

## Contents

<b>Abstract . . . . .</b>	1
<b>Zusammenfassung . . . . .</b>	1
<b>1. Introduction . . . . .</b>	3
1.1 Purpose and approach of this study . . . . .	5
1.2 Paleophysiology of the North Atlantic Ocean . . . . .	5
<b>2. Methods . . . . .</b>	14
2.1 Data sources . . . . .	14
2.2 Stratigraphic control . . . . .	16
2.3 Lithologic data . . . . .	17
2.4 The calculation of sedimentation and accumulation rates . . . . .	19
2.5 Hiatuses . . . . .	21
<b>3. Distribution of major sediment facies . . . . .</b>	22
<b>4. Concentrations of major sediment components . . . . .</b>	31
4.1 Concentrations of terrigenous material . . . . .	31
4.2 Concentrations of biogenic sediment components . . . . .	34
4.2.1 Calcareous components . . . . .	34
4.2.2 Opaline components . . . . .	34
<b>5. Fluxes of major sediment components: Temporal and spatial patterns . . . . .</b>	36
5.1 Fluxes of bulk sediment . . . . .	36
5.1.1 Regional patterns . . . . .	36
5.1.2 Temporal and paleobathymetric patterns . . . . .	44
5.2 Fluxes of terrigenous components . . . . .	48
5.2.1 Regional patterns . . . . .	48
5.2.2 Temporal and paleobathymetric patterns . . . . .	55
5.3 Fluxes of biogenic components . . . . .	56
5.3.1 Fluxes of calcareous sediment components . . . . .	59
5.3.2 Fluxes of opaline sediment components . . . . .	70
<b>6. Interruptions of sediment flux to the sea floor: Hiatuses . . . . .</b>	80
6.1 Definition of hiatuses . . . . .	80
6.2 Hiatus distribution in the North Atlantic Ocean: Temporal patterns . . . . .	80
6.2.1 The entire North Atlantic . . . . .	80
6.2.2 Regional distribution of temporal patterns of hiatus occurrence . . . . .	83
6.3 Paleobathymetry of hiatus distributions in the Mesozoic and Cenozoic North Atlantic Ocean . . . . .	86
6.4 Discussion . . . . .	87
<b>7. History of North Atlantic sedimentation . . . . .</b>	91
<b>8. Conclusions . . . . .</b>	101
<b>9. Acknowledgements . . . . .</b>	104
<b>10. References cited . . . . .</b>	105