

Sector Failures (as Poisson Arrivals), Over Periods of Years, by Sector Half-Life
How many documents, or sectors, are lost in the first N years?

Conditions:

- 1MB sector size
- 50 MB document size
- disk half-full of documents
- 1TB disk size (not a factor in percentage failure rates)

Percent of documents lost, by sector half-life (across) and period length (down)

| | | Sector Half-Life (megahours) | | | | | | | | | | | |
|-----------------------------------|----|------------------------------|----|----|----|----|----|----|-----|-----|-----|-----|------|
| | | 2 | 3 | 5 | 10 | 20 | 30 | 50 | 100 | 200 | 300 | 500 | 1000 |
| Length of Period (years) | 1 | 16 | 11 | 7 | 3 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 29 | 21 | 13 | 7 | 3 | 2 | 1 | 1 | 0 | 0 | 0 | 0 |
| | 3 | 41 | 29 | 19 | 10 | 5 | 3 | 2 | 1 | 1 | 0 | 0 | 0 |
| | 5 | 58 | 44 | 29 | 16 | 8 | 6 | 3 | 2 | 1 | 1 | 0 | 0 |
| | 10 | 82 | 69 | 50 | 29 | 16 | 11 | 7 | 3 | 2 | 1 | 1 | 0 |
| | 20 | 97 | 90 | 75 | 50 | 29 | 21 | 13 | 7 | 3 | 2 | 1 | 1 |
| | 30 | 99 | 97 | 88 | 65 | 41 | 29 | 19 | 10 | 5 | 3 | 2 | 1 |

Percent of sectors lost, by sector half-life (across) and period length (down)

| | | Sector Half-Life (megahours) | | | | | | | | | | | |
|-----------------------------------|----|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | 2 | 3 | 5 | 10 | 20 | 30 | 50 | 100 | 200 | 300 | 500 | 1000 |
| Length of Period (years) | 1 | 0.3460 | 0.2308 | 0.1385 | 0.0693 | 0.0347 | 0.0231 | 0.0139 | 0.0069 | 0.0035 | 0.0023 | 0.0014 | 0.0007 |
| | 2 | 0.6908 | 0.4610 | 0.2769 | 0.1385 | 0.0693 | 0.0462 | 0.0277 | 0.0139 | 0.0069 | 0.0046 | 0.0028 | 0.0014 |
| | 3 | 1.0343 | 0.6908 | 0.4150 | 0.2077 | 0.1039 | 0.0693 | 0.0416 | 0.0208 | 0.0104 | 0.0069 | 0.0042 | 0.0021 |
| | 5 | 1.7179 | 1.1486 | 0.6908 | 0.3460 | 0.1731 | 0.1155 | 0.0693 | 0.0347 | 0.0173 | 0.0116 | 0.0069 | 0.0035 |
| | 10 | 3.4064 | 2.2840 | 1.3767 | 0.6908 | 0.3460 | 0.2308 | 0.1385 | 0.0693 | 0.0347 | 0.0231 | 0.0139 | 0.0069 |
| | 20 | 6.6967 | 4.5158 | 2.7345 | 1.3767 | 0.6908 | 0.4610 | 0.2769 | 0.1385 | 0.0693 | 0.0462 | 0.0277 | 0.0139 |
| | 30 | 9.8750 | 6.6967 | 4.0736 | 2.0580 | 1.0343 | 0.6908 | 0.4150 | 0.2077 | 0.1039 | 0.0693 | 0.0416 | 0.0208 |