

Isles, is not difficult; and as the soundings extend in some places for a distance beyond the reefs, vessels may drop an anchor in case of necessity.

The flood tide among these islands sets to the westward; beyond its influence, on the southern side of the islands, a current generally prevails to the eastward, while it runs westward on their northern side. Vessels, therefore, when beating to windward, would find it to their advantage to keep on the southern side of the group, where there is not only a favourable current, but where the winds would be found more regular, and calms less frequent.

Tidal observations were made contemporaneously at Tutuila, Upolu, and Savaii; these show a regular difference of one hour in the tidal wave between Tutuila and Upolu: the tide at Savaii appears from the record to have been more irregular than at the other islands, which may in part be attributed to the extent of the reef, but I also fear that there may have been a want of due attention to the observations.

The climate of these islands may be termed variable, and there is much bad weather, particularly during the winter months, when long and heavy rains, attended at times with high winds and northerly gales, are frequent. Destructive hurricanes also occur, and of these one is still recollected which blew down the bread-fruit trees, and destroyed many of the houses.

The air is more moist than that of the Society Islands, and the vegetation in consequence more luxuriant. Thunder and lightning are often experienced, but during the summer months light winds and calms are the prevailing characters of the climate.

Some of our gentlemen made the remark, that, to judge from the time at which the bread-fruit was gathered, there must be a great difference between the seasons of this island and Tahiti; for when we arrived at Tutuila, that product was ripe and in abundance, although when we left Tahiti, only a few days before, it was unripe and not to be had. The same remark was made in relation to the vi-apple (*Spondias dulcis*.) But, by comparing the voyages of Cook and Wallis, it would appear that the time of the year at which the bread-fruit is in season at Tahiti is not constant, for both these navigators found it in perfection, although they visited that island in different months. If there be a difference between the time of the ripening of the bread-fruit in the Society Islands and this group, the greater moisture and higher mean temperature of the Samoan climate will account for it.

The temperature of the air at Apia varied from  $77.7^{\circ}$  to  $80.2^{\circ}$ ; that of the water from  $81.25^{\circ}$  to  $83.75^{\circ}$ .

The mean height of the barometer in the group was 30.128 in.