***Ocean Challenge Live!*–The Vendée Globe**
Solo, non-stop, around-the-world race

WEEK

11 Forces of Nature

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By Rich Wilson, Skipper
Aboard *Great American III*

Take a globe. Center it in your gaze at 15° South latitude, 155° West longitude. Look at all that Pacific Ocean!

The Pacific is huge, and down here in the southern part powerful low pressure weather systems keep marching along, circling Antarctica like beads on a necklace, pushing big waves, winds and currents in front of them.

A different, but similarly huge, oceanic force is in the North Atlantic, where the Gulf Stream moves massive volumes of warm water from the Gulf of Mexico, around Florida, up the east coast, and across the Atlantic, heating northern Europe to temperatures far more moderate than we have at the same latitude in North America.

Volcanoes are powerful forces of nature, too. In the Pacific, the volcanic islands of Hawaii rose up from a "hot spot" in the tectonic plates. On the sea charts, one can see a string of sub-surface mountains that didn't quite make it to the ocean's surface to become islands – these are called seamounts. In 15,000 feet of water, we passed a seamount a few days ago that rose to within 25 feet of the surface – now that's a mountain!

It's logical to feel very small in the face of nature's enormity, but mankind still has an effect on nature. We should minimize our impact so that our relationship can remain in the realm of awe.

The Gulf Stream

By Captain Murray Lister

Nature gives the world so many variations of force and climate. Think of the tides, rain, snow, wind, ice, hurricanes and typhoons. Let us now consider the forces involved in those of the ocean currents.

For the United States there are two main currents: the Gulf Stream coming from the Gulf of Mexico, and the California Current in the vicinity of San Francisco and Los Angeles. These ocean currents are created by the rotation of the earth.

The better known of the two is the Gulf Stream which flows westward through the Caribbean Sea, thence northeast past Florida, up the east coast of the US, and eventually completes a full circle of the Atlantic Ocean, returning to the Caribbean.

The forces involved allow this initially warm water to drift thousands of miles, to the extent that because the water temperature is still above freezing, even around the United Kingdom and the coastal regions of Europe in winter, there is no sea ice and thus all the ports in those regions are able to remain open year-round.

In the sailing ship days, once sea current forces were recognized, mariners used them to their advantage when making passage. Even today in motor ships, captains may utilize currents to allow quicker passage time to the next port so they can arrive earlier than scheduled and reduce the consumption of expensive fuel.

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