This is an introductory paper to a Special Issue of *Nonlinear Processes in Geophysics*, which is itself the outcome of a series of seminars organized by the authors.

The seminars were intended at giving a large overview of the present state of climate sciences and of the associated perspectives. The seminars were very successful and a number of contributors have written articles for the present Special Issue, which was edited by the organizers of the seminars (and authors of the present paper). Some contributors went beyond the content of their original seminars, writing in particular broad review papers.

One major feature of climate sciences is that they bear on an extremely wide range of different disciplines, going for instance from the theory of dynamical systems (in the development of which the study of the atmosphere played a critical role) to stochastic physics and even social sciences. The organizers have been able, both in the seminar series and in the present Special Issue, to gather contributions which cover much of that wide range of climate sciences.

The present introductory paper gives an overview of the original seminar series, followed by a more detailed description of the eight papers included in the Special Issue. It is succinct but very clearly written. It is actually not only an introductory paper to the Special Issue, but it can certainly be used, by a scientifically educated but not specialist reader, as a first general introduction to climate sciences.

I have a very favorable opinion of this paper, and strongly recommend its acceptance. I congratulate the authors for the work they have done for setting up and organizing the seminar series, setting up and editing the NPG Special Issue, and finally writing the present introductory paper. I have no doubt that, as they hope, the seminar series and the ensuing Special Issue will motivate further developments.

I give below a number of editing suggestions

1. Ll. 58 and 173, I suggest … *the **practical** impossibility of* …

L. 101-102, I do not think the climate (if defined as the whole attractor of the system) can be said to be chaotic. I suggest *The atmosphere is a chaotic dynamical system, given its sensitive dependence of its evolution on initial conditions.*

L. 103, … *Henri Poincaré* […] *knew already* […] *that the weather is chaotic*. I would rather suggest *Henri Poincaré* […] *had already explicitly considered* […] *the possibility that the weather is sensitive to initial conditions.*

L. 106, I would suggest … *until the work of Ed Lorenz (1963) and the works that followed, all strongly connected …*

Ll. 173-174, … *the stochastic perspective indispensable for accurate weather predictions* … I think it is more a question of usefulness of the weather predictions than of strict accuracy.

L. 175, The word *parametrisations* has not been defined at this stage. I would suggest for instance *parametrisations (i.e. representation of the impact of structures that are not resolved by the numerical model onto structures that are resolved)*

L. 98, expand CMIP (*Coupled Model Intercomparison Project*) and give reference

L. 106, paper Lorenz (1963) is missing from the list of references