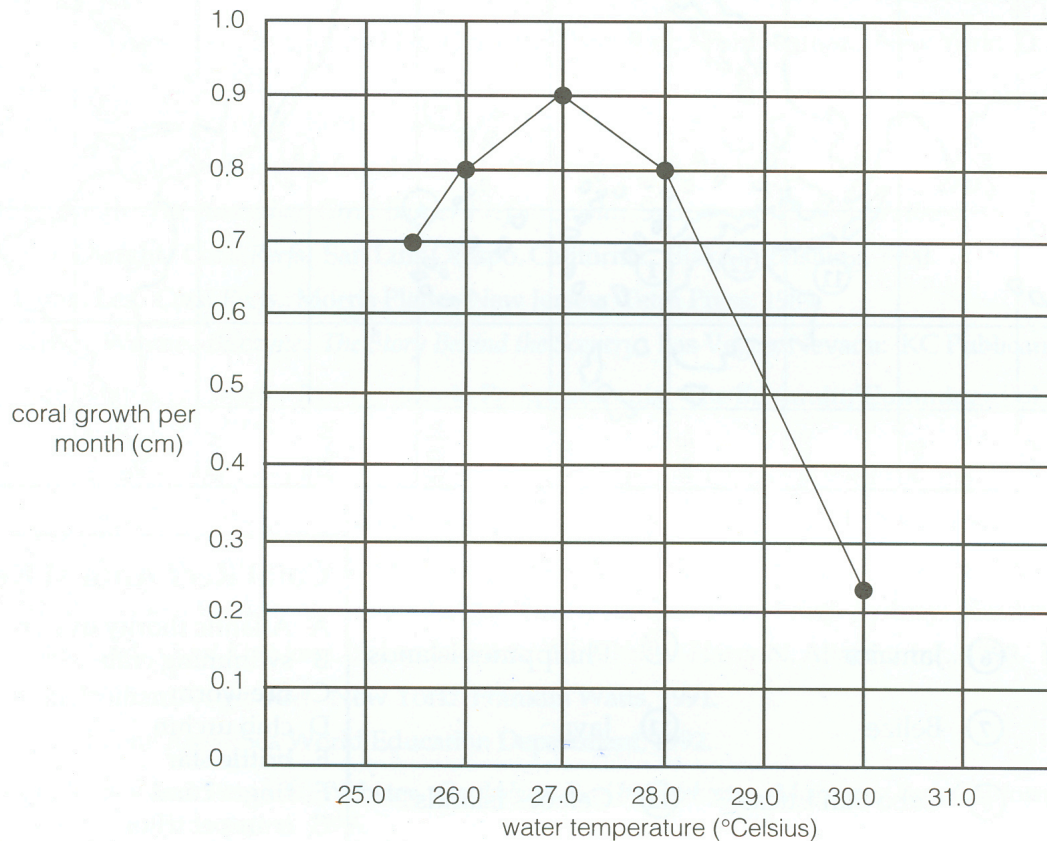


How Water Temperature Affects Coral Reef Growth

Reef-building corals require clear, warm water to thrive. By studying the temperature and growth data graphed below, you can discover what the optimum water temperature is for the staghorn coral *Acropora pulchra*, a type of upright, branching coral which is one of the fastest growing kinds of corals.

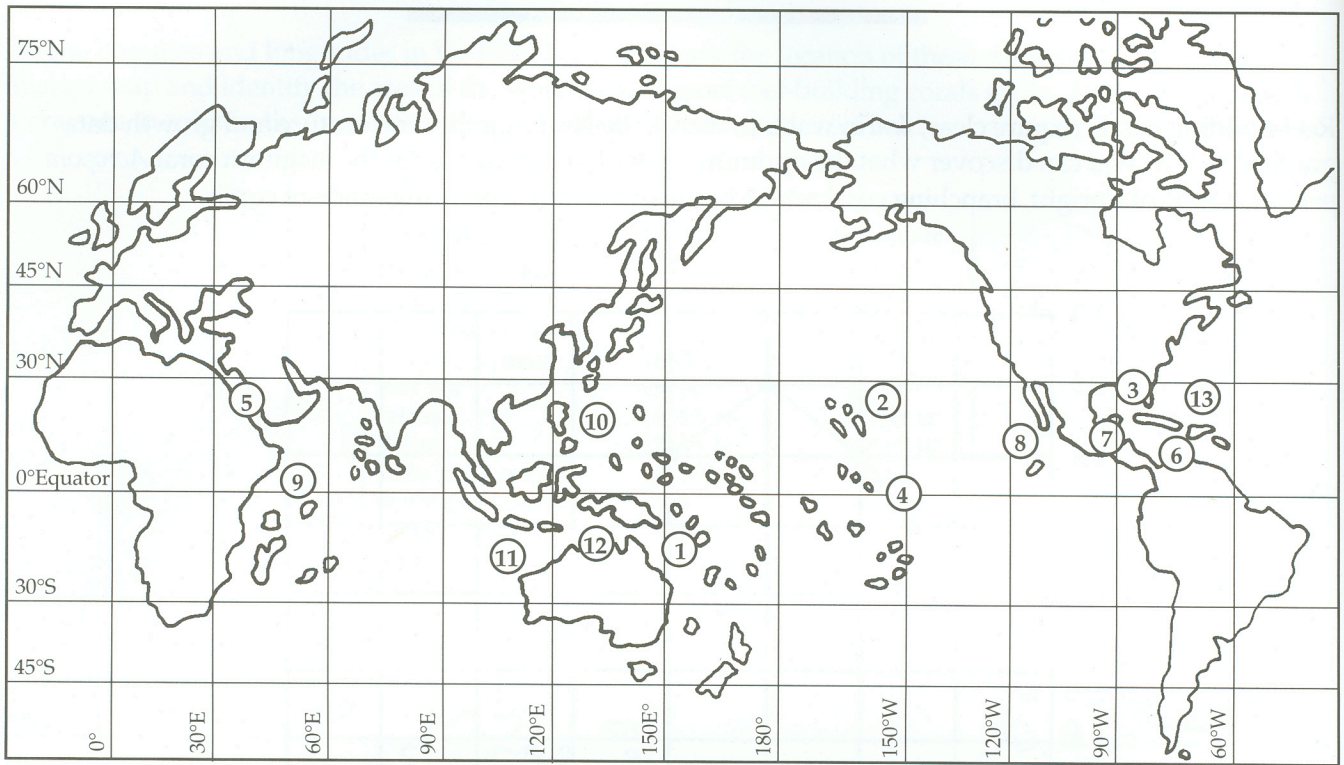


Data from Yap & Gomez (1981)

Interpret the graph above to answer these questions:

1. What was the fastest growth rate (in centimeters per month)?
2. What was the approximate water temperature when this rapid growth occurs?
3. At what temperature does the water seem to become too warm for coral reef growth?
4. At what water temperature in degrees Fahrenheit does this species of coral grow the fastest? (To change degrees Celsius into degrees Fahrenheit, you must multiply the °C by 1.8 and add 32.)
5. What range in degrees Fahrenheit does growth exceed 0.8 cm/mo?

Teacher's Answer Sheet



The Reef Region:

Location

- | | | |
|----------------------|----------------------|-----------------------|
| ① Great Barrier Reef | ⑥ Jamaica | ⑩ Philippines Islands |
| ② Maui, Hawaii | ⑦ Belize | ⑪ Java |
| ③ Key West, Florida | ⑧ Cabo San Lucas | ⑫ Celebes Islands |
| ④ French Polynesia | ⑨ Seychelles Islands | ⑬ Bahama Islands |
| ⑤ Red Sea | | |

How Water Temperature Affects Coral Reef Growth:

1. 0.9 centimeters per month
2. 27°C
3. more than 30°C
4. 80.6°F
5. 78.8-80.6°F

Coral Reef Animal Key

- A Atlantic thorny oyster
- B swimming crab
- C fire worm
- D club urchin
- E brittle star
- F finger coral
- G trumpet triton
- H corkscrew anemone
- I Spanish crab
- J elkhorn coral
- K club urchin
- L comb jelly
- M moon jelly
- N soft sea cucumber
- O Frons oyster
- P pillar coral
- Q comet star
- R long-spined urchin
- S polyclad flatworm
- T brain coral
- U rock lobster
- V spiny lobster
- W sun anemone