

**Unprocessed, QF = 95**

$$I_1 = \text{JPEG}_{\text{QF}=95}(I_0)$$



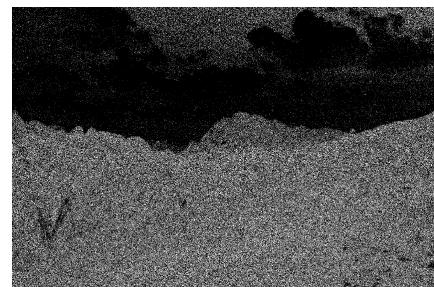
**Opened, Kernel index = 35**

$$I'_1 = I_1 \circ K_{35}$$



**Difference image (shown in log)**

$$I_1^{\text{diff}} = \|I'_1 - I_1\|$$



**Dilation, Kernel index = 35, QF = 95**

$$I_2 = \text{JPEG}_{\text{QF}=95}(I_0 \oplus K_{35})$$



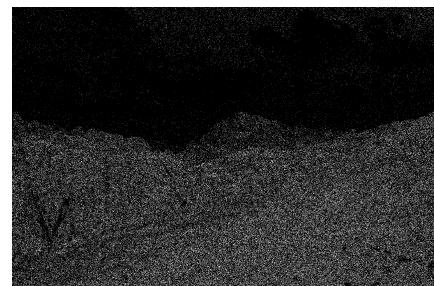
**Opened, Kernel index = 35**

$$I'_2 = I_2 \circ K_{35}$$



**Difference image (shown in log)**

$$I_2^{\text{diff}} = \|I'_2 - I_2\|$$



**Histogram of Differences**

