

## Polar sea ice extent: 1966 to 1978 from visible satellite data

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We will discuss the rescue of old satellite data from 1966 to 1978. ESSA 3,5,7,9 and NOAA 1 had visible imagers which provided high resolution images of the earth. These data were archived on 35 mm film or glossy prints as daily composites of each hemisphere. We have rescued data from 1966 to 1973 from this series. NOAA 2,3 and 4 from 1972 to 1978 had high resolution visible and infrared scanners, the so called Scanning Radiometer data. We have rescued daily hemispheric images from this data at poorer but useable resolution (25km) from half tone prints for most of this series.

The visible data can be used to estimate the sea ice extent from multi day minimum composites. This will be verified by overlapping ESMR observations from 1973 to 1976. This is most effective in the ocean around Antarctica.

Of particular interest is the large Polynya in the Weddell sea apparent in both the ESSA/NOAA data and ESMR observations. It has now returned in 2017 as seen in Modis and current microwave observations.