GG104 F 2007 potential final questions: these will be updated after each class meeting, and posted at: http://www.higp.hawaii.edu/~scott/GG104/GG104_f07_final_review.pdf

All powerpoints from the class (except for the Tsunami one) are on the web at:
http://www.higp.hawaii.edu/~scott/GG104/Powerpoint_presentations/

1. Where did Pele come from?
2. What are the corners of the Polynesian triangle?
3. Approximately when did people first arrive in Hawai‘i?
4. Which sides of the Hawaiian islands were settled first, and why?
5. What is dualism, for example, in the Kumulipo?
6. How are kalo and the Hawaiian people related to Papa and Wākea?
7. What are some of the plants that colonize new lava flows?
8. How is magma produced at a subduction zone?
9. Why does that magma typically produce explosive eruptions?
10. Where and why are there earthquakes at subduction zones?
11. What is the typical relationship between an indigenous legend and a strato volcano (what types of spirits do the strato volcanoes typically represent?)
12. What do the eruptions of stratovolcanoes typically represent in indigenous legends?
13. What is the relationship (maybe) between the huge Kuwae (Vanuatu) eruption and events elsewhere in the world?
14. How was an indigenous story used to help solve the problem of the “mystery” eruption that apparently caused so much havoc elsewhere in the world?
15. What are the two scales that are used to measure Earthquakes?
16. How do these two scales work?
17. How are p-waves and s-waves different?
18. How do you use the s-wave delay to locate an earthquake?
19. What is stress and strain?
20. What is the difference between earthquake focus and earthquake epicenter?
21. Why do we have earthquakes in Hawai‘i?
22. Why are earthquakes dangerous?
23. If you were marooned on a deserted island, how would you use geological materials to hunt, cook, keep warm, defend yourself, etc?
24. Why is pōhaku ‘elekū better for cooking than pōhaku ‘alā?
25. What is a good reason for humanizing or personifying places (islands, valleys, etc.)?
26. What is one reason that olden-day Hawaiians enjoyed telling stories of Kamapua’a and his dealings with ali‘i?
27. How do you combine physics with a stone to defend yourself?
28. What are the three major categories of earthquakes in Hawai‘i? (where, why, how big, how frequent, etc.)
29. What are normal and reverse and strike-slip faults?
30. What is the evidence for glaciation on Mauna Kea?
31. Why would there be glaciers there in the first place?
32. What do you need to produce a glacier?
33. What is a moraine?
34. What is hyaloclastite?
35. How do you recognize a moraine?
36. Who are the deities associated with ice and snow in Hawaiian mythology?
37. What might the fights between Poli‘ahu and Pele represent?
38. Where, in Hawai‘i, could these possibly have been witnessed by people?
39. What are some of the reasons for the controversy regarding telescopes on Mauna Kea?
40. What explains some of the deeply-eroded gullies on the upper flanks of Mauna Kea?
41. What is the possible connection between glaciers and Haleakalā?
42. Was there ever glaciation on Mauna Loa?
43. Where are the major island groups in the Pacific Ocean?
44. Approximately when did people populate them?
45. What are ways of categorizing volcanoes?
46. What are strengths and weaknesses of these categorization techniques?
47. What are the 6 types of volcanoes if you categorize them via morphology?
48. What are characteristics and examples of these 6 volcano types?
49. How do archaeologists try to figure out where stone implements come from?
50. How would a geologist help an archaeologist figure out the source of a stone implement?
51. Why is fine-grained, equi-granular rock best for making an adze?
52. Why do archaeologists seem to concentrate on adzes when studying societies (as opposed to poi pounders or ‘ulumaika)?
53. Are fractures in stone good or bad for making an adze?
54. What is a “sphere of influence”?
55. What are texture, mineralogy, and chemical composition with respect to stone implements?
56. Which of these three were exploited by indigenous people?
57. Which of these three is best for tracing stone?
58. What are some of the different quarry types in the Pacific?
59. How would you identify a quarry if you were looking for one today?
60. What is the difference between a quarry and a workshop?
61. If you see a change with time in the type and original location of stone in an archaeological site, what might that indicate?
62. What are some of the geological aspects of islands that might have an effect on the cultures that develop there?
63. What are high islands and low islands?
64. With regard to living on them, what is the biggest difference between high and low islands?
65. What are the different types of high islands?
66. What are the different types of low islands?
67. What is an atoll, and how does it form?
68. How would you get a raised coral platform island?
69. How does island age affect island society?
70. How does island topography affect island society?
71. What is the difference between looking at societies’ “success” pre-contact vs. post-contact?
72. What kinds of tool materials are available on a raised coral platform?
73. How do young shield volcanoes compare to young strato volcanoes when it comes to living there?
74. What are some of the reasons people might not want to evacuate when there is a volcanic crisis?
75. How would you guess that less-developed and well-developed societies react differently to volcanic crises?
76. How are tsunami generated?
77. Where are safe places to be during a tsunami?
78. Why are tsunami so difficult to detect in the open ocean?
79. How does the coastline (shape, offshore aspects) affect tsunami run-up and damage?
80. What are natural warning signs of a tsunami?
81. How is it that tsunami can travel all the way across the ocean with only minimal dissipation?
82. Why is it significant that Hawai‘i has not had a significant tsunami since 1960?
83. What do the different levels of tsunami alert (advisory, watch, warning) mean?
84. How are tsunami different from storm waves?
85. What do wai and puna mean, and why do they feature so commonly in Hawaiian place names?
86. What is the Ghyben-Hertzberg lens?
87. How can humans help/hurt fresh groundwater resources on ocean islands?
88. Why are there commonly springs along island coastlines?
89. What is dike-impounded water, and why is it important?
90. What is caprock, and why is it important?
91. What is an artesian well?
92. What is meant by “wet” and “dry” agriculture?
93. What geological, topographical, climatic, etc. conditions control whether or not a society uses wet vs. dry agriculture?
94. What are the human and time resources needed to maintain wet and dry agriculture?
95. What is the connection between wet and dry agriculture and conflicts between societies?
96. What is a geological reason that might explain why Kamehameha I never conquered Kaua‘i?
97. What are shoreline loss and beach loss?
98. What do humans do about shoreline and beach loss? What are the effects?
99. What is the difference between absolute and relative sea level change?
100. What are some causes of absolute sea level change?
101. What are some causes of relative sea level change?
102. Why are seawalls bad?
103. What is longshore transport? Why does it happen?
104. What do humans do to mess up longshore transport?
105. What are some of the limitations of living on Tuvalu?
106. What are some of the benefits?
107. Describe the typical physiography of a Tuvaluan island.
108. How does the geology and oceanography of Tuvalu affect the humans who live there?
109. What are some of the pro-active measures that the Tuvaluan government is taking to help its people?
110. What are chemical and mechanical weathering?
111. How does spheroidal weathering occur?
112. Why is soil an important aspect of human societies (modern and ancient)?
113. How do starting rock type, rainfall, and climatic temperature affect weathering and soil formation?
114. What is the relationship between vegetation and soil stability?
115. On Kohala, what were the factors that limited where the dry-field agriculture occurred?
116. Were the good soil conditions for that agriculture natural or human-made? How did Vitousek et al. figure this out?