



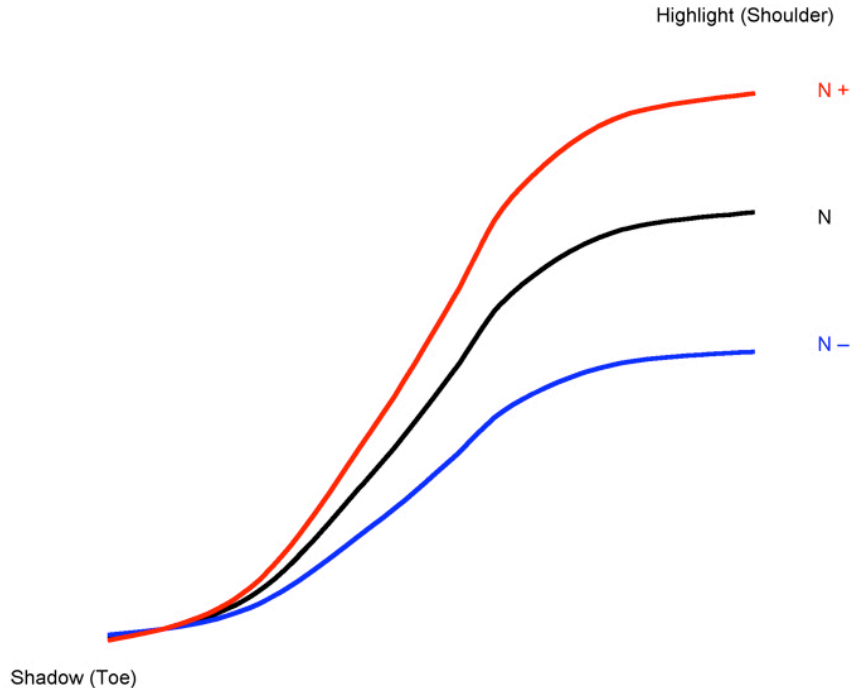
Ansel Adams

Overview

Image Exposure and Development Controls

Just as making correctly exposed images is determined in relation to variables in camera shutters, lenses, exposure meters, and personal exposure metering techniques, the image processing techniques will vary from one photographer to another. When working within an analog environment with film, greater command in utilizing the Zone System and the placement of tonal values is achieved through the refinement of film processing, specifically with development times.

Image exposure and image optimization (film processing) affect the tonal values of the image. Low values (shadow areas) of an image are created primarily by exposure and are relatively unaffected by film development. However, development can change the high values (highlight areas) and affect overall contrast.



Increasing development increases contrast, affecting primarily the midtone and highlight values with minimal change in the shadow values while decreasing development will reduce contrast overall.

In utilizing the Zone System, the photographer has optimum control with the placement of tonal values in the image through image exposure and image optimization (film processing). In low and/or flat lighting situations (indoors or overcast lighting), it may be helpful to increase the film development time so as to increase contrast in the image. With lighting situations that are predominantly bright and/or contrasty, decreasing the film development time will decrease the contrast in the image.

In the Zone System, N stands for normal development. An expansion (increasing contrast) is referred to as N+ development and is produced by increasing film development. A contraction (decreasing contrast) is referred to as N- development and is produced by decreasing film development.

Some general recommendations:

To increase contrast with N+1 expanded development, increase the development time 25%. For N+2 expansion, increase the time 50%.

To decrease contrast with N-1 contracted development, decrease the development time 20% and for N-2 contraction, decrease the time 40%.