“It is a fact that wetlands store a lot of carbon that has the potential to be lost to the atmosphere more rapidly than any other tropical forest type,” he told The Jakarta Post on the sidelines of a three-day journalism workshop, “REDD+ and the Role of Wetlands”, in Sanur, Bali.

The workshop was held by the Center for International Forestry Research (CIFOR).

Warren said the best possible thing to do in order to cope with climate change was to preserve what already exists.

“If you drain the wetlands then you allow organic soil to have oxygen. The oxygen then is used by microorganisms to decompose organic matter and produce carbon dioxide [that goes out into] the atmosphere,” Warren said, adding that it would also cause burning merely through the combustion.

Wetlands, comprising mangroves and freshwater peat forests, account for 6 percent of the total land in the world while sustaining 40 percent of the biodiversity.

A recent study showed that Southeast Asia is home to 25 million hectares of peatland, or 56 percent of all tropical peatland.

Indonesia has 23 percent of all the mangrove forests on earth. Mangroves have important and essential functions for coastal protection, supplying energy and nutrients to coral reefs, protecting marine ecosystems from sedimentation and pollutants and as preserving ground for fisheries.

Conserving tropical wetland forests is therefore one of the most important things Indonesia can do to reduce the impact of climate change.

“Do not allow them to be drained and burnt because that will release carbon,” Warren said, adding that 25 percent of all carbon emitted into the atmosphere comes from wetlands being drained and burnt to become agriculture areas.

Indonesia now ranks as the fifth largest carbon emitter in the world due to its frequent forest fires and the massive conversion of peatlands.

Louis Verchot, a CIFOR senior researcher, said fossil-based emissions in Indonesia were low compared to forest-based emissions.

“It’s clear that emission reduction activities are related to what happens in the forests. And, what happens is, very high emissions come from peatlands and everybody, including the Indonesian government, believes that the emissions from peatlands are going to grow,” he told the Post.

More effort needs to be made to preserve peatlands by avoiding the further expansion of oil palm plantations or plantations for pulp wood within tropical peat forests.

“Better spatial planning may contribute to the more successful protection of peatlands,” said Verchot, adding that certain planning processes in Indonesia were contrary to the common understanding of the scientific community.

Efforts have been put in place at different levels to protect forests. But, challenges have occurred with decentralization.

“I don’t get involved in the process on the ground, but I have talked with communities who decried how land decisions were made. “Many new [palm oil] plantations were installed deeper than three meters, whereas we know that there is a law in Indonesia saying that no plantations are permitted in peatland deeper than three meters,” Verchot said.

Still, many local administrations, especially at the regency level, have allegedly given the green light to such illegal activity.