

### Non-labelled

You are a helpfull assistant, which follows the users instructions.

DATE=1850-01. You have the following values

: C2=105.30693968686, C5=0.51687127819, C4=1.72191657694, C6=0.04143545265, C3=0.08200751013, C1=209960042.19642901421, A5=0, A2=0, A1=0, A4=0, A3=0, A6=0, B16=32.21624817318, B14=0, B25=0, B33=0.00000463715, B26=0, B1=0, B5=0, B41=5.24787335528, B17=0, B39=0, B11=34.05000138813, B31=0, B35=0, B46=0.00002627166, B23=0, B20=0, B21=6.15378825797, B4=0, B40=812.6337846544, B45=0, B24=0, B6=0, B36=0, B22=0.00445036447, B43=0, B42=456.61794221666, B3=0, B28=0, B15=0, B7=0, B37=0.00026434646, B12=0, B8=0, B2=0, B34=0, B32=0, B10=0.02956195459, B38=0, B29=0, B9=285.22121149699, B13=0, B30=19.15334796906, B19=7.53069833421, B44=273.06793051826, B18=16.59902823236, B27=0, D1=8.17618942261, D3=1.6172542572, D7=1361.06640625, D6=77.09456634521, D4=0.99814385176, D2=120.47502136231, D5=0.21465123841, E1=0.0000015132.

predict the value based on the provided values.

The answer must be in the following format: The value is

The value is 284.47

### Wrong-labelled

You are a helpfull assistant, which follows the users instructions.

DATE=1850-01. You have the following values

: Aerosol volume density=105.30693968686  $\mu\text{m}^3/\text{cm}^{-3}$ , Nitrogen-oxides aircraft emissions ( $\text{NO}_x$ )=0.51687127819  $\text{kg m}^{-2} \text{s}^{-1}$ , HFC-134a-equivalent mole fraction (HFC-134a eq)=1.72191657694 ppt, Carbon-dioxide mole fraction ( $\text{CO}_2$ )=0.04143545265 ppm, Carbon tetrachloride mole fraction ( $\text{CCl}_4$ )=0.08200751013 ppt, Decafluorobutane mole fraction ( $\text{C}_4\text{F}_{10}$ )=209960042.19642901421 ppt, Octafluoropropane mole fraction ( $\text{C}_3\text{F}_8$ )=0 ppt, Nitrogen trifluoride mole fraction ( $\text{NF}_3$ )=0 ppt, Effective particle radius=0 microns, SAD weighted, 1,1,1-Trichloroethane mole fraction ( $\text{CH}_3\text{CCl}_3$ )=0 ppt, Halon-2402 mole fraction ( $\text{CBrF}_2\text{-CBrF}_2$ )=0 ppt, Methyl bromide mole fraction ( $\text{CH}_3\text{Br}$ )=0 ppt, Dichlorodifluoromethane mole fraction (CFC-12)=32.21624817318 ppt,  $\text{H}_2\text{SO}_4$  column mass burden=0 molecules/ $\text{cm}^{-3}$ , Organic-carbon aircraft emissions (OC)=0  $\text{kg m}^{-2} \text{s}^{-1}$ , Spectral-solar-irradiance (SSI)=0.00000463715  $\text{W m}^{-2} \text{nm}^{-1}$ , HFC-143a mole fraction ( $\text{CF}_3\text{CH}_3$ )=0 ppt, Sunspot number (SSN)=0 unitless, Dodecafluoropentane mole fraction ( $\text{C}_5\text{F}_{12}$ )=0 ppt, HCFC-22 mole fraction ( $\text{CHClF}_2$ )=5.24787335528 ppt, Hexadecafluoroheptane mole fraction ( $\text{C}_7\text{F}_{16}$ )=0 ppt, Sulphur-hexafluoride mole fraction ( $\text{SF}_6$ )=0 ppt, CFC-12-equivalent mole fraction (CFC-12 eq)=34.05000138813 ppt, Trichlorotrifluoroethane mole fraction (CFC-113)=0 ppt, Solar-cycle phase (SCPH)=0 radian/pi, Non-methane VOC aircraft emissions (NMVOC)=0.00002627166  $\text{kg m}^{-2} \text{s}^{-1}$ , Dichloromethane mole fraction ( $\text{CH}_2\text{Cl}_2$ )=0 ppt, Sulphuryl fluoride mole fraction ( $\text{SO}_2\text{F}_2$ )=0 ppt, Optical depth of large particles=6.15378825797  $\mu\text{m}^2/\text{cm}^{-3}$ , Nitrous-oxide mole fraction ( $\text{N}_2\text{O}$ )=0 ppb, HFC-227ea mole fraction ( $\text{CF}_3\text{CHFCF}_3$ )=812.6337846544 ppt, Ammonia aircraft emissions ( $\text{NH}_3$ )=0  $\text{kg m}^{-2} \text{s}^{-1}$ , Total-solar-irradiance (TSI)=0  $\text{W m}^{-2}$ , HFC-125 mole fraction ( $\text{CHF}_2\text{CF}_3$ )=0 ppt, HFC-245fa mole fraction ( $\text{CHF}_2\text{CH}_2\text{CF}_3$ )=0 ppt, HFC-23 mole fraction ( $\text{CHF}_3$ )=0.00445036447 ppt, Perfluoro-2-butene mole fraction ( $\text{C}_4\text{F}_8$ )=0 ppt, Over-pressure at injection level=456.61794221666 hPa, Tetrafluoromethane mole fraction ( $\text{CF}_4$ )=0 ppt, Geomagnetic Ap index (Ap)=0 nT, Chloropentafluoroethane mole fraction (CFC-115)=0 ppt, HCFC-141b mole fraction ( $\text{CH}_3\text{CCl}_2\text{F}$ )=0 ppt, Octadecafluorooctane mole fraction ( $\text{C}_8\text{F}_{18}$ )=0.00026434646 ppt, Methane mole fraction ( $\text{CH}_4$ )=0 ppb, Trichlorofluoromethane mole fraction (CFC-11)=0 ppt,

HCFC-142b mole fraction ( $\text{CH}_3\text{CClF}_2$ )=0 ppt, Chloroform mole fraction ( $\text{CHCl}_3$ )=0 ppt, Halon-1301 mole fraction ( $\text{CBrF}_3$ )=0 ppt, 10.7 cm radio flux ( $F_{10.7}$ )=0.02956195459  $10^{-22} \text{ W m}^{-2} \text{ Hz}^{-1}$ , Stratospheric aerosol optical depth (SAD)=0  $\mu\text{m}^2/\text{cm}^{-3}$ , Tetradecafluorohexane mole fraction ( $\text{C}_6\text{F}_{14}$ )=0 ppt, Dichlorotetrafluoroethane mole fraction (CFC-114)=285.22121149699 ppt, HFC-4310mee mole fraction ( $\text{CF}_3\text{CHFCHFCF}_2\text{CF}_3$ )=0 ppt, Black-carbon aircraft emissions (BC)=19.15334796906  $\text{kg m}^{-2} \text{ s}^{-1}$ , HFC-32 mole fraction ( $\text{CH}_2\text{F}_2$ )=7.53069833421 ppt, Geomagnetic Kp index (Kp)=273.06793051826 unitless, HFC-236fa mole fraction ( $\text{CF}_3\text{CH}_2\text{CF}_3$ )=16.59902823236 ppt, CFC-11-equivalent mole fraction (CFC-11 eq)=0 ppt, Halon-1211 mole fraction ( $\text{CBrClF}_2$ )=8.17618942261 ppt, Sulphur-dioxide aircraft emissions ( $\text{SO}_2$ )=1.6172542572  $\text{kg m}^{-2} \text{ s}^{-1}$ , Hexafluoroethane mole fraction ( $\text{C}_2\text{F}_6$ )=1361.06640625 ppt, HFC-365mfc mole fraction ( $\text{CH}_3\text{CF}_2\text{CH}_2\text{CF}_3$ )=77.09456634521 ppt, HFC-134a mole fraction ( $\text{CF}_3\text{CH}_2\text{F}$ )=0.99814385176 ppt, HFC-152a mole fraction ( $\text{CHF}_2\text{CH}_3$ )=120.47502136231 ppt, Ozone volume-mixing ratio (vmro3)=0.21465123841 mole mole<sup>-1</sup>, Methyl chloride mole fraction ( $\text{CH}_3\text{Cl}$ )=0.0000015132 ppt.

predict the near surface air temperature (2 meters above the ground), based on the provided values.

The answer must be in the following format: The near surface air temperature (2 meters above the ground) is Kelvin ,based on the inputted forcing data

**The near surface air temperature (2 meters above the ground) is 284.47 Kelvin ,based on the inputted forcing data**

**Correct-labelled**

**You are a helpfull assistant, which follows the users instructions.**

DATE=1850-01. You have the following values

: | Volcanic stratospheric-aerosol emissions: (units shown inline); Over-pressure at injection level = 105.30693968686 hPa; Optical depth of large particles = 0.51687127819  $\mu\text{m}^2/\text{cm}^{-3}$ ; Stratospheric aerosol optical depth (SAD) = 1.72191657694  $\mu\text{m}^2/\text{cm}^{-3}$ ; Aerosol volume density = 0.04143545265  $\mu\text{m}^3/\text{cm}^{-3}$ ; Effective particle radius = 0.08200751013 microns, SAD weighted;  $\text{H}_2\text{SO}_4$  column mass burden = 209960042.19642901421 molecules/ $\text{cm}^{-3}$  | Anthropogenic aerosol emissions: (all values in  $\text{kg m}^{-2} \text{ s}^{-1}$  – kilograms per square metre per second); Organic-carbon aircraft emissions (OC) = 0  $\text{kg m}^{-2} \text{ s}^{-1}$ ; Ammonia aircraft emissions ( $\text{NH}_3$ ) = 0  $\text{kg m}^{-2} \text{ s}^{-1}$ ; Black-carbon aircraft emissions (BC) = 0  $\text{kg m}^{-2} \text{ s}^{-1}$ ; Nitrogen-oxides aircraft emissions ( $\text{NO}_x$ ) = 0  $\text{kg m}^{-2} \text{ s}^{-1}$ ; Non-methane VOC aircraft emissions (NMVOC) = 0  $\text{kg m}^{-2} \text{ s}^{-1}$ ; Sulphur-dioxide aircraft emissions ( $\text{SO}_2$ ) = 0  $\text{kg m}^{-2} \text{ s}^{-1}$  | Well-mixed greenhouse-gas emissions: (units: ppb – parts per billion; ppm – parts per million; ppt – parts per trillion); CFC-11-equivalent mole fraction (CFC-11 eq) = 32.21624817318 ppt; Chloropentafluoroethane mole fraction (CFC-115) = 0 ppt; HCFC-141b mole fraction ( $\text{CH}_3\text{CCl}_2\text{F}$ ) = 0 ppt; HFC-227ea mole fraction ( $\text{CF}_3\text{CHFCF}_3$ ) = 0.00000463715 ppt; HCFC-142b mole fraction ( $\text{CH}_3\text{CClF}_2$ ) = 0 ppt; Hexafluoroethane mole fraction ( $\text{C}_2\text{F}_6$ ) = 0 ppt; Tetradecafluorohexane mole fraction ( $\text{C}_6\text{F}_{14}$ ) = 0 ppt; Methyl bromide mole fraction ( $\text{CH}_3\text{Br}$ ) = 5.24787335528 ppt; Dichlorodifluoromethane mole fraction (CFC-12) = 0 ppt; HFC-4310mee mole fraction ( $\text{CF}_3\text{CHFCHFCF}_2\text{CF}_3$ ) = 0 ppt; Tetrafluoromethane mole fraction ( $\text{CF}_4$ ) = 34.05000138813 ppt; HFC-143a mole fraction ( $\text{CF}_3\text{CH}_3$ ) = 0 ppt; HFC-23 mole fraction ( $\text{CHF}_3$ ) = 0 ppt; Sulphuryl fluoride mole fraction ( $\text{SO}_2\text{F}_2$ ) = 0.00002627166 ppt; Halon-1301 mole fraction ( $\text{CBrF}_3$ ) = 0 ppt; 1,1,1-Trichloroethane mole fraction ( $\text{CH}_3\text{CCl}_3$ ) = 0 ppt; Chloroform mole fraction ( $\text{CHCl}_3$ ) = 6.15378825797 ppt; Dodecafluoropentane mole fraction ( $\text{C}_5\text{F}_{12}$ ) = 0 ppt; Methane mole fraction ( $\text{CH}_4$ ) = 812.6337846544 ppb; Sulphur-hexafluoride mole fraction ( $\text{SF}_6$ ) = 0 ppt; Halon-2402 mole fraction ( $\text{CBrF}_2\text{-CBrF}_2$ ) = 0 ppt; Hexadecafluoroheptane mole fraction ( $\text{C}_7\text{F}_{16}$ ) = 0 ppt; HFC-245fa mole fraction

(CHF<sub>2</sub>CH<sub>2</sub>CF<sub>3</sub>) = 0 ppt; Halon-1211 mole fraction (CBrClF<sub>2</sub>) = 0.00445036447 ppt; Nitrogen trifluoride mole fraction (NF<sub>3</sub>) = 0 ppt; Methyl chloride mole fraction (CH<sub>3</sub>Cl) = 456.61794221666 ppt; Decafluorobutane mole fraction (C<sub>4</sub>F<sub>10</sub>) = 0 ppt; HFC-125 mole fraction (CHF<sub>2</sub>CF<sub>3</sub>) = 0 ppt; Trichlorofluoromethane mole fraction (CFC-11) = 0 ppt; Octadecafluorooctane mole fraction (C<sub>8</sub>F<sub>18</sub>) = 0 ppt; HFC-32 mole fraction (CH<sub>2</sub>F<sub>2</sub>) = 0.00026434646 ppt; Trichlorotrifluoroethane mole fraction (CFC-113) = 0 ppt; Perfluoro-2-butene mole fraction (C<sub>4</sub>F<sub>8</sub>) = 0 ppt; Octafluoropropane mole fraction (C<sub>3</sub>F<sub>8</sub>) = 0 ppt; HFC-236fa mole fraction (CF<sub>3</sub>CH<sub>2</sub>CF<sub>3</sub>) = 0 ppt; HFC-152a mole fraction (CHF<sub>2</sub>CH<sub>3</sub>) = 0 ppt; Carbon tetrachloride mole fraction (CCl<sub>4</sub>) = 0.02956195459 ppt; HFC-365mfc mole fraction (CH<sub>3</sub>CF<sub>2</sub>CH<sub>2</sub>CF<sub>3</sub>) = 0 ppt; HFC-134a mole fraction (CF<sub>3</sub>CH<sub>2</sub>F) = 0 ppt; Carbon-dioxide mole fraction (CO<sub>2</sub>) = 285.22121149699 ppm; Dichlorotetrafluoroethane mole fraction (CFC-114) = 0 ppt; HFC-134a-equivalent mole fraction (HFC-134a eq) = 19.15334796906 ppt; Dichloromethane mole fraction (CH<sub>2</sub>Cl<sub>2</sub>) = 7.53069833421 ppt; Nitrous-oxide mole fraction (N<sub>2</sub>O) = 273.06793051826 ppb; CFC-12-equivalent mole fraction (CFC-12 eq) = 16.59902823236 ppt; HCFC-22 mole fraction (CHClF<sub>2</sub>) = 0 ppt | Solar-irradiance emissions: (units shown inline); Geomagnetic Ap index (Ap) = 8.17618942261 nT; Geomagnetic Kp index (Kp) = 1.6172542572; Total-solar-irradiance (TSI) = 1361.06640625 W m<sup>-2</sup>; Sunspot number (SSN) = 77.09456634521; Solar-cycle phase (SCPH) = 0.99814385176 radian/pi; 10.7 cm radio flux (F10.7) = 120.47502136231 10<sup>-22</sup> W m<sup>-2</sup> Hz<sup>-1</sup>; Spectral-solar-irradiance (SSI) = 0.21465123841 W m<sup>-2</sup> nm<sup>-1</sup> | Tropospheric + stratospheric ozone emissions: (all values in mole mole<sup>-1</sup> - ); Ozone volume-mixing ratio (vmro3) = 0.0000015132 mole mole<sup>-1</sup> | predict the near surface air temperature (2 meters above the ground), based on the provided values.

The answer must be in the following format: The near surface air temperature (2 meters above the ground) is Kelvin, based on the inputted forcing data

The near surface air temperature (2 meters above the ground) is 284.47 Kelvin, based on the inputted forcing data

#### Prompt + Correct

You are a helpfull assistant, which follows the users instructions.

DATE=1850-01. The task is to infer the near-surface air temperature (tas, 2 meters above the ground) from simulated climate-model forcing inputs. Use only the physical relationships you know between these forcings and temperature – do not rely on any memory of observed historical temperatures. All values shown are global means, and the simulation keeps land-use fixed at its 1850 state. The forcing conditions are  
: (January 1850 | 1850-01) | Volcanic stratospheric-aerosol emissions: (units shown inline); Over-pressure at injection level = 105.30693968686 hPa; Optical depth of large particles = 0.51687127819 μm<sup>2</sup>/cm<sup>-3</sup>; Stratospheric aerosol optical depth (SAD) = 1.72191657694 μm<sup>2</sup>/cm<sup>-3</sup>; Aerosol volume density = 0.04143545265 μm<sup>3</sup>/cm<sup>-3</sup>; Effective particle radius = 0.08200751013 microns, SAD weighted; H<sub>2</sub>SO<sub>4</sub> column mass burden = 209960042.19642901421 molecules/cm<sup>-3</sup> | Anthropogenic aerosol emissions: (all values in kg m<sup>-2</sup> s<sup>-1</sup> – kilograms per square metre per second); Organic-carbon aircraft emissions (OC) = 0 kg m<sup>-2</sup> s<sup>-1</sup>; Ammonia aircraft emissions (NH<sub>3</sub>) = 0 kg m<sup>-2</sup> s<sup>-1</sup>; Black-carbon aircraft emissions (BC) = 0 kg m<sup>-2</sup> s<sup>-1</sup>; Nitrogen-oxides aircraft emissions (NO<sub>x</sub>) = 0 kg m<sup>-2</sup> s<sup>-1</sup>; Non-methane VOC aircraft emissions (NMVOC) = 0 kg m<sup>-2</sup> s<sup>-1</sup>; Sulphur-dioxide aircraft emissions (SO<sub>2</sub>) = 0 kg m<sup>-2</sup> s<sup>-1</sup> | Well-mixed greenhouse-gas emissions: (units: ppb – parts per billion; ppm – parts per million; ppt – parts per trillion); CFC-11-equivalent mole fraction (CFC-11 eq) = 32.21624817318 ppt; Chloropentafluoroethane mole fraction (CFC-115) = 0 ppt; HCFC-141b mole fraction (CH<sub>3</sub>CCl<sub>2</sub>F) = 0 ppt; HFC-227ea mole fraction (CF<sub>3</sub>CHFCF<sub>3</sub>) = 0.00000463715 ppt; HCFC-142b mole fraction (CH<sub>3</sub>CClF<sub>2</sub>) = 0 ppt;

Hexafluoroethane mole fraction ( $C_2F_6$ ) = 0 ppt; Tetradecafluorohexane mole fraction ( $C_6F_{14}$ ) = 0 ppt; Methyl bromide mole fraction ( $CH_3Br$ ) = 5.24787335528 ppt; Dichlorodifluoromethane mole fraction (CFC-12) = 0 ppt; HFC-4310mee mole fraction ( $CF_3CHFCHFCF_2CF_3$ ) = 0 ppt; Tetrafluoromethane mole fraction ( $CF_4$ ) = 34.05000138813 ppt; HFC-143a mole fraction ( $CF_3CH_3$ ) = 0 ppt; HFC-23 mole fraction ( $CHF_3$ ) = 0 ppt; Sulphuryl fluoride mole fraction ( $SO_2F_2$ ) = 0.00002627166 ppt; Halon-1301 mole fraction ( $CBrF_3$ ) = 0 ppt; 1,1,1-Trichloroethane mole fraction ( $CH_3CCl_3$ ) = 0 ppt; Chloroform mole fraction ( $CHCl_3$ ) = 6.15378825797 ppt; Dodecafluoropentane mole fraction ( $C_5F_{12}$ ) = 0 ppt; Methane mole fraction ( $CH_4$ ) = 812.6337846544 ppb; Sulphur-hexafluoride mole fraction ( $SF_6$ ) = 0 ppt; Halon-2402 mole fraction ( $CBrF_2-CBrF_2$ ) = 0 ppt; Hexadecafluoroheptane mole fraction ( $C_7F_{16}$ ) = 0 ppt; HFC-245fa mole fraction ( $CHF_2CH_2CF_3$ ) = 0 ppt; Halon-1211 mole fraction ( $CBrClF_2$ ) = 0.00445036447 ppt; Nitrogen trifluoride mole fraction ( $NF_3$ ) = 0 ppt; Methyl chloride mole fraction ( $CH_3Cl$ ) = 456.61794221666 ppt; Decafluorobutane mole fraction ( $C_4F_{10}$ ) = 0 ppt; HFC-125 mole fraction ( $CHF_2CF_3$ ) = 0 ppt; Trichlorofluoromethane mole fraction (CFC-11) = 0 ppt; Octadecafluorooctane mole fraction ( $C_8F_{18}$ ) = 0 ppt; HFC-32 mole fraction ( $CH_2F_2$ ) = 0.00026434646 ppt; Trichlorotrifluoroethane mole fraction (CFC-113) = 0 ppt; Perfluoro-2-butene mole fraction ( $C_4F_8$ ) = 0 ppt; Octafluoropropane mole fraction ( $C_3F_8$ ) = 0 ppt; HFC-236fa mole fraction ( $CF_3CH_2CF_3$ ) = 0 ppt; HFC-152a mole fraction ( $CHF_2CH_3$ ) = 0 ppt; Carbon tetrachloride mole fraction ( $CCl_4$ ) = 0.02956195459 ppt; HFC-365mfc mole fraction ( $CH_3CF_2CH_2CF_3$ ) = 0 ppt; HFC-134a mole fraction ( $CF_3CH_2F$ ) = 0 ppt; Carbon-dioxide mole fraction ( $CO_2$ ) = 285.22121149699 ppm; Dichlorotetrafluoroethane mole fraction (CFC-114) = 0 ppt; HFC-134a-equivalent mole fraction (HFC-134a eq) = 19.15334796906 ppt; Dichloromethane mole fraction ( $CH_2Cl_2$ ) = 7.53069833421 ppt; Nitrous-oxide mole fraction ( $N_2O$ ) = 273.06793051826 ppb; CFC-12-equivalent mole fraction (CFC-12 eq) = 16.59902823236 ppt; HCFC-22 mole fraction ( $CHClF_2$ ) = 0 ppt | Solar-irradiance emissions: (units shown inline); Geomagnetic Ap index (Ap) = 8.17618942261 nT; Geomagnetic Kp index (Kp) = 1.6172542572; Total-solar-irradiance (TSI) = 1361.06640625  $W\ m^{-2}$ ; Sunspot number (SSN) = 77.09456634521; Solar-cycle phase (SCPH) = 0.99814385176 radian/pi; 10.7 cm radio flux (F10.7) = 120.47502136231  $10^{-22}\ W\ m^{-2}\ Hz^{-1}$ ; Spectral-solar-irradiance (SSI) = 0.21465123841  $W\ m^{-2}\ nm^{-1}$  | Tropospheric + stratospheric ozone emissions: (all values in mole mole<sup>-1</sup> - ); Ozone volume-mixing ratio (vmro3) = 0.0000015132 mole mole<sup>-1</sup> | What is the near-surface air temperature (tas, 2 meters above the ground) in Kelvin?

The answer must be in the following format: The near-surface air temperature (tas, 2 meters above the ground) of the simulated model is Kelvin, based on the inputted simulated forcing data.

The near-surface air temperature of the simulated model is 284.47 Kelvin, based on the inputted simulated forcing data.

Prompt context	Forcing list (truncated)	Goal / question	Output-format hint
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