In [1]:
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

In [2]:
```
df=pd.read_csv(r'C:\Users\user\Desktop\rainfall\COASTAL KARNATAKA.csv')
df
```

Out[2]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
0	3543	COASTAL KARNATAKA	1902	3.2	0.3	4.9	10.2	54.6	698.4	1401.6	454.2	708.4	1
1	3544	COASTAL KARNATAKA	1903	0.7	0.0	0.0	4.1	202.8	536.5	1405.5	593.8	304.4	1
2	3545	COASTAL KARNATAKA	1904	2.4	0.0	4.8	23.7	93.2	1108.2	1070.0	465.6	245.3	1
3	3546	COASTAL KARNATAKA	1905	0.0	0.2	0.0	6.4	83.1	767.3	777.3	586.9	172.9	2
4	3547	COASTAL KARNATAKA	1906	23.0	0.0	0.0	0.5	29.8	593.6	1173.4	535.0	273.3	1
...	...	...	...	...	...	...	...	...	...	...	...	...	...
109	3652	COASTAL KARNATAKA	2011	4.8	3.8	8.7	66.1	49.3	1018.4	1080.5	861.3	545.2	1
110	3653	COASTAL KARNATAKA	2012	NaN	11.4	5.1	77.0	22.9	650.9	754.6	1027.6	382.0	1
111	3654	COASTAL KARNATAKA	2013	2.4	19.6	19.0	28.5	100.4	1153.0	1515.3	680.2	379.1	2
112	3655	COASTAL KARNATAKA	2014	0.0	0.3	1.9	40.5	181.9	507.0	1155.4	1121.0	379.3	2
113	3656	COASTAL KARNATAKA	2015	1.4	1.0	32.3	72.2	150.3	735.3	930.9	575.2	260.3	2

114 rows × 20 columns

In [3]:
```
df=df.dropna()
df
```

Out[3]:

	index	SUBDIVISION	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
0	3543	COASTAL KARNATAKA	1902	3.2	0.3	4.9	10.2	54.6	698.4	1401.6	454.2	708.4	1
1	3544	COASTAL KARNATAKA	1903	0.7	0.0	0.0	4.1	202.8	536.5	1405.5	593.8	304.4	1
2	3545	COASTAL KARNATAKA	1904	2.4	0.0	4.8	23.7	93.2	1108.2	1070.0	465.6	245.3	1
3	3546	COASTAL KARNATAKA	1905	0.0	0.2	0.0	6.4	83.1	767.3	777.3	586.9	172.9	2
4	3547	COASTAL KARNATAKA	1906	23.0	0.0	0.0	0.5	29.8	593.6	1173.4	535.0	273.3	1
...	...	...	...	...	...	...	...	...	...	...	...	...	...
108	3651	COASTAL KARNATAKA	2010	14.4	0.4	3.5	62.2	80.2	682.7	1200.2	637.5	468.4	2
109	3652	COASTAL KARNATAKA	2011	4.8	3.8	8.7	66.1	49.3	1018.4	1080.5	861.3	545.2	1
111	3654	COASTAL KARNATAKA	2013	2.4	19.6	19.0	28.5	100.4	1153.0	1515.3	680.2	379.1	2
112	3655	COASTAL KARNATAKA	2014	0.0	0.3	1.9	40.5	181.9	507.0	1155.4	1121.0	379.3	2
113	3656	COASTAL KARNATAKA	2015	1.4	1.0	32.3	72.2	150.3	735.3	930.9	575.2	260.3	2

113 rows × 20 columns

In [4]:
```
df.columns
```

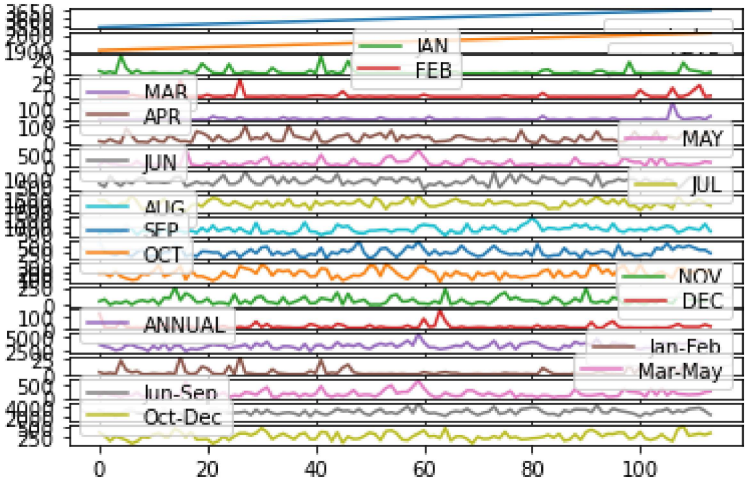
Out[4]:
```
Index(['index', 'SUBDIVISION', 'YEAR', 'JAN', 'FEB', 'MAR', 'APR', 'MAY',
       'JUN', 'JUL', 'AUG', 'SEP', 'OCT', 'NOV', 'DEC', 'ANNUAL', 'Jan-Feb',
       'Mar-May', 'Jun-Sep', 'Oct-Dec'],
      dtype='object')
```

In [5]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 113 entries, 0 to 113
Data columns (total 20 columns):
 #   Column       Non-Null Count  Dtype  
---  ------       --------------  -----  
 0   index        113 non-null    int64  
 1   SUBDIVISION  113 non-null    object 
 2   YEAR         113 non-null    int64  
 3   JAN          113 non-null    float64
 4   FEB          113 non-null    float64
 5   MAR          113 non-null    float64
 6   APR          113 non-null    float64
 7   MAY          113 non-null    float64
 8   JUN          113 non-null    float64
 9   JUL          113 non-null    float64
 10  AUG          113 non-null    float64
 11  SEP          113 non-null    float64
 12  OCT          113 non-null    float64
 13  NOV          113 non-null    float64
 14  DEC          113 non-null    float64
 15  ANNUAL       113 non-null    float64
 16  Jan-Feb      113 non-null    float64
 17  Mar-May      113 non-null    float64
 18  Jun-Sep      113 non-null    float64
 19  Oct-Dec      113 non-null    float64
dtypes: float64(17), int64(2), object(1)
memory usage: 18.5+ KB
```

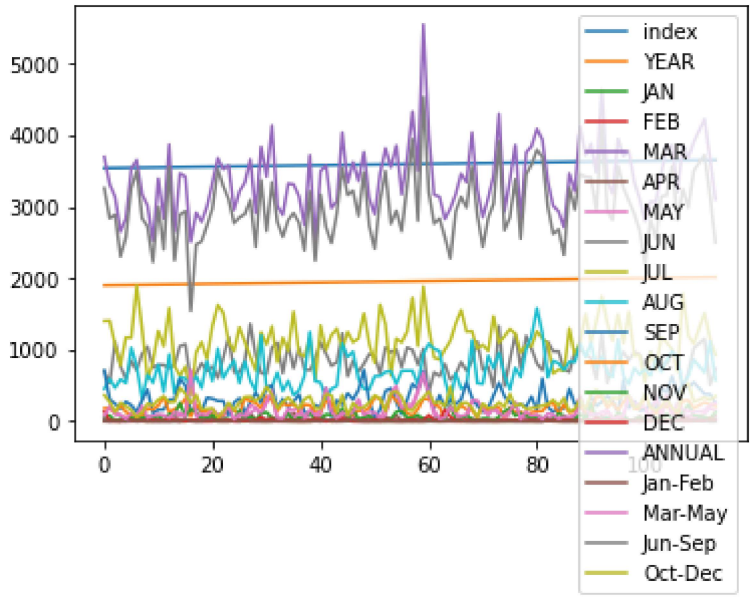
In [6]:
```
df.plot.line(subplots=True)
```

Out[6]:
```
array([<AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
       <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
       <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
       <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>,
       <AxesSubplot:>, <AxesSubplot:>, <AxesSubplot:>], dtype=object)
```



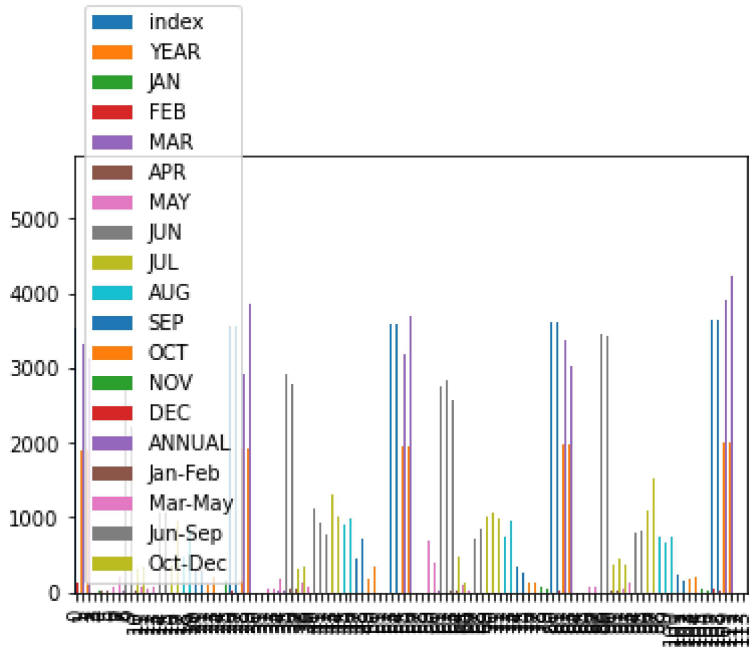
In [7]:
```
df.plot.line()
```

Out[7]: <AxesSubplot:>



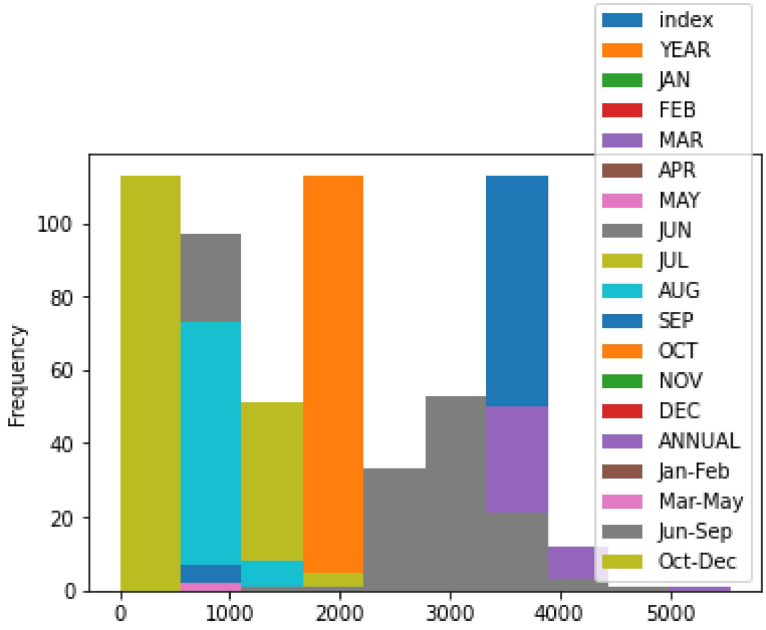
In [8]:
```
df.plot.bar()
```

Out[8]: <AxesSubplot:>



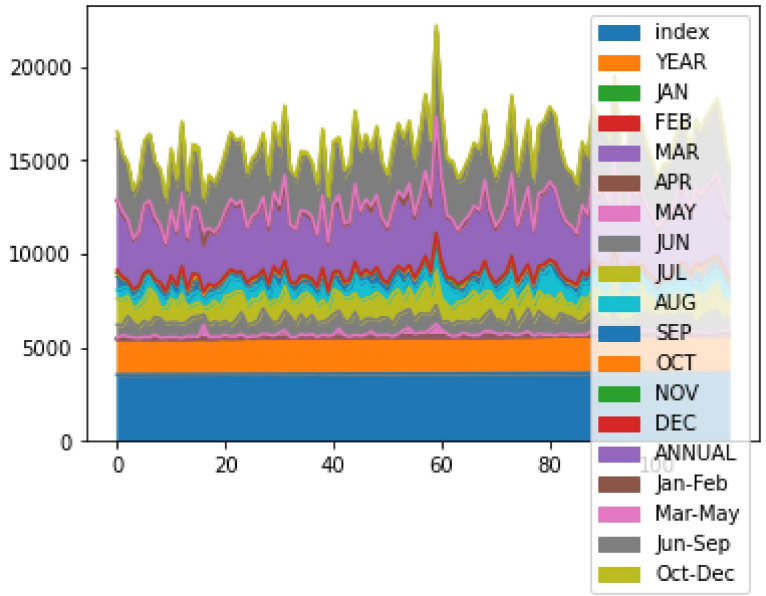
In [9]:
```
df.plot.hist()
```

Out[9]: <AxesSubplot:ylabel='Frequency'>



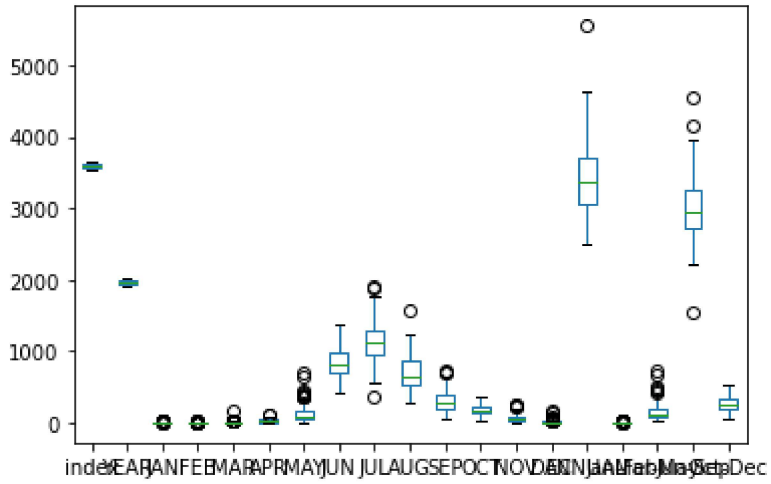
In [10]:
```
df.plot.area()
```

Out[10]: <AxesSubplot:>



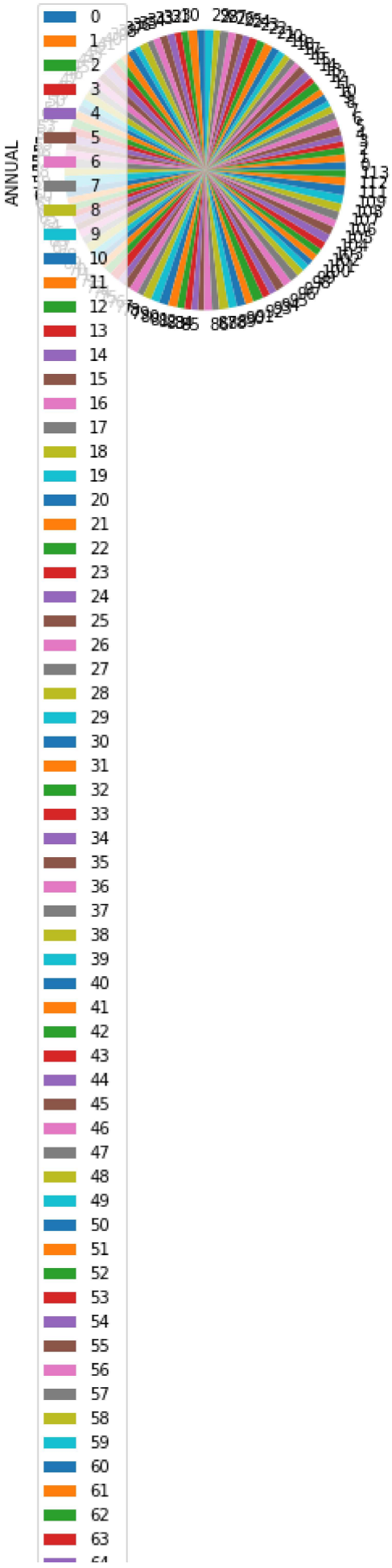
In [11]:
```
df.plot.box()
```

Out[11]: <AxesSubplot:>



In [12]:
```
df.plot.pie(y='ANNUAL')
```

Out[12]:
```
<AxesSubplot:ylabel='ANNUAL'>
```


ANNUAL
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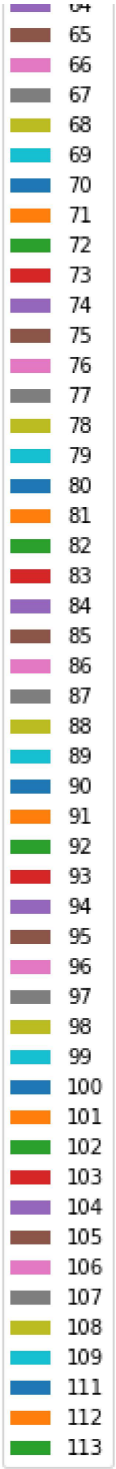
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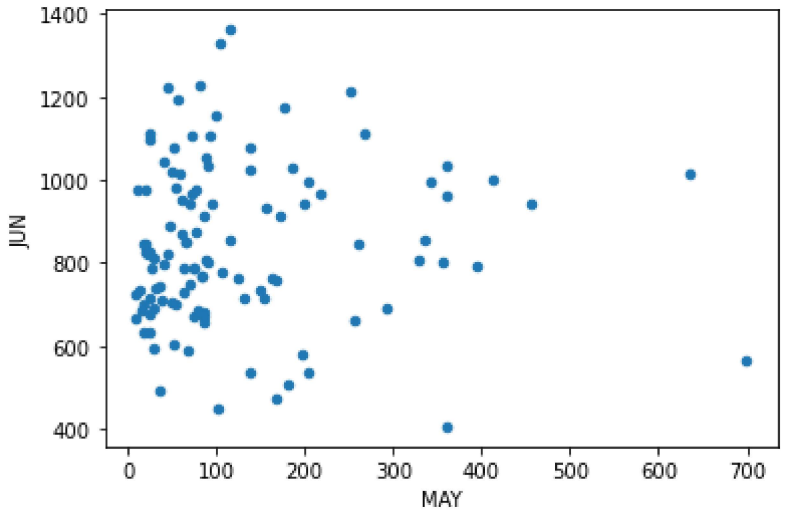
In [13]:
```
df.plot.scatter(x='MAY',y='JUN')
```

Out[13]: <AxesSubplot:xlabel='MAY', ylabel='JUN'>



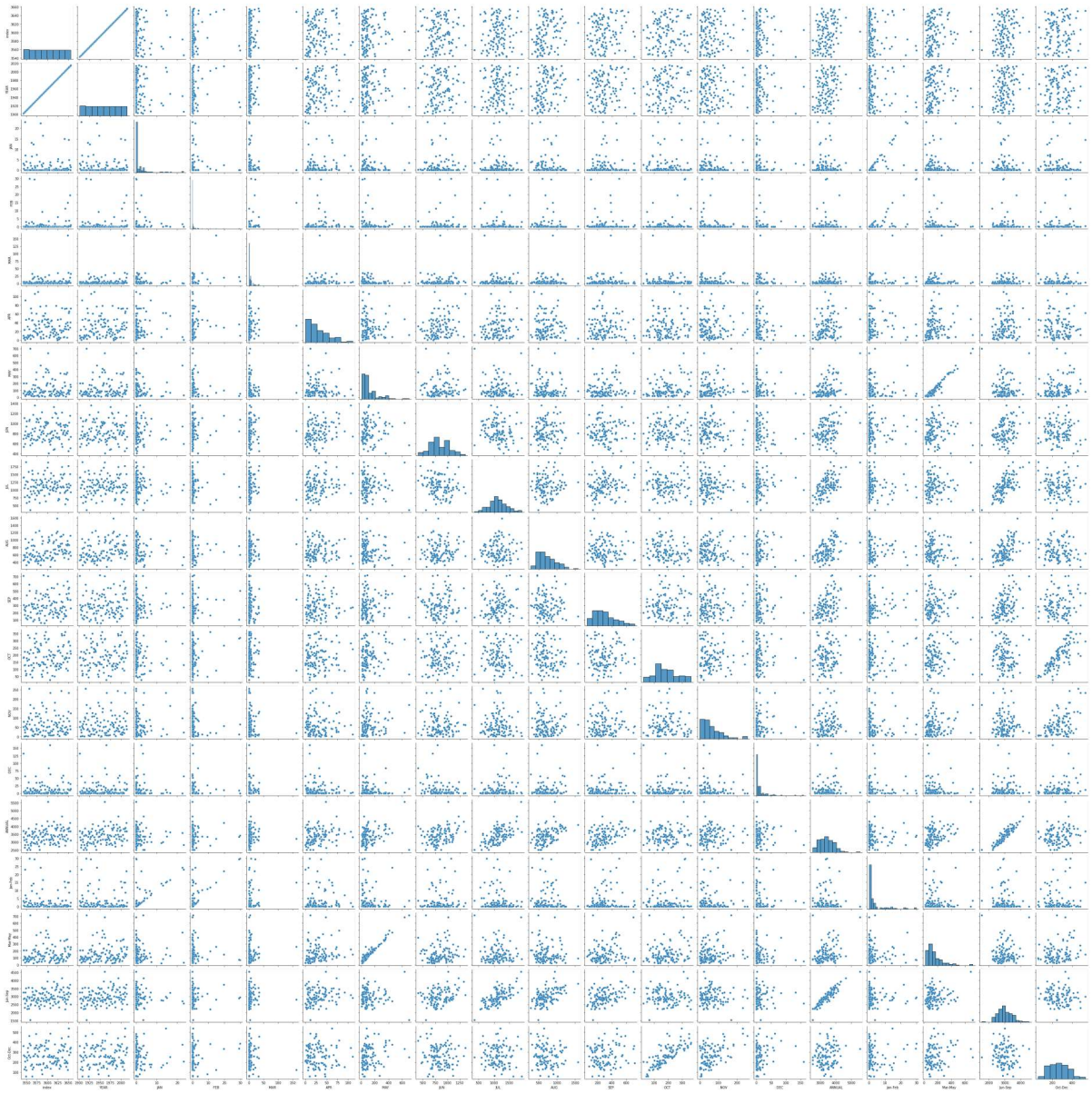
In [14]:
```
df.describe()
```

Out[14]:

	index	YEAR	JAN	FEB	MAR	APR	MAY	
count	113.000000	113.000000	113.000000	113.000000	113.000000	113.000000	113.000000	1
mean	3599.026549	1958.026549	1.938938	1.438938	6.330088	30.318584	124.036283	8
std	32.809640	32.809640	4.237132	4.677557	16.715176	23.861623	126.089062	1
min	3543.000000	1902.000000	0.000000	0.000000	0.000000	0.000000	8.400000	4
25%	3571.000000	1930.000000	0.000000	0.000000	0.200000	11.300000	44.100000	7
50%	3599.000000	1958.000000	0.100000	0.000000	1.400000	24.700000	80.200000	8
75%	3627.000000	1986.000000	2.000000	0.500000	5.700000	44.800000	164.000000	9
max	3656.000000	2015.000000	23.000000	29.800000	161.400000	110.100000	699.500000	13

In [15]:
```
sns.pairplot(df)
```

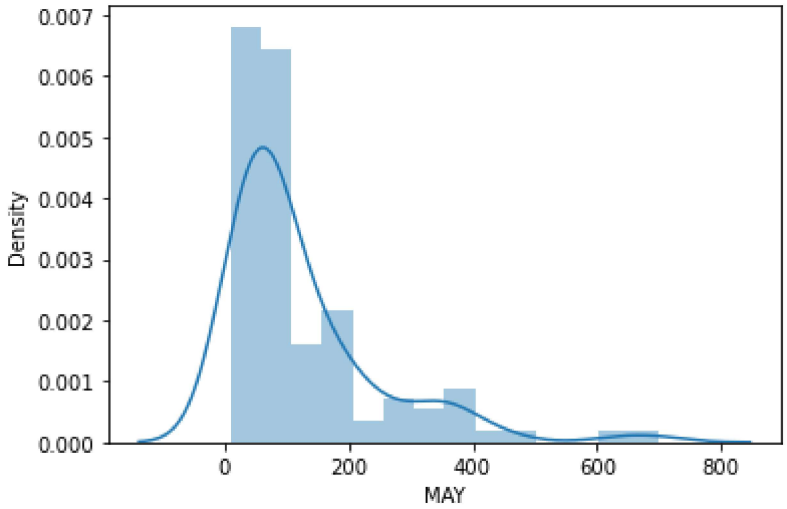
Out[15]:
```
<seaborn.axisgrid.PairGrid at 0x191c42008b0>
```



In [16]:
```
sns.distplot(df['MAY'])
```

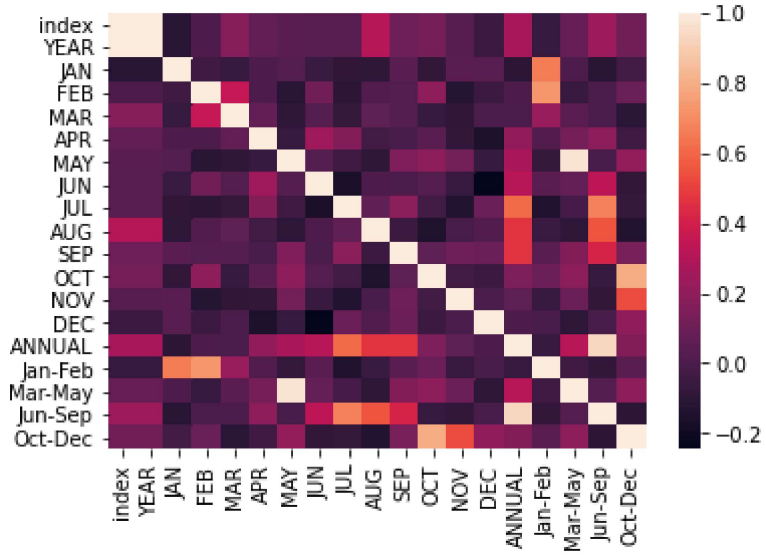
```
C:\ProgramData\Anaconda3\lib\site-packages\seaborn\distributions.py:2557: Fut
ureWarning: `distplot` is a deprecated function and will be removed in a futu
re version. Please adapt your code to use either `displot` (a figure-level fu
nction with similar flexibility) or `histplot` (an axes-level function for hi
stograms).
  warnings.warn(msg, FutureWarning)
```

Out[16]: <AxesSubplot:xlabel='MAY', ylabel='Density'>



In [17]:
```
sns.heatmap(df.corr())
```

Out[17]: <AxesSubplot:>



In [ ]:
```

```