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## PREFACE

**M**any post-Flood phenomena and dating methods have been pooled together to paint a picture of repeating ice ages for a period of around 2.5 million years in geological time. These phenomena include deep-sea cores, pollen cores, varves, tree rings, tropical island coral terraces, and ice cores drilled on the Greenland and Antarctic Ice Sheets. Dating methods include carbon-14, uranium series disequilibrium, amino-acid racemization, electron-spin resonance, tephrochronology, and cosmogenic nuclides. Of all the methods used in determining the earth's age, the most detailed and supposedly the most accurate record is the one from ice cores.

The enormous Greenland and Antarctic Ice Sheets have intrigued man for many centuries. These continental scale masses of ice cover 15.6 million km<sup>2</sup> and are deeper than 3,000 meters in places. Glaciologists proclaim that these ice sheets represent hundreds of thousands to millions of years of slow accumulation of snow. Their arguments seem plausible given the current precipitation rate and the size of these ice sheets. The Christian that holds God's Word as sacred and inspired, and that believes God is able to communicate His thoughts accurately, realizes that the genealogy passages and many other verses in the Bible support a young earth of thousands of years old. If this is true, then how can we account for the Greenland and Antarctic Ice Sheets?

Scientists have drilled about a dozen ice cores in the Greenland and Antarctic Ice Sheets, as well as smaller ice caps, for over four decades. After the ice is brought up in hollow corers, the scientists measure numerous variables in the ice. They claim to have physically counted 110,000 annual layers or more in the GISP2 ice core obtained from the summit of Greenland. The argument is powerful that the earth is older than 6 to 10 thousands years.

Glaciologists also claim that ice cores are a window into future climate (Alley and Bender, 1998; Alley, 2004). They have discovered rapid changes in temperature in the ice cores and suggest that bone-chilling cold spells could be triggered by the increase in greenhouse gases. These abrupt changes have spawned a paradigm shift in climatology. The threat of rapid climate change is even making it into the popular imagination (Kolbert, 2002).

Naturalists and professing Christians who believe the earth to be millions to billions of years old have used the dates from ice cores as "solid" evidence against the literal interpretation of the Bible. For instance, Warren H. Johns (1993, p. 129) used the ice-core-obtained date of about 11,600 years BP [before present] for the end of the ice age to support the Irish-German tree ring chronology that extends to about that age in the uniformitarian timescale. Furthermore, the Greenland and Antarctic ice sheets, especially their old age, are claimed to be ultimate proof that Noah's Flood was not global (Seely, 2003).

Are the Greenland and Antarctic Ice Sheets showcases for uniformitarian geology and glaciology? Do the ice cores surely prove an old earth? As Christians, we need to apply 1 Thessalonians 5:21: "Prove all things; hold fast that which is good" (King James Version). Many Christian

intellectuals and lay people fail to follow this verse when they simply believe the interpretations of uniformitarian geology and evolutionary biology. While holding fast to God's sacred Scripture, we need to examine such claims—in depth, and carefully.

This monograph examines the Greenland and Antarctic Ice Sheets and their ice cores in depth. It focuses in on both specific and general aspects by scrutinizing whether 110,000 annual layers exist in the GISP2 core and by analyzing the claim that ice cores on Antarctica have reached down to ice that is from 400,000 to over 700,000 years old. The issue of why many data sets and chronological measurements seem to fit together and support the uniformitarian story of slow gradual processes over millions of years is also addressed. Finally, the monograph presents an alternative model and interpretation of the data, which is then contrasted with the uniformitarian old age model. Data that is more supportive of the Creation-Flood ice core model will be presented, as well.

melting (Layberry and Bamber, 2001). Figure 1.1 shows a map of the Greenland Ice Sheet with elevations above sea level (ASL) and the locations of the main ice cores drilled into the ice sheet. Table 1.2 displays the major climatic and topographic information of the Greenland ice cores. The NorthGRIP (Greenland Ice Core Project) core finally hit bedrock on July 17, 2003, after seven years of drilling that included a failed attempt, stuck drill corers, and very slow drilling for about the last 100 meters (Dahl-Jensen et al., 2002; Grossman, 2003; Oard, 2003c; North Greenland Ice Core Project Members, 2004).

Ice Sheet	Area (10 <sup>6</sup> km <sup>2</sup> )	Volume (10 <sup>6</sup> km <sup>3</sup> )	Avg. Depth (meters)	Max Depth (meters)	Avg. Precip. (cm/yr H <sub>2</sub> O)	Time to Build
Greenland	1.8	2.9	1,600	3,367	32	5,000 yrs
Antarctic	13.9	26.4	1,900	4,200	18.6	10,215 yrs

**Table 1.1** Area, volume, average depth, maximum estimated depth, average annual precipitation in water equivalent amount, and the time to build up the ice sheets at present precipitation if no melting is assumed.

Ice Core	Date Drilled	Surface Elevation (meters)	Ice Thickness (meters)	Core Depth (meters)	Avg. Temp. (°C)	Accumulation (cm/yr H <sub>2</sub> O)
Camp Century	1963–1966	1,885	1,390	1,390	–24	38
Milcent	1973	2,450	2,350	398	–23	50
Crete	1974	3,172	3,200	405	–30	32
Dye 3	1981	2,486	2,037	2,037	–20	56
Renland	1988	2,340	324	324	–18	50
GRIP	1990–1992	3,230	3,029	3,029	–32	23
GISP2	1989–1993	3,208	3,053	3,053	–31	24
NorthGRIP	1999–2003	2,921	3,080	3,080	–32	20

**Table 1.2** Major climatic and topographic properties of major Greenland ice cores.

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# The FROZEN RECORD

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