

# SCIENCE NEWS of the week

## Searching for a Breath of Clean Air

Air pollution poses a significant threat to the health and productivity of U.S. forests, says a report released last week by the American Forestry Association (AFA), based in Washington, D.C. The report recommends that Congress move as quickly as possible to reauthorize and revitalize the Clean Air Act to provide additional measures for controlling air pollutants associated with forest damage.

"There's little doubt in our minds that air pollution is impacting forest ecosystems in some serious ways," says R. Neil Sampson, AFA executive vice president. Although there is little conclusive scientific evidence that specific pollutants such as sulfur dioxide and nitrogen oxides damage trees directly, these and other pollutants are known to affect important parts of the forest ecosystem. Says Sampson, "We think that controls are warranted now."

"This is the first time any member of the forestry or forest products industry has called for legislative protections from the devastating effects of air pollution," says Susan Buffone, executive director of the National Clean Air Coalition in Washington, D.C. The AFA, which was established in 1875 and has about 30,000 members, is the oldest citizens' conservation organization in the United States devoted to maintaining and improving the health and value of trees and forests.

The AFA report comes at a time when Congress is again considering reauthorizing and amending the Clean Air Act, which was passed in 1970, was last amended in 1977 and expired in 1981. Key issues include measures to reduce acid deposition, to combat ozone and carbon monoxide pollution in urban areas, to curtail the emission of toxic substances, to control indoor air pollution and to develop technologies for burning coal more cleanly.

The report also signals an important shift from a focus on sulfur dioxide emissions and acid deposition to a broader perspective that includes a much wider range of potential pollutants, such as ozone, volatile hydrocarbons and toxic heavy metals (SN: 7/18/87, p.36). "There were a lot of things done [in the past] that were a little too focused on acid rain," says ecologist David W. Schindler of the Freshwater Institute in Winnipeg, Manitoba. "A lot of confusion has resulted because some [ecological problems] in

the air pollution realm go beyond acid rain." Schindler chaired a National Academy of Sciences panel that in 1981 produced a report on the wide range of interactions between the atmosphere and terrestrial ecosystems.

One indication of the shift toward studying the effects of a wider range of pollutants is evident in recent research sponsored by the National Acid Pre-

venting and coal-consuming regions have strongly resisted any move to increase emissions controls. This year, Congress has again seen a large number of proposals, including bills that simply call for more research and those offering a comprehensive revision of the Clean Air Act.

Congressional efforts to do something about air pollution are also tangled in a complicated debate about how to handle urban areas that will fail at the end of this year to meet mandated national standards for ozone and carbon monoxide levels (SN: 4/18/87, p.244). At least 50 major cities are affected. Earlier this month, Lee M. Thomas, Environmental Protection Agency (EPA) administrator, proposed delaying for at least three years the imposition of economic sanctions, such as withholding federal funds for highways, sewers and air pollution control, in order to give cities more time to implement programs to reduce pollution levels.

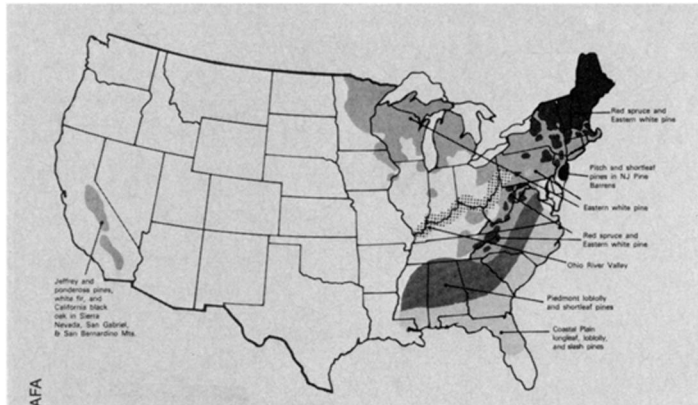
EPA officials say the new policy, which goes into effect next spring unless Congress passes legislation or court decisions delay its implementation, is made necessary by the present lack of congressional action. "This policy incorporates the kinds of measures that can be implemented by federal, state and local governments," says Thomas. "It lays out flexible deadlines that we know cities and states can meet through careful planning and determined implementation."

Representatives of northeastern states complain that the EPA plan is illegal and a retreat from the national goal of achieving clean air. Other critics contend that the new policy removes the incentives necessary to push local and state governments into taking action.

The EPA plan may finally force Congress to make a concerted effort to reauthorize the Clean Air Act. So far, a Senate committee has approved one comprehensive bill that may soon be considered by the entire Senate. The House, however, hasn't even gotten this far. "It's a very difficult political situation," says Larry Parker of the Congressional Research Service. "I wouldn't hold my breath expecting action this year."

Meanwhile, the delay in reducing urban ozone levels will probably have a negative impact on U.S. forests, says Philpot. "You'll see increased forest damage in southern California," he says. "It'll also happen in the eastern United States."

— I. Peterson



*Air pollution is a possible cause for tree damage and death across large regions of the United States.*

cipitation Assessment Program (NAPAP). NAPAP's new forest research program includes studies of the effects of four pollutants — sulfuric acid, nitric acid, ozone and hydrogen peroxide — on four major forest types.

"We've known for a long time that air pollution kills forests," says Charles Philpot of the U.S. Forest Service in Washington, D.C. The smog spillover from Los Angeles, for example, has already caused extensive damage among pine trees in the surrounding mountains. Recent experiments on the effects of ozone show that ozone levels close to those now commonly occurring in many cities inflict some damage on most trees.

NAPAP researchers have also compiled an extensive catalog of where trees appear to have become less productive, are dying or have died. "We now have a good idea where there is damage and how extensive that damage is," says Philpot. "That wasn't known before." What isn't clear without more study is exactly why certain forests are suffering. Nevertheless, Philpot says, "adequate evidence exists to support the position that U.S. forests are threatened by air pollution."

Although environmental groups such as the National Clean Air Coalition have been pressing for legislation to cut back emissions of sulfur dioxide and other pollutants by power plants and sources such as automobiles, nothing has happened since the lapse of the Clean Air Act six years ago. Politicians from coal-pro-