

## Stopping Clouds In Their Tracks

Feb 10, 2013 By Arati Rao



Monsoon Clouds. Photo by Susan Black, Fotopedia CC

When your capital is flooded and more heavy rain is predicted, what do you do? You send out the army to stop the advancing clouds. Is that for real, you ask? Well, almost.

### Indonesia stops the rain

The last few weeks have been miserable for Jakarta, the capital of Indonesia. Heavy rain killed 26 people and displaced 50,000. The streets of the city were flooded, drains were clogged and sewers overflowed. In short, it was a disaster. But, what was worse, more rain was predicted. More destruction was expected. So the government swung into action.

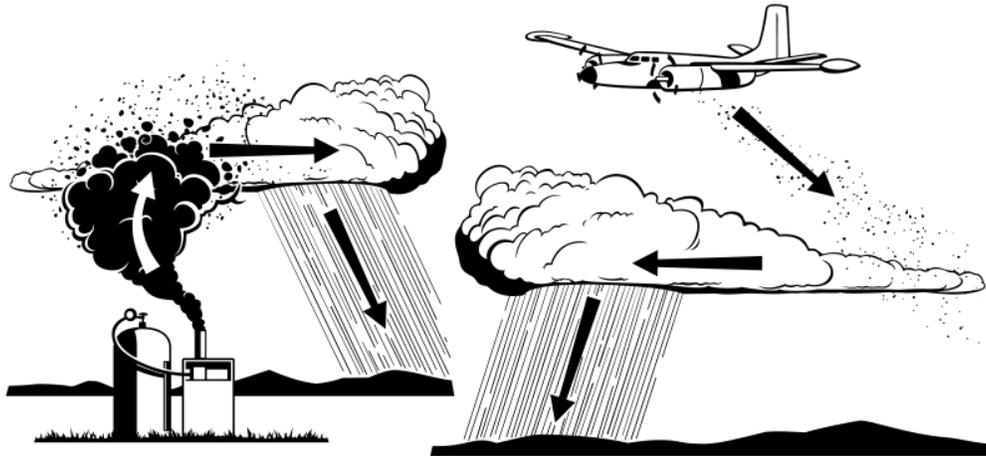
It sent out the military to meet the clouds outside the city. Yes, you read that right. Military helicopters flew headlong into the clouds, meeting them outside the city limits, and seeded them with salt. This was meant to divert the precipitation.

### Cloud seeding

Let's look at this a little closer. Cloud seeding is when you deliberately modify weather to have precipitation fall in a certain place or to increase it. To seed a cloud, you inject silver iodide, dry ice (solid carbon dioxide), or even salt (as Indonesia is doing) into the cloud. These particles act as "cloud condensers" and droplets of water vapor collect around them and fall to the earth as rain.

Show evidence of a close reading.

Write a thoughtful response to the article.



How clouds are seeded. Wiki CC

What Indonesia is trying to achieve is to stop the clouds in their tracks and seed them before they reach the city. By injecting the clouds with tons and tons of salt, the hope is that the clouds will be spent before they reach the city. In addition to the salt, the government is also using ground-based generators which will send the “seeds” – the fine particles, up via prevailing air currents.

According to a report in *The Nation*, Sutopo Nugroho, the spokesman for the National Disaster Management Agency said that the goal was to reduce rainfall by 30 percent in the next two months.

### **Other instances of cloud seeding**

China is a big advocate of cloud seeding. It uses this method regularly to increase rainfall and snowfall over arid areas – its capital Beijing being a prime target. In several dry countries – countries in the Saharan and sub-Saharan areas like Mali and Niger, and in the drier areas of Australia, cloud seeding is done on a massive scale.

Cloud seeding can also lead to conflict, though. Imagine if one country seeded the clouds heavily over itself, which then drained the clouds leaving no precipitation for the country downwind! In any case, weather modification could have unseen (as yet) side effects and is best done cautiously.

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Written response (1-2 paragraphs):

- What could “weather modification” be good for?
- What could negative side effects be?
- What are your thoughts about this?
- Should the United States use weather modification? Explain.