Dr David Doxaran



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David Doxaran studied Physics applied to the Ocean and Atmosphere (Master-1 at the University of Toulon, France) then sediment dynamics (Masetr-2 at the University of Bordeaux, France).

David Doxaran received his Ph.D in 2002 in "Remote sensing and numerical modelling of sediment fluxes in the Gironde estuary, France" from the University of Bordeaux. David Doxaran is a specialist in marine optics and ocean colour remote sensing of turbid coastal waters (estuaries and river plumes) with a special interest in the dynamics and fluxes of terrestrial particles.

From 2003 to 2007 (Marie Curie postdoctoral positions at the University of Plymouth, UK, then at the laboratoire d'Océanographie de Villefranche, France), he used novel techniques and sensors to document then model the inherent and apparent optical properties of turbid estuarine waters in the visible and near-infrared spectral regions. Based on the results obtained, he developed new algorithms to remote sense the concentrations of suspended particles in turbid to highly turbid waters.

Background

He joined the Laboratoire d'Océanographie de Villefranche as permanent CNRS researcher at the end of 2007. His research project combines the use of field bio-optical measurements and ocean colour satellite data with sediment transport modelling to (i) provide new estimates of suspended particles fluxes exported by rivers into the coastal ocean and (ii) track and understand the dynamics of terrestrial particles in river plumes. The objective is to observe the 3D spatio-temporal variations of suspended particles dynamics in river mouths and plumes, then use the available observations to constrain regional hydrodynamic and sediment transport models. In order to complement satellite observations limited to subsurface waters, he developed the use of bio-optical profiling floats to obtain information along the water column Study areas are representative of the tropical (e.g., Amazon and Yangtze Rivers), temperate (Gironde, Loire and Rhône estuaries in France) and Arctic (e.g., Mackenzie River) regions.

Since 2012 he is involved in the Dragon-3 project Id. 10555 entitled 'Variations of Estuarine Turbid Plumes and Mudflats in Response to Human Activities and Climate Change' which main study area is the Yangtze estuary.

Activities in education	Since 2007, David Doxaran has presented advanced courses on Ocean Colour Remote Sensing, Marine Optics and sediment dynamics in coastal waters to Master-1 and -2 students from the University Pierre et Marie Curie (Paris 6), at the Laboratoire d'Océanographie de Villefranche.
Distinctions / Memberships	David Doxaran has been consulted as an expert on Ocean Colour Remote Sensing and Sediment Dynamics Programmes for national (ANR, CNES) and international projects (Canada, Netherlands, EU, and Belgium). He is an active member of the OCAPI mission project for the development and launch of the first geostationary ocean colour satellite sensor over Europe, project supported by the French Space Agency (CNES).
	He has an important scientific journals reviewing activity and has been Guest Editor the international Journal 'Geo-Marine letters' in 2012.
Selected Publications	Since 2002, the obtained results lead to numerous publications with: Reviewed journal papers (24) Conference presentations / abstracts (more than 60) Scientific and technical reports (27) 5 most recent/important publications DOXARAN, D., EHN, J., BÉLANGER, S., MATSUOKA, A., HOOKER, S., and M. BABIN (2012): Optical characterisation of suspended particles in the Mackenzie River plume (Canadian Arctic Ocean) and implications for ocean colour remote sensing, Biogeosciences, 9, 3213-3229, doi:10.5194/bg-9-3213-2012. LAMQUIN N., MAZERAN C., DOXARAN D., RYU J. H. and Y. J. PARK (2012). Assessment of GOCI radiometric products using MERIS, MODIS and field Measurements. Ocean Science Journal, 47(3), 287-311. DORON, M, S. BÉLANGER, D. DOXARAN and M. BABIN (2011). Spectral variations in the near-infrared ocean reflectance. Remote Sensing of Environment, 15, 1617-1631. DOXARAN D., J.M. FROIDEFOND, P. CASTAING and M. BABIN (2009). Dynamics of the turbidity maximum zone in a macrotidal estuary (the Gironde, France): Observations from field and MODIS satellite data. Estuarine, Coastal and Shelf Science 81, 321–332. DOXARAN D., RUDDICK K. MCKEE D., GENTILI B., TAILLIEZ D., CHAMI M., and M. BABIN (2009). Spectral variations of light scattering by marine particles in coastal waters, from the visible to the near infrared. Limnology and Oceanography, 54, 1257-1271.