Terrigenous and nutrient inputs

**Intensified fluvial or aeolian flux**

- Increased productivity?
- Very high OM preservation
- Shale
- Greatest dilution and lowest carbonate production
- high SiEF and TiEF
- great stratification

**Subdued fluvial or aeolian flux**

- Decreased productivity?
- low OM preservation
- Limestone
- High carbonate production and very low dilution
- very low SiEF and TiEF
- intermediate stratification

**Increased oxygenation**

Very high OM: increased 12C sequestration
Reduced oxygenation: δ13Corg, δ15Norg
Enrichment in redox sensitive trace elements

**Low OM preservation: decreased 12C sequestration**
Decline in redox sensitive trace elements

**Intermediate low seasonality**

- Boreal winter at perihelion
- Boreal summer at aphelion
- Very low seasonality

**Boreal summer at perihelion**

- Great chemical weathering in the continent
- high sea level
- Low OM preservation: decreased 12C sequestration
Decline in redox sensitive trace elements

**Boreal winter at aphelion**

- Intermediate low seasonality
- Great chemical weathering in the continent
- low sea level
- high OM preservation: increased 12C sequestration
Referred to redox sensitive trace elements

**Intermediate high seasonality**

- Boreal winter at aphelion
- Boreal summer at perihelion
- Very high seasonality

**Boreal summer at aphelion**

- Great chemical weathering in the continent
- low sea level
- Increased productivity?
- Very high OM preservation
- Shale
- Greatest dilution and lowest carbonate production
- high SiEF and TiEF
- Great stratification

**Boreal winter at perihelion**

- low sea level
- Decreased productivity?
- very low OM preservation
- Marly limestone
- High carbonate production and low dilution
- very low SiEF and TiEF
- intermediate stratification

**High sea level**

- Intermediate high seasonality

**Relative poor vertical mixing**

**Great chemical weathering in the continent**

- High OM: increased 12C sequestration
Reduced oxygenation: δ13Corg, δ15Norg
Enrichment in redox sensitive trace elements

**Low OM preservation: decreased 12C sequestration**
Decline in redox sensitive trace elements

**Low 13C DIC**

**High 13C DIC**

**Eccentricity**

+ Precession driven seasonality
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