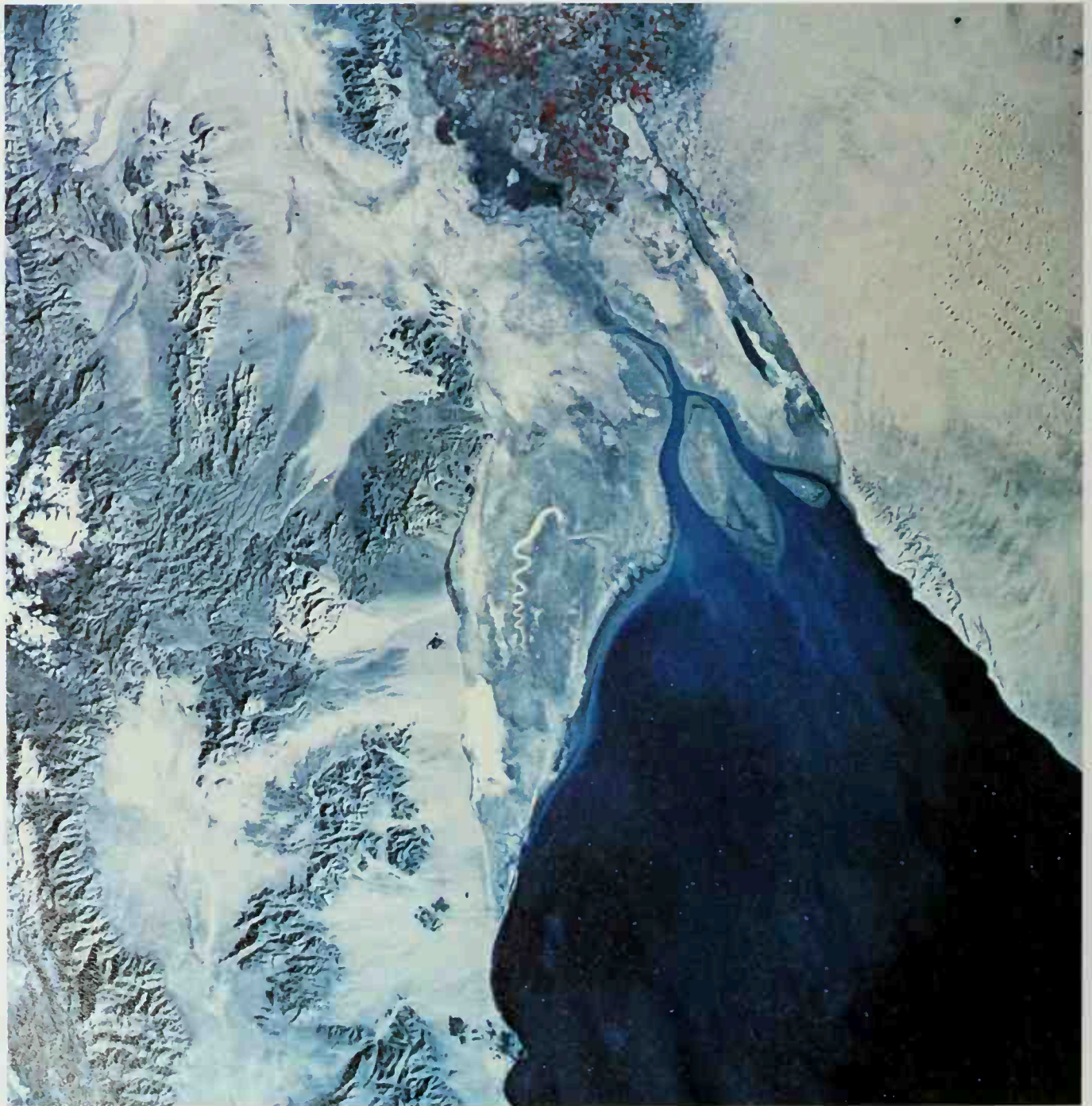




The North African coast of Morocco at the end of the Anti-Atlas mountains which run down from top right. False-colour photography brings out the mountains' structural features. A small storm is out over the Atlantic to the north-west.



The mouth of the Colorado river, showing sediment being carried out into the Gulf of California. Low-tide flats are visible and a tear-drop shaped depositional island. The false-colour photography accentuates the pattern of the cultivated fields in the lower Colorado valley.

3.8×10^9 years. (The age of the Solar System itself is calculated at 4.65×10^9 years, and that of the earliest primitive life forms on Earth at 3.4×10^9 years.)

Atmosphere

The origin and evolution of the Earth and the other planets will be discussed later, but the formation of the present atmosphere may profitably be mentioned here. Its composition is given in Table 5.2 and is largely the result of gases emerging from the interior. These materials eventually replaced the original atmosphere which probably contained considerable amounts of hydrogen and helium. Large quantities of carbon dioxide once existed, but the greater part of this is now dissolved in the oceans and locked up in carbonate rocks such as limestone. By photosynthesis in plants, a further fraction has been converted into the atmospheric oxygen essential to animal life forms, which could not arise until oxygen became an appreciable fraction of the atmosphere, that is, about 0.6×10^9 years ago. The vast amount of terrestrial water was also produced from the interior, but atmo-