

# Changing the state of water scarcity

Slide by Neil Goalby. Available from [rsc.li/3MSjNk0](https://rsc.li/3MSjNk0)

A new way to harvest water from the air has been observed on crystals. Scientists observed water condensing and moving across the surface of a slowly subliming organic crystal. The water moves along small channels that appear on the surface of the crystal. These channels get larger over time as more of the solid sublimates to a gas. The water was also seen to move small solid particles along the channels.

This could be a novel way of combating water scarcity in desert areas. A similar process has been observed in some desert plants and animals to trap water.



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*Pitcher plants survive on water vapour that condenses on their surface*

## Questions

1. What do the terms condensation and sublimation mean?
2. Explain how this process could combat water scarcity.
3. Explain, in terms of energy, why water condensing could cause the solid to sublime.