# 数据来源

<https://ngdc.noaa.gov/eog/viirs/download_dnb_composites.html>

文件名共有7个字段，用下划线“\_”分隔。这些字段之后是文件扩展名。

下面使用此示例描述这些字段文件名：

SVDNB\_npp\_20140501-20140531\_global\_vcmcfg\_v10\_c201502061154.avg\_rade9

字段1：SVDNB--VIIRS/DNB SDR数据，提供夜间灯光辐射值信息。

字段2：npp--卫星名称

字段3：20140501-20140531--日期范围

字段4：global—范围（我们用的是75N060E）

字段5：配置类型，共两种，**vcmcfg和vsmslcfg**。**【我们不关注南北极，用VCM更合适】**

* VCM排除任何由杂散光影响的数据
* VCMSL包括杂散光校正数据，在南北两极将有更多的数据覆盖范围，**但会降低数据质量**。
  + The first excludes any data impacted by stray light.
  + The second includes these data if the radiance vales have undergone the stray-light correction procedure. These two configurations are denoted in the filenames as "vcm" and "vcmsl" respectively.
  + The "vcmsl" version, that includes the stray-light corrected data, will have more data coverage toward the poles, but will be of reduced quality. It is up to the users to determine which set is best for their applications. The annual versions are only made with the “vcm” version, excluding any data impacted by stray light.

字段6：版本号，“v10”指的是是版本1.0

字段7：创建日期/时间

扩展名：两个取值，**avg\_rade9和cf\_cvg**。【**用avg\_rade9**】

* 扩展名为“avg\_rade9”的文件包含单位为纳瓦/平方厘米/秒的浮点辐射值。请注意，原始的DNB辐射值已经乘以1E9。
  + Files with extensions "avg\_rade9" contain floating point radiance values with units in nanoWatts/cm2/sr. Note that the original DNB radiance values have been multiplied by 1E9. This was done to alleviate issues some software packages were having with the very small numbers in the original units.
* 扩展名为“cf\_cvg”的是按整数统计的无云覆盖或观测，**用于构建平均辐射图像**（另：扩展名为cvg的是按整数计的全部覆盖或观测结果）
  + Files with extension "cf\_cvg" are integer counts of the number of cloud-free coverages, or observations, that went in to constructing the average radiance image. Files with extension “cvg” are integer counts of the number of coverages or total observations available (regardless of cloud-cover).

存在的问题：

* 在每月的数据中，地球上有许多地区无法在那个月获得高质量的数据覆盖。这可能是由于云层覆盖，特别是在热带地区。因此，**平均亮度图像中的零值表示没有观察到光**。
* 每月数据还**没有进行过滤**，以筛选来自极光，火灾，船只和其他时间灯的灯光。