability over the SeaWiFS period (1997–2007). GEOPHYSICAL RESEARCH LETTERS, VOL. 38, L02605, doi:10.1029/2010GL046167, 2011

**2010**
 Robert Frouin, **Hubert Loisel** and Antoine Poteau, "Evaluation of SIMBADA measurements of marine reflectance and aerosol optical thickness during ACE-Asia and AOPEX", Proc. SPIE 7858, 78581K (2010) ; doi:10.1117/12.878769

 Cédric Jamet, **Hubert Loisel** and David Dessailly, "Empirical nonlinear determination of the diffuse attenuation coefficient Kd(490) in coastal waters from ocean color images", Proc. SPIE 7858, 785806 (2010) ; doi:10.1117/12.869730

 Séverine Alvain, Lucile Duforêt-Gaurier and **Hubert Loisel**. Observation of Ocean Colour Beyond Chlorophyll-a : From Particulate Organic Carbon Content and Size Distribution to Phytoplankton Functional Groups. Handbook of Satellite Remote Sensing Image Interpretation : Applications for Marine Living Resources Conservation and Management (2010), EU PRESPO and IOCCG. Edited by : Jesus Morales, Venetia Stuart, Trevor Platt and Shubha Sathyendranath (p239).

 Duforêt-Gaurier, L.,**Loisel H.**, Dessailly D., Nordkvist, K. and Alvain S., "Estimates of particulate organic carbon over the euphotic depth from in situ measurements." Application to satellite data over the global ocean », Deep Sea Res. I, 57, 351-367, 2010

 **Loisel H.**, Lubac B., Dessailly D., Duforêt-Gaurier L., and Vantrepotte V. "Effect of inherent optical properties variability on the chlorophyll retrieval from ocean color remote sensing : an in situ approach", Optics Express, Vol. 18, No. 20, 2010
*This article was also chosen for publication in the virtual journal for biomedical optics.*

**2009**
 Jamet, C., and**H. Loisel.** 2009. Data Assimilation in Surface Ocean/Lower Atmosphere Processes. Geophysical Monograph 187. Editors C. Le Quere and E. Saltzman. AGU (pp 329)

 **Loisel, H.** C.Jamet, and J. Riedi. 2009. Remote Sensing in Surface Ocean/Lower Atmosphere Processes. Geophysical Monograph 187. Editors C. Le Quere and E. Saltzman. AGU (pp 329)

 Karin Nordkvist, **Hubert Loisel**, and Lucile Duforêt Gaurier. Cloud masking of SeaWiFS images over coastal waters using spectral variability. 20 July 2009 / Vol. 17, No. 15 / OPTICS EXPRESS 12246

 **H. Loisel**, X. Mériaux, A. Poteau, L. F. Artigas, B. Lubac, A. Gardel, J. Caillaud, and S. Lesourd. Analyze of the inherent optical properties of French Guiana coastal waters for remote sensing applications. Journal of Coastal Research SI 56 (Proceedings of the 10th International Coastal Symposium), 1532 – 1536

**2008**
 B. Lubac, **H. Loisel**, N. Guiselin, R. Astoreca, L. F. Artigas, and X. Mériaux. 2008. Hyperspectral versus multispectral remote sensing approach to detect phytoplankton blooms in coastal waters : application to a Phaeocystis globosa bloom. Journal of Geophysical Research 113, C06026, doi:10.1029/2007JC004451

 Alvain S., C. Moulin, Y. Dandonneau, and **H. Loisel**. 2008. Seasonnal distribution and succession of dominant phytoplankton groups in the global ocean : a satellite view. Global Biogeochemical Cycles 22 GB3001, doi:10.1029/2007GB003154

 **Loisel H.**, L. Duforet, D. Dessailly, Malik Chami, and P. Dubuisson. 2008. Investigation of the variations in the water leaving polarized reflectance from the POLDER satellite data over two biogeochemical contrasted oceanic areas Optics Express 16, 12905-12918
*This article was also chosen for publication in the virtual journal for biomedical optics.*

**2007**
 **H. Loisel**, X. Mériaux, J-F Berthon, and A. Poteau. 2007. Investigation of the optical backscattering to scattering ratio of marine particles in relation to their biogeochemical composition in the eastern English Channel and southern North Sea. Limnology and Oceanography 52(2) : 739-752

 B. Lubac, and**H. Loisel**. 2007. Variability and classification of remote sensing reflectance spectra in the Eastern English Channel and southern North Sea. Remote Sensing of Environment 110, 45-58

**2006**
 Stephane Maritorena, ZhongPing Lee, KePing Du, **Hubert Loisel**, Roland Doerffer, Collin Roesler, Paul Lyon, Akihiko Tanaka, Marcel Babin, and Oleg V. Kopelevich. 2006. Chapter 2. Synthetic and in situ Data Sets for Algorithm Testing. IOCCG (2006). Remote Sensing of Inherent Optical Properties : Fundamentals, Tests of Algorithms, and Applications. Lee, Z. (ed.), Reports of the International Ocean-Colour Coordinating Group, No. 5, IOCCG, Dartmouth, Canada. 89 p

 **Hubert Loisel** and Antoine Poteau. 2006. Chapter 5. Inversion of IOP based on Rrs and remotely-retrieved Kd. IOCCG (2006). Remote Sensing of Inherent Optical Properties : Fundamentals, Tests of Algorithms, and Applications. Lee, Z. (ed.), Reports of the International Ocean-Colour Coordinating Group, No. 5, IOCCG, Dartmouth, Canada. 89 p.

 Robert Arnone, **Hubert Loisel**, Kendall Carder, Emmanuel Boss, Stephane Maritorena, ZhongPing Lee. 2006. Chapter 13. Examples of IOP Applications. IOCCG (2006). Remote Sensing of Inherent Optical Properties : Fundamentals, Tests of Algorithms, and Applications. Lee, Z. (ed.), Reports of the International Ocean-Colour Coordinating Group, No. 5, IOCCG, Dartmouth, Canada. 89 p

 ZhongPing Lee, J. Ronald V. Zaneveld, Stephane Maritorena, **Hubert Loisel**, Roland Doerffer, Paul Lyon,Emmanuel Boss, Kendall L. Carder, Emmanuel Devred, Robert Arnone. 2006. Chapter 14. Summary and Conclusions. IOCCG (2006). Remote Sensing of Inherent Optical Properties : Fundamentals, Tests of Algorithms, and Applications. Lee, Z. (ed.), Reports of the International Ocean-Colour Coordinating Group, No. 5, IOCCG, Dartmouth, Canada. 89 p.

 S. Alvain, C. Moulin, Y. Dandonneau, **H. Loisel**, F-M. Bréon. 2006. A species-dependent bio-optical model of case 1 waters for global ocean color processing. Deep Sea Research part I. 53(5) : 917-925

 **H. Loisel**, J.-M. Nicolas, A. Sciandra, D. Stramski, and A. Poteau. 2006. Spectral dependency of optical backscattering by marine particles from satellite remote sensing of the global ocean, Journal of Geophysical Research, 111, C09024, doi:10.1029/2005JC003367

**2005**
 M. Levy, Y. Lehahn, J.-M. Andre, L. Memery, **H. Loisel**, and E. Heifetz. 2005. Production regimes in the Northeast Atlantic : a study based on SeaWiFS chlorophyll and OGCM mixed-layer depth. Journal of Geophysical Research 110 : C7, C0701410. 1029/2004JC002771

**2004**
 Y. Dandonneau, P.-Y. Deschamps, J.-M. Nicolas, **H. Loisel**, J. Blanchot, Y. Montel, F. Thieuleux, and G. Becu. 2004. Seasonnal variability of ocean color and the composition of phytoplankton communities in the North Atlantic, equatorial Pacific and South Pacific. Deep-Sea Research 51 : 303

**2003**
 C. Dupouy, **H. Loisel**, J. Neveux, C. Moulin, S. Brown, J. Blanchot, A. Lebouteiller and M. Landry. 2003. Microbial absorption and backscattering coefficients from in situ and POLDER satellite during an El Nino-Southern Oscillation cold phase in the equatorial Pacific (180°). Journal of Geophysical Research.108 (C12), 8138.

 Y. Dandonneau, A. Vega, **H. Loisel**, Y.duPenhoat, and C. Menkes. 2003. Oceanic Rossby waves acting as a « Hay Rake » for ecosystem floating by-products. Science. 302, 1548

**2002**
 **H. Loisel**, J.M. Nicolas, P.Y.Deschamps, and R. Frouin. 2002. Seasonal and inter-annual variability of the particulate matter in the global ocean. Geophysical Research Letters 29 : 2996

**2001**
 **H. Loisel** and A. Morel. 2001. Non-Isotropy of the upward radiance field in typical coastal (case 2) waters. International Journal of Remote Sensing. 22 : 275-295

 **H. Loisel**, D. Stramski, B. G. Mitchell, F. Fell, V. Fournier-Sicre, B. Lemasle and M. Babin. 2001. Comparison of the ocean inherent optical properties obtained from measurements and inverse modeling. Applied Optics.40 : 2384-2397

 **H. Loisel**, E. Bosc D. Stramski, K. Oubelker and P-Y. Deschamps. 2001. Seasonal variability of the backscattering coefficients in the Mediterranean Sea based on Satellite SeaWIFS imagery. Geophysical Research Letters. 28 : 4203-4206

**2000**
 **H. Loisel** and D. Stramski. 2000. Estimation of the inherent optical properties of natural waters from irradiance attenuation coefficient and reflectance in the presence of Raman scattering. Applied Optics. 39 : 3001-3011

**1998**
 A. Morel and **H. Loisel**. 1998. Apparent Optical properties of oceanics waters : dependence on molecular scattering contribution. Applied Optics. 37 : 4765 – 4776.

 **H. Loisel** and A. Morel. 1998. Light scattering and chlorophyll concentration in case 1 waters : a re-examination. Limnology and Oceanography. 43 : 847-857