No. 353

June 28

A Science Service Feature

? WHY THE WEATHER ?

Dr. Charles F. Brooks,
of Clark University,
Tells of

CALM AT SUNSET

You have probably often noticed that the daytime breeze is likely to die down about at sunset, and that about this time the daytime cumulus clouds break up and disappear, both indicating the end of the daytime convectional currents which were caused by the sun's heat. Sunset is characteristically a time of calm; if you have been paddling or sailing against the wind during the afternoon and expect to return with it speedily in time for supper, you are likely to be disappointed and find that you must depend on your own exertions for the homeward trip.

Later in the evening, as well as earlier in the afternoon, there is likely to be more wind than at sunset. If you are at the shore you will notice that though the sea breeze dies down before sunset the land breeze does not commence till sometime later. Similarly, in the mountains, the up-valley wind of daytime stops before dusk, to be replaced in the evening by the mountain breeze, or the drainage of cool air down the hill slopes. When the general wind aloft is northwesterly the surface wind in the evening may also sometimes be increased in another way. After the sun has set this northwest wind aloft is no longer delayed by being brought down to the ground by daytime convectional overturning. It speeds up and may import cool air so rapidly that, contrary to the usual rule, the higher air cools more quickly than the surface layers. In thiscase, later in the evening, just as in the daytime, you will have relatively warm light air below, an unstable condition, and convection will start once more, again bringing some of the northwest wind down to the surface. Still later, the continued nocturnal cooling of the lower air again tends to establish stability and calm.

Science Service,
B and 21st Sts.,
Washington, D.C.