

National Report 2001 Images-France

In January 2001 at our annual national meeting we renew our scientific committee. Luc Beaufort was elected at the French representative and Franck Bassinot as vice Representative. The scientific committee is divided now in three panels:

1) Climate:

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|-------------------------------|-----------|
| - <u>Viviane Bout</u> | (Lille) |
| - Elsa Cortijo | (Gif) |
| - Nathalie Combourieux-Nebout | (Paris 6) |
| - Luc Beaufort | (Aix) |

2) Proxies:

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|----------------------------------|------------|
| - <u>Marie-Alexandrine Sicre</u> | (Gif) |
| - Philippe Bertrand | (Bordeaux) |
| - Jacques Giraudeau | (Bordeaux) |
| + Two invited J-GOFS | |
| - Paul Tréguer | (Brest) |
| - Catherine Jeandel | (Toulouse) |

3) Sismique & Coring

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|---------------------------|------------|
| - <u>Nicolas Thouveny</u> | (Aix) |
| - Franck Bassinot | (Gif) |
| - Thierry Mulder | (Bordeaux) |
| - Serge Berné | (Brest) |
| - Catherine Kissel | (Gif) |

Two participants to the international IMAGES program:

- Laurent Labeyrie (IMAGES Chair)
- Francis Grousset (new elected EXCOM member)

Participants:

About 75 research scientists (including PhD students), located in 11 different laboratories

- CEREGE (Aix-Marseille); contact: Luc Beaufort [beaufort@cerege.fr]
- COM (Marseille); contact: Christian Robert [robert@com.univ-mrs.fr]
- EPOC (Bordeaux); contact: Francis Grousset [grousset@geocean.u-bordeaux.fr]
- IRD (Bondy); contact: Luc Ortlieb [Luc.Ortlieb@bondy.ird.fr]
- ID (Grenoble); contact: Marie Revel [marie.revel@ujf-grenoble.fr]
- LGBS (Paris); contact: nebout@ccr.jussieu.fr
- LODYC (Paris); contact: Catherine Pierre [cat@lodyc.jussieu.fr]
- LSCE (Gif-sur-Yvette); contact: Laurent Labeyrie [Laurent.Labeyrie@cfr.cnrs-gif.fr]
- LSG (Lille); contact: Viviane Bout [Viviane.Bout@univ-lille1.fr]
- MNHN (Paris); contact: Jean-Pierre Caulet [caulet@mnhn.fr]

Meetings:

Once a year, we have a meeting usually in Paris, devoted to administrative & technical information, and IMAGES cruise organisation. Our next meeting will be held in Aix-en-Provence, January 23th.

Every couple of years, we organise a two-day meeting ["Les Journées de Paléocéanographie"], focused on recent results obtained with the IMAGES cores. 50% of the orators are PhD students or post-doctorate fellows. Other IMAGES participants are more than welcome. Our next meeting of this type will be during fall 2002.

Commitments:

Each time an IMAGES cruise is planned by the SCICOM, our community must write a French proposal in order to obtain the Marion-Dufresne ship. This proposal, -- along with foreign country participant proposals --, has to go through two successive evaluation steps: the Ifremer Geosciences committee and then the Polar Institute (IFRTP) scientific committee. When the ship is obtained, the cruise is finally planned if the foreign country financial participations are confirmed. Soon, we hope that the proposals will have to be submitted to IODP and supported by the EC

Marion-Dufresne cruises:

French IMAGES participants are always involved in the IMAGES cruises (both as co-chief scientists and regular participants). Thus, we participated in all the five first cruises: IMAGES 1 (North Atlantic), IMAGES 2 (South African margin), IMAGES 3 (Southern Indian, Western Pacific oceans and South China Sea), IMAGES 4 (Australia/China Sea), IMAGES 5 (North Atlantic), IMAGES 7 (Western Pacific Ocean). The Marion-Dufresne ship and its giant-corer CALYPSO are under the responsibility of the French Polar Institute. The IMAGES-France participants do co-operate permanently with this institute, proposing corer and ship improvements, interacting particularly with the ship engineer Yvon Balut [Valerie.Hadoux@ifrtp.ifremer.fr].

In 2001 IMAGES France strongly participated to IMAGES 7 in the Western Pacific Ocean. Franck Bassinot was the French co-chief scientist. This collected a number of very exciting cores from the warm pool to the sea of Okhotsk and the French cores will be studied in Gif under the responsibility of Franck Bassinot.

Also in the side of IMAGES program a Marion-Dufresne cruise took place in the Mediterranean Sea in the North West Atlantic. Although this cruise was a succession of small independent programs, most of them had an IMAGES thematic and one of them received the IMAGES France Label (COLARGOL close to Corsica). Two cores were taken and will be studied under the responsibility of Thierry Mulder.

We are now preparing the IMAGES 2002 cruise program, of IMAGES VIII. Two cruises are planned. MONA (Marge Ouest Nord Pacific = Western Margins of the North Pacific) which will take cores between Vancouver and Panama. This cruise involves 8 participating countries at PI levels. The French co-chief will be Luc Beaufort. The second, PAGE, will take cores in the Gulf of Mexico. The French co-chief will be Laurent Labeyrie.

Most of IMAGES participant

French WEB sites related to the IMAGES-France activity:

- CEREGE-Aix-Marseille: www.cerege.fr
- NRS-"Climat page": www.cnrs.fr/dossiers/dosclim/index.htm
- EPOC-Bordeaux: www.cribx1.u-bordeaux.fr/ub1/UFR_terremer/epoc/Umr5805.htm
- MNHN-Paris: www.mnhn.fr/mnhn/geo/colocean.htm
- IFREMER-Brest: www.ifremer.fr
- IRD-Bondy: www.ird.fr
- LSG-Lille: www.univ-lille1.fr/geosciences/
- Polar institute (IFRTP-Brest) www.ifremer.fr/ifrtp/

Publications involving French research scientists (2000-2001):

A comprehensive listing is available [here](#)

2002.

Bard E (2001). Paleoceanographic implications of the difference in deep-sea sediment mixing between large and fine particles. *Paleoceanography* 16,235-239.

Bard E (2001). Perspective: Extending the calibrated radiocarbon record. *Science* 292, 2443-2444.

Bard E, Rostek F, Turon J-L, Gendreau S (2000). Hydrological impact of Heinrich events in the subtropical northeast Atlantic. *Science* 289,1321-1324

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Beaufort, L. and Heussner, S., 2001. Seasonal dynamics of calcareous nannoplankton on a west european continental margin: the bay of Biscay. *Marine Micropaleontology*, 43, 1-2, 27-55.

Beaufort, L., de Garidel Thoron, T., Mix, A.C. and Pisias, N.G., 2001. ENSO-like forcing on Oceanic Primary Production during the late Pleistocene. *Science*, 293, 2440-2444.

- Bertrand Ph., Pedersen, T.F., Martinez, Ph., Calvert, S.E, and Shimmield, G.B., (2000) Sea-level impact on nutrient cycling within and from coastal upwelling areas during deglaciation: evidence from nitrogen isotope measurements off northwestern Africa. *Global Biogeochemical Cycles*, V14, n°1, 341-355.
- Bertrand, P., Giraudeau, J., Malaize, B., Martinez, P., Gallinari, M., Pedersen, T.F., Pierre, C., Vénec-Peyré, M.-Th. (in press) Occurrence of an exceptional carbonate dissolution episode during early glacial isotope stage 6 in the Southeastern Atlantic. *Marine Geology*.
- Bertrand, P., Pedersen, T. Schneider, R., Shimmield, G., Verges, E., Disnar, J.-R., Massias, D., Villanueva, J., Tribouvillard, N., Huc, A. Y., Giraud, X., Pierre, C., And Venec-Peyre M. Th., Organic-Rich Sediments In Ventilated Deep-Sea Environments : climate, sea-level and trophic changes. *JGR*, en révision
- Bertrand, P., Stow, D., and Grauls, D., (in press) Organic matter, fluids, gas hydrates, and related benthic and bacterial activities in deep sedimentary environments of the continental margins. *Marine & Petroleum Geology*.
- Bory, A. et al., 2001. Particle flux within different productivity regimes off the Mauritanian upwelling zone (EUMELI program). *Deep Sea Res. part I*, 48(10): 2251-2282.
- Calvo, E., J. Villanueva, J.O. Grimalt, A. Boelaert, and L. Labeyrie, New insights into the glacial latitudinal temperature gradients in the North Atlantic; results from UK'37 sea surface temperatures and terrigenous gradients, *E.P.S.L.*, 188, 509-519, 2001.
- Cortijo, E., M. Elliot, L. Labeyrie, N. Tisnerat, E. Balbon, and J. Atkins, Rapid climatic variability of the North Atlantic Ocean and global climate: a focus of the IMAGES program, *Quaternary Science Reviews*, 19, 227-241, 2000.
- Crosta X., Shemesh A., Salvignac M.E., Michel, E., Gildor, H. and Yam R. (in press) Late Quaternary variations of elemental ratios (C/Si and N/si) in diatom-bound organic matter from the Southern Ocean. *Deep-Sea Research II*.
- Crosta, X., and Shemesh, A. (in press) Reconciling downcore anticorrelation of diatom carbon and nitrogen isotopic ratios from the Southern Ocean. *Paleoceanography*.
- de Garidel-Thoron, T., Beaufort, L., Linsley, B.K. and Dannenmann, S., in press. Millennial-scale dynamics of the East Asian winter monsoon during the last 200,000 years. *Paleoceanogr.*, 2001, 16, 1-12.
- Duplessy, J.C., L. Labeyrie, and C. Waelbroeck, Constraints on the ocean oxygen isotopic enrichment between the last glacial maximum and the Holocene: Paleoceanographic implications, *Q.S.R.*, 21, 315-330,
- Elliot, M., L. Labeyrie, and J.C. Duplessy, Changes in North Atlantic deep-water formation associated with the Dansgaard-Oeschger temperature oscillations (10-60 ka), *Q. S. R.*, in print, 2001.
- Elliot, M., L. Labeyrie, T.M. Dokken, and S. Manthé, Coherent patterns of ice rafted debris deposits in the Nordic regions during the last glacial (10-60 ka), *Earth & Planetary Science Letters*, in press, 2001.
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- Giraud X., Bertrand, P., Garçon, V., Dadou, I., (2000) Modeling d15N evolution: First palaeoceanographic applications in a coastal upwelling system. *J. of Marine Research*, 58, 609-630.
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- Guichard, S., Jorissen, F.J., and Peypouquet, J.P., (1999) Late Quaternary benthic foraminiferal records testifying lateral variability of the Cape Blanc upwelling signal. *C.R. Acad. Sci. Paris*, 329, 295-301.
- Jorissen, F.J., and Rohling, E.J., (2000) Faunal perspectives on paleoproductivity. *Marine Micropaleontology*, 40, 131-134.
- Jorissen, F.J., and Rohling, E.J., (Editors) (2000) Foraminiferal proxies of paleoceanography. *Marine Micropaleontology*, 40 (3).
- Labeyrie, L., Glacial Climate Instability, *Science*, 290 (5498), 1905-1907, 2000.

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- Manthé, S., Bareille, G., Salvignac, M.-E., Labracherie, M., Lemoine, F., and Labeyrie, L., (2000) Variability and origin of terrigenous input in the Indian sector of the Southern Ocean during the last 30,000 years. *Oceanologica Acta*, 23, 143-158.
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- Pailler D, Bard E. High frequency paleoceanographic changes during the past 140,000 years recorded by the organic matter in sediments off the Iberian Margin. *Palaeogeography, Palaeoclimatology and Palaeoecology* in press
- Pierre, C., Saliege, J.F., Urrutiaguer, M.J., and Giraudeau, J. (2001) Stable isotope record of the last 500 k.y. at Site 1087 (Southern Cape Basin). *Proc. ODP Sc. Res.*, 175, 1-22.
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- Sanchez-Goñi, M.F., Cacho, I., Turon, J.-L., Guiot, J., Sierro, F.J., Peyrouquet, J.-P., Grimalt, J., and Shackleton, N.J. (in revision) Synchronicity in the Mediterranean marine and terrestrial response to rapid climatic variability of the last glacial period. *Climate Dynamics*.
- Sánchez-Goñi, M.-F., Turon, J.-L., Eynaud, F., and Gendreau, S. (2000) European Climatic Response to Millennial-Scale Changes in the Atmosphere-Ocean System during the Last Glacial Period. *Quaternary Research*, 54, 394-403.
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- Trentesaux, A., Recourt, P., Bout-Roumazeilles V. and Tribouillard, N., 2001.- Carbonate grain-size distribution in hemipelagic sediment from a laser particle sizer. *Journal of Sedimentary Research*, sous presse.
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- Villanueva, J., E. Calvo, C. Pelejero, J.O. Grimalt, A. Boelaert, and L. Labeyrie, A latitudinal productivity band in the central North Atlantic over the last 270 kyr: An alkenone perspective, *Paleoceanography*, 16 (Dec), 617-625, 2001.
- Waelbroeck, C., J.-C. Duplessy, E. Michel, L. Labeyrie, D. Paillard, and J. Duprat, The timing of the last deglaciation in North Atlantic climate records, *Nature*, 412, 724-727, 2001.
- Waelbroeck, C., L. Labeyrie, E. Michel, J.C. Duplessy, J.F. McManus, K. Lambeck, E. Balbon, and M. Labracherie, Sea-level and deep water temperature changes derived from benthic foraminifera isotopic records, *Q. S. R.*, 21, 295-306, 2002.

Publications involving French research scientists on IMAGES Cores (2001):

A list under construction is available [here](#)

- Beaufort, L., de Garidel Thoron, T., Mix, A.C. and Pisias, N.G., 2001. ENSO-like forcing on Oceanic Primary Production during the late Pleistocene. *Science*, 293, 2440-2444.
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