

KID'S KORNAR

Wildlife Warns Of Dangerous Weather

GALAPAGOS ISLANDS, Ecuador - In an age of high-altitude weather satellites and deep-sea oceanography, scientists here are paying close attention to what ancient land iguanas and sea snakes are saying.

And what the reptiles and other aboriginal animals on these primordial Pacific islands may be saying - in language only they really understand - is that unusually bad weather is coming.

The reason is that a startling number of animals here began mating and breeding months earlier than normal this year. Since heavy rains and storms would disrupt normal nesting patterns, naturalists say the animals may be anticipating harsh weather ahead.

Wild Changes

Indeed, some naturalists believe the early breeding is an early warning of another El Nino, the periodic warming of the equatorial Pacific that leads to wild and sometimes catastrophic changes in climate.

"Something is wrong," says Maria Laura Patino, a Galapagos National Park naturalist guide who is studying the animal behavior. "We think it could be El Nino."

If the theory is valid, it wouldn't be the first time that the endemic animals on these famed volcanic islands 600 miles off the Ecuador mainland have helped teach man the laws of nature.

Scientists say the early breeding may be an inbred response to minute environmental changes. Water in the central Pacific has been warmer than usual this summer and fall. And warm dry winds have blown from the northwest, instead of the usual cold "garua" drizzle that blows in from the southeast.

"Those animals are indeed feeling the warmer water," says Gene Rasmusson, who is monitoring the ocean changes at the Cooperative Institute of Climate Studies at the University of Maryland. "Many of these critters are cold-blooded, like the iguanas, and are very, very sensitive to temperature changes."

Feet Turn Golden

Galapagos land iguanas usually breed in January. By September this year, dozens of the large, leathery lizards already were golden yellow on their short feet and spiny necks and were fighting for food and territory.

"They were beginning to breed," says Ms. Patino, pointing out several golden-tinged iguanas sunning near tall prickly-pear cactus on South Plaza, one of 13 large islands in the archipelago. "That is impossible."

Equally unlikely, she says, marine iguanas and green sea turtles began breeding early last summer, months before their usual mating season, around Espanola and other islands.

Similarly, sea snakes typically seen only in January and February were abundant in August. And finches began building nests on Floriana Island months early.

Any help predicting an impending El Nino, a Spanish reference to the Christ Child because the storms usually arrive around Christmas, would be welcome.

Despite satellites and computers, scientists failed to predict the last El Nino, which wreaked havoc across three-fourths of the globe for eight months in 1982 and 1983 and was the worst natural catastrophe in a century.

Torrential rains, mud slides, and destructive tides devastated

communities from California to Peru. Typhoons and floods socked Southeast Asia. Record droughts hit Australia and southern Africa. More than 800 people died, and damage totaled \$8 billion.

Although still little understood, the 1982-83 El Nino started when easterly Pacific trade winds failed, allowing warm water to remain near the surface. Cold, nutrient-rich water usually carried north along the South American coast by the Humboldt Current stayed deep. Fierce storms spun off as the warming ocean pumped enormous amounts of extra heat and moisture into the air.

Galapagos Case Study

The Galapagos quickly became a case study for El Nino's effects, according to a recent 534-page study by the Charles Darwin Foundation for the Galapagos Islands, an internationally supported, nonprofit scientific foundation.

Thousands of sea lions and fur seals, colonies of sea birds like blue-footed boobies and albatrosses, as well as penguins, marine iguanas, green sea urchins, and other fauna starved to death as the ocean heated to 10 degrees C higher than normal, the report said.

"The whole marine food chain collapsed," explains Ramon Andrade, a spokesman for the foundation's Darwin Research Station in Puerto Ayora on Santa Cruz Island. "The worst thing was there was almost no nesting. Wildlife couldn't afford to breed. There was almost no food."

Centuries-old coral reefs died in weeks. "To get back the numbers of coral we had before will take hundreds of years," says Rodrigo Jacome, another naturalist guide.

And while there was no food in



A rain-drenched frigate bird huddles on its nest in the Galapagos Islands. Unseasonably early mating by animals on the islands this year have led naturalists to fear a return of El Nino, the periodic warming of the equatorial Pacific that leads to wild and sometimes catastrophic changes in climate.

the sea, there was too much on land. More rain fell on the Galapagos in six weeks than in a normal six years. In all, 130 inches of rain - more than 13 times normal levels - drenched the usually arid islands, the report said.

Thick shrubs, vines, and grasses flourished on lifeless lava. The population of finches and frigate birds, fire ants and mosquitoes, feral pigs and goats, and other land animals exploded amid the sudden bounty.

Even the giant land tortoises, those remarkable reptiles that grow to 600 pounds and live to 200 years (and gave the islands their name: "Galapago" means tortoise in Spanish), were affected.

Spurt Of Growth

"The Nino left a distinctive ring on every juvenile tortoise's shell," indicating a spurt of growth from the easy access to food, says Tom Fritts, a U.S. Fish and Wildlife Service biologist studying endangered species here.

He says heavy storm systems like El Nino thus may be crucial for long-term survival of the tortoises and other species. "It may be very important to the diversity of the Galapagos," he says.

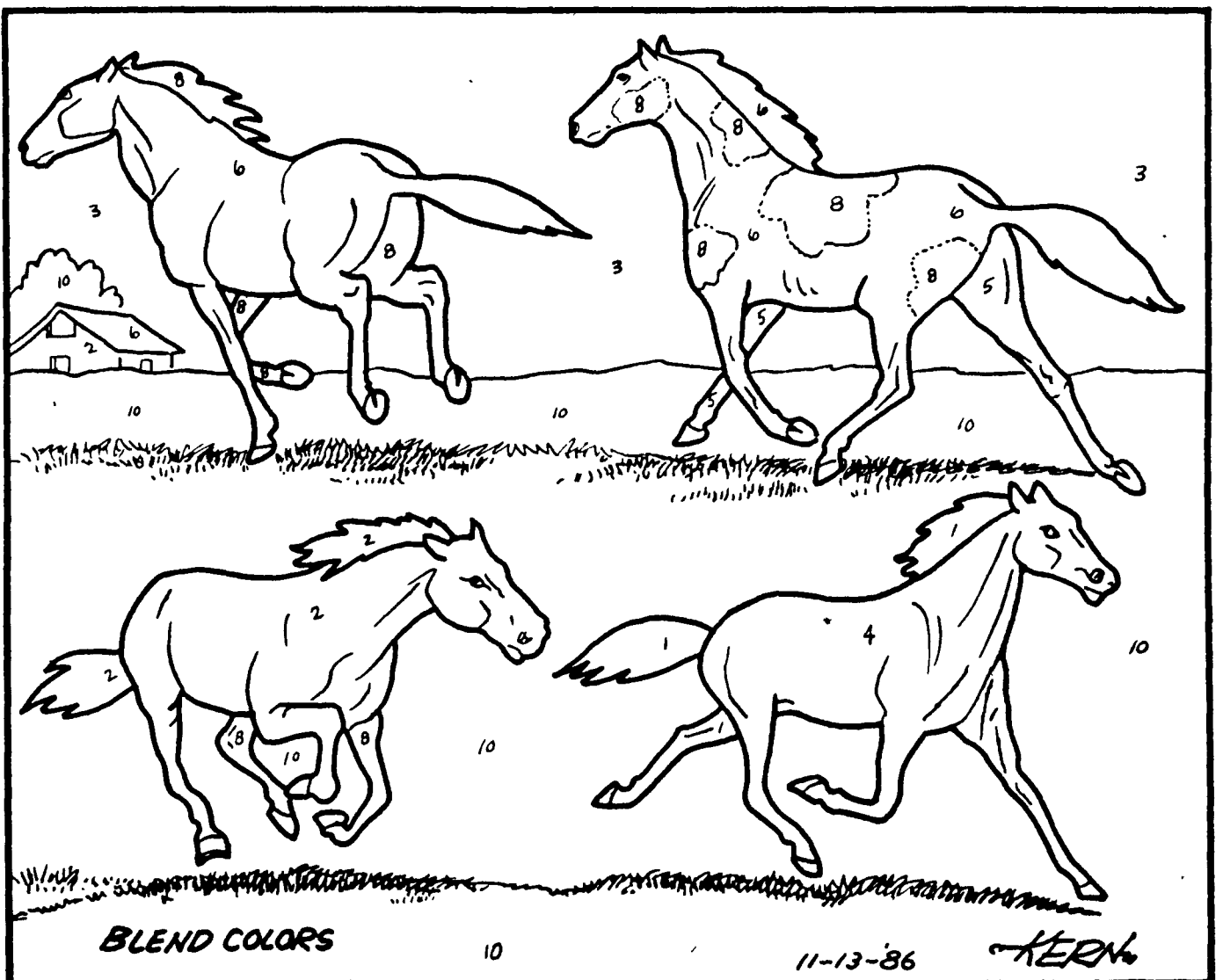
Today, after a two-year drought, most of the affected species are regaining their former members. But scientists are hoping that the iguanas and finches haven't finished teaching

"We still have much to learn here," says Andrade

COLOR THIS!

- | | |
|-------------|---------------|
| 1. BLACK | 6. PEACH |
| 2. LT. RED | 7. GREEN |
| 3. YELLOW | 8. LT. BROWN |
| 4. LT. GREY | 9. LT. BLUE |
| 5. BROWN | 10. LT. GREEN |

HORSES IN ACTION: THE HORSES LONG HEAD AND FLOWING MANE HELP MAKE IT A NOBLE LOOKING ANIMAL. THEY HAVE A KEEN SENSE OF SMELL AND HEARING. THEY USE THEIR HARD HOOFS AS THEIR CHIEF WEAPONS. THE HORSE HAS BEEN ONE OF MAN'S MOST DEPENDABLE FRIENDS FOR THOUSANDS OF YEARS.



BLEND COLORS

10

11-13-86

KERN