1. Bivalve shell $CaCO_3$

Samples were measured via a Finnigan MAT Delta Plus XL mass spectrometer in continuous flow mode connected to a Gas Bench with a CombiPAL autosampler at Iowa State University (Department of Geological and Atmospheric Sciences). Reference standards (NBS-18, NBS-19, and LSVEC) were used for isotopic corrections, and to assign the data to the appropriate isotopic scale. At least one reference standard was used for every five samples. The combined uncertainty (analytical uncertainty and average correction factor) for δ13C is ± 0.06‰ (VPDB) and δ18O is ± 0.10‰ (VPDB), respectively.

Date of Analysis: November 24, 2011.

Samples for Dr. Will Ambrose (Bates College)

Note* Regression-based error analysis

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2. Fish Tissues

Samples were measured via a Finnigan MAT Delta Plus XL mass spectrometer in continuous flow mode connected to a Costech Elemental Analyzer at Iowa State University (Department of Geological and Atmospheric Sciences). Eleven reference standards (3 Caffeine [IAEA-600], 3 IAEA-N1, 2 Cellulose, and 3 Acetanilide [laboratory standard]) were used for isotopic corrections, and to assign the data to the appropriate isotopic scale. Corrections were done using a regression method. The combined uncertainty (analytical uncertainty and average correction factor) for δ13C is ± 0.20‰ (VPDB) and δ15N is ± 0.13‰ (Air), respectively.

Date of Analysis: November 14, 2011.

Samples for James Wamboldt (ISU)

Note* Regression-based error analysis

3. Water (precipitation and river)

Samples were measured via a Picarro L1102-i Isotopic Liquid Water Analyzer, with autosampler and ChemCorrect software, at Iowa State University (Department of Geological and Atmospheric Sciences). Each sample was measued a total of six times, and to account for memory effects only the last three injections were used to calculate mean isotopic values. Reference standards (OH-1, OH-2, OH-3, OH-4) were used for isotopic corrections, and to assign the data to the appropriate isotopic scale. At least one reference standard was used for every five samples. The combined uncertainty (analytical uncertainty and average correction factor) for δ18O is ± 0.02‰ (VSMOW) and δD is ± 0.36‰ (VSMOW), respectively.

Date of Analysis: December 5, 2011.

Samples for Dr. Bill Simpkins (ISU)

Note* Regression-based error analysis

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4. Sediment organics

Samples were measured via a Finnigan MAT Delta Plus XL mass spectrometer in continuous flow mode connected to a Costech Elemental Analyzer at Iowa State University (Department of Geological and Atmospheric Sciences). Nine reference standards (3 Caffeine [IAEA-600], 3 IAEA-N1, and 3 Acetanilide [laboratory standard]) were used for isotopic corrections, and to assign the data to the appropriate isotopic scale. Corrections were done using a regression method.
The combined uncertainty (analytical uncertainty and average correction factor) for δ13C is ± 0.07‰ (VPDB) and δ15N is ± 0.10‰ (Air), respectively.

Date of Analysis: November 13, 2011.

Samples for Dr. David Gillikin (Union College)

Note* Regression-based error analysis