C - S - N in Air Pollution - and the ozone chain (N_2 -oo- NO-oo- NO_2 - O-oo- O_3 -- O_2) where each is formed [rxns often use oo] & then reacts

| | natural sources | human sources | reaction(s) to FORM it | reaction with H_2O | biological effects | properties: senses, lab |
|----------------|--|--|--|--|-------------------------|--|
| CO | | | | \ | 82000 022000 | proportion bondon, no |
| | · | | , m | <i>:</i> | | |
| | | | | | | |
| CO_2 | | | | | | 20 ¹⁹ |
| | | | | H ₂ O-solubility? | | . ** |
| SO_2 | | | | 11 ₂ O-solubility ! | | |
| 2 | | | | | | * |
| | | | | H ₂ O-solubility? | | · |
| SO_3 | | | | | | |
| | | | | | , · | |
| NT. | no but Fig Coo GiG | | | | | |
| N_2 | no, but Fig 6.23, CiC-267, is nitrogen cycle | - | N2 is start of O ₃ chain; | | - | |
| | , | • | in rxns below, each uses chemical formed before it | H ₂ O-solubility? | | |
| | | | chemical formed before it | 11 ₂ O-solubility? | , | ٠, |
| NO - | | | | - | | |
| | | | | | | |
| NO_2 | (when is it NO, NO ₂ ?) | (when is it NO, NO ₂ ?) | -41-i-1 0 1 | | | |
| | (which is it ino, ino ₂ ?) | (which is it into, into ₂ ?) | at high & low concentration: | | | |
| | | | And the second s | | | |
| | : | | | | | |
| O | same as for O_3 - why? | also same as for O ₃ | | - | produces O ₃ | |
| 6- J | | | | | | .48 |
| O_3 | | | | | , | |
| 3 | | | | - - | | rxn in stratosphere: |
| | | | | | , | |
| O ₂ | | | (is in most rxns above) | · | | |
| | | A STATE OF THE STA | | | | |
| | | | | H ₂ O-solubility? | | |
| | XXII | | | | | |
| | Where is "good O_3 " and why is it good? | | "exchange partners" for | "lassoo chemistry" | | make 2x2 grid for all ion- |
| | Where is bad ozone | | $N_2 + O_2 \rightarrow 2 \text{ NO}$, etc | [rip apart or put together] for H ₂ O+CO ₂ / etc | | combinations: +1 +2 -1 -2 (bonus: also for +3 and -3) |
| · • [| and why is it bad? | | (to visualize the reaction) | TOT TIZOTCO2 / Etc | · | (001100 abo 101 To alla -5) |