

Easter Island (Rapa Nui) is the most isolated land mass on planet earth

the early settlers called the island “te pito o te henua” (navel of the world)

Admiral Roggeveen, who came upon the island on Easter Day in 1722 named it Easter Island. Today the land, people and language are all referred to locally as Rapa Nui.

Poike was the first volcano to erupt 3 mil years ago – it is 370m high, it has a dry crater, 150 m in diameter and 15 m deep.

Second was Rano Kau- 2.5 mil years ago – 300 m high, 1.6 km in diameter and a fresh water lagoon 11 m deep.

third is Terevaka – 300,000 years ago, 200 meter diameter and an interior lagoon. the highest point in Rapa Nui at 511 m above sea level.

Moai (statues)

made of basalt, had long and snubbed noses; prominent cheekbones; very fine and joined lips; prominent and pointed chins; large ears.

Number of Moai registered to date:	887
Moved and erected to an AHU:	288
Remaining at quarry:	397
En route to an AHU:	92

the average moai was 4.05 meters tall, and weighed 12.5 metric tons.

Less than 1/3 carved reached their AHU.

Questions: were the moai left because it was difficult to move them? not worthy of moving? carved with intentions of leaving at quarry? or did they run out of resources to move the moai?

biggest moai: quarry at Rano Raraku called El Gigante 21.6 meters high – 160 to 182 metric tons

biggest moai erected: Ahu Te Pito Kura, 9.8 meters high, 74 metric tons

smallest: Poike, 1.13 meters high

largest moai fallen during erection: Ahu Hanga Te Tenga, 9.94 meters high

environmental history of Rapa Nui (human impacts and why they occurred)

Pacific islands are different because they are isolated, large land masses can recover, whereas islands may not.

chronology:

30,000 bp island existed as sub-tropical forest

core samples were conducted in crater lakes to recreate flora before human contact

people arrived on Rapa Nui 400 AD to find a subtropical palm forest with a few species of woody bushes, grasses, ferns (approximately 14 woody species and small fruits)

tree daisies, paper mulberry for clothing, hauhau trees for ropes, and toromiro trees which produce a dense mesquite-like firewood were useful

the Rapa Nui palm is closely related to the still surviving Chilean wine palm, that grows up to 82 feet tall and 6 feet in diameter (large enough to transport and erect statues as well as in building large canoes)

the first human impact can be dated, but resolution over the last 1,000 years is difficult

archaeology is helping to determine the details of the last 1,000 years

the Polynesians that eventually arrived on Rapa Nui didn't find many food species to eat

fishing was primary food source ancient Polynesian sites contain over 90% fish bones

over time the fishing diminished due to limits (no big nets, no coral reefs or lagoons) some porpoise bones found

seabirds nested on the islands and consisted of albatross, boobies, frigates, fulmars, petrels, prions, shearwaters, terns and tropical birds with 25 nesting species Rapa Nui was plentiful of bird species.

over time the bones found in the archaeological sites show little porpoise, seabird land birds and fish and an increase of rat bones.

shellfish were larger in past then reduced in size. lobster was almost eradicated due to human consumption. 167 species have been described, 28% are exclusive to Rapa Nui.

land creatures include: chickens brought to the island, rats and species of wall lizards

agriculture

emphasis was on agriculture first priority to establish field systems (slash and burn) clearing of land for agriculture and fuelwood occurs until 1650s when fuelwood runs out after 1650 only grasses were found in umus (hearths/ovens)

an abrupt change from stick fuel to grass fuels included sugarcane scraps and sedges

as a result of deforestation limited moisture was swept away by wind, sun and nutrients dried up which led to a second impact:

agriculture was needed to provide storage control and economics paying for intensification and growth effects of population

70% of the island was transformed into gardens

lithic garden mulch system

the modern landscape looks disorderly, but yet is very organized. rocks are concentrated due to tearing apart boulders and placing lithic mulch down to retain moisture in soil

earth movement wind or rain could not move stones all over island as found, it has to be due to human impact

landscape of rapa nui is completely artificial

2 problems with climate: limited water for people and plants and dry season of 4-5 months (summer to fall)

light rain gets swept away by wind and does not soak into ground lithic mulch allow moisture to stay

(mining the volcanic quarries for basalt, obsidian, the moai, paenga, etc.)

similar effects were faced in Hawaii on the dry side of the big island. it has the largest dryland field system (4-5 miles long) along with grid and terracing systems that deflect wind and allow plants to grow. No lithic mulch but introduced other techniques for evapotranspiration

mulch gardens found on rapa nui also include decomposition and charcoal to help

soil erosion is a result of deforestation whereby tropical trees have shallow root systems, that are then exposed and eroded

rapa nui has an indigenous grass that has a tight weave and lithic mulch allowed minimum soil erosion, soil runoff and wind swept erosion

the steep slopes of poike and rano kau were not used for agriculture, but balanced by terevaka's low sloping fields

these methods seemed to be sufficient and allowed population growth (7,000-20,000) but as demands increased, it took great manpower

droughts occurred and current intensification could not continue level of production

chiefs then demanded more with cycles of demand and more on people and production, there was eventual social revolt

around 1700 the population crashed and people took to living in refuge caves

chickens introduced along with taro and manioc replaced fishing

after trees were cut down, no boats were to be made and seabirds became extinct

contact ceased to exist outside of the island

chronology

forest destruction begins 800

palm became extinct 1400

moai (statue) construction peaked 1500

1680 revolts war between the long and short ears

1700 vaitea abandoned chiefdoms and agriculture move back to lowlands

European contact in 1700s brings disease

orongo bird-man cult brings union and order back to island

1775-630 rapa nui people

1800s bring disease, slavery, Christianity

1808 an American ship "nancy" kidnaps rapa nui people which later drown

1862 8 peruvian slave ships kidnap over 1,000 people including the king, his son and the high priests over 90% of rapa nui people die

only 15 slaves return to rapa nui

by 1864 the last statue had been thrown down and desecrated..

the rongor script, the only written language in oceania is found on rapa nui

by 1877 111 christianized islanders exist on rapa nui

rapa nui governed by chile since 1888

while deforestation and environmental degradation impoverished the island over time there is a theory that high levels of production still could have been sustained using the lithic mulch system to control water and moisture conservation

based on this premise it is hypothesize that the decline in total moisture is the only factor that would effect the productivity in a significant way

current facts:

over 90% of food is imported

10% locally grown

cattle and horses graze, only a small fraction actually used for food

10% of land area is lived on

rapa nui is a national park governed by the country of chile